Fire Setters with Intellectual Disability

by

Ashlee Curtis

BPych (Hons)

Submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

Deakin University

October, 2015
I am the author of the thesis entitled

Fire Setters with Intellectual Disability submitted for the degree of Doctor of Philosophy

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Signed: [Signature Redacted by Library]

Date: 09/05/2016
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Date: 09/05/2016
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Publications arising from this thesis

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Thesis Overview

Arson is recognised in law as a serious crime, which attracts substantial penalties. It can have significant consequences, both financial and human, including the loss of life. However, progress in the development of appropriate and evidence-based prevention, intervention, and treatment strategies for those who perpetrate such offences has been complicated by the diversity of behaviour that is referred to as arson and the heterogeneity of the population who commit these offences.

This thesis is concerned with developing a multi-dimensional understanding of the profile and needs of one specific group of people known to commit arson and associated fire setting behaviours; namely people with intellectual disabilities (ID). People with ID are thought to be at particularly high risk of committing arson offences, and yet their treatment and support needs remain poorly understood. Previous research in this area has been hampered by problems associated with definitions of arson (including the association between fire setting and arson), the identification and classification of people with ID in the justice system, the reporting of offences (both under- and over-reporting), and a reliance on arrest and conviction rates in a group of people who are sometimes (but not always) diverted from criminal proceedings and potential sanctions. Even when persons with ID who engage in fire setting are identified in the criminal justice system, very little is currently known about how court matters are finalised or how to best to address their specific treatment and support needs following their court appearance.

The thesis opens with a narrative review of the published literature relevant to both the act of arson and people with ID. It provides a critique of the current knowledge base and identifies a number of conceptual and methodological problems inherent in previous research. The review concludes that two future lines of research are required to inform policy and service development in this area: 1) an analysis of data relating those people with an identified ID who are known to have committed acts of fire setting; and b) an investigation of how the courts have responded when adjudicating cases of this nature. Subsequently, these two issues are addressed in studies one and two.
The first study examines the extent to which persons with ID who have engaged in arson differ from people with ID who have committed other types of offence. It utilises clinical information from an existing UK health service database to describe the characteristics of index arson offenders with ID, given that Australian data of these type were not available, from either justice or health services, and that preliminary attempts to generate such data met with insurmountable difficulties associated with bureaucratic procedures. The analysis reveals that persons with ID who have an index offence of arson do not present with needs that are necessarily distinctive from those of other types of ID offender. Regardless of their index offence, offenders with ID had identified needs in the areas of mental health (e.g., problems with anger management and anxiety), the relatively low level of responsibility that they assumed for their behaviour, and low levels of victim empathy. Both index arson offenders and index violent offenders had high rates of mental disorder as well as histories of violence and previous fire setting. These findings are discussed in relation to what is known about the functions of both violence and fire setting and, in particular, to motives for fire setting which involve intent to harm (‘revenge’). It is concluded that many instances of fire setting in ID populations can be meaningfully understood as expressions of violent behaviour and, as such, that violent offending treatment programmes for ID clients have potential application with this group.

The second study investigates Australian judicial perspectives on the needs of those persons with ID who have been charged with arson or other offences involving fire setting. The purpose of this study was to develop an understanding of how the criminal justice system conceptualises and responds to these individuals and their offending behaviour. The judiciary are a body who are expected to reflect the views of society and to protect society from the harms that result from crime. As such, the aim of this study was to determine the type of information that the judiciary consider relevant when sentencing offenders with ID with respect to the impact on both the person and the community. Subsequently, analysis of sentencing remarks reveals that the judiciary do identify persons with ID who have been charged with arson or other fire setting offences as requiring special consideration. It suggests that persons with ID are seen by the judiciary as having
reduced culpability and that shorter sentences are regarded as appropriate. However, the cases identified in the search of relevant case law also reveals that persons with ID who have been charged with arson typically receive lengthy sentences in comparison to those without ID. This may reflect the seriousness of those particular offences under consideration, but also judicial concern about risk of re-offence and uncertainty around both the availability and efficacy of rehabilitation.

These two studies combined identify some of the most important characteristics of persons with ID who have committed offences involving fire setting. They represent, in part, the current status of existing knowledge about persons with ID who set fires. However, despite drawing on what are argued to be the best available data sets and official records available, it is concluded that they provide an incomplete understanding of the profile and needs of this population, particularly if effective treatments and programmes are to be developed.

Consequently, the need for additional research that can help to advance professional practice in this area is identified. Therefore, the studies that follow were designed to assess the current level of awareness of the needs of persons with ID with histories of fire setting in both the community and professional groups. It is asserted that this type of information is important for informing any attempts to develop new services, treatments, and policy directions for offenders with ID.

The third study (conducted in two parts) develops a new tool to assess attitudes towards persons with ID who engage in fire setting. Then, using that tool, this programme of research proceeds to investigate the level of support that exists among both community members and professionals who work with offenders with ID, for developing rehabilitation programmes. Subsequently, online survey responses suggest that both the broader community and professionals with experience in working with persons with ID strongly support the need to provide treatment for fire setters with ID, with professionals also noting the lack of effective and appropriate programmes that are currently available. The findings also offer a number of suggestions for the development of relevant programme material, although the extent to which these ideas are consistent with the available evidence regarding the outcomes of forensic ID treatment was unclear.
Therefore, a fourth and final study was undertaken, which was a systematic review of the published literature on the outcomes of fire setting programmes for persons both with and without ID. This identified only a small number of studies in this area, and no published evaluations of Australian programmes. The evaluations generally lacked methodological rigour, making it difficult to draw any firm conclusions about either treatment efficacy or effectiveness. However, the evidence to support the delivery of other types of behaviour change programmes to persons with ID (e.g., anger management and violence programmes) is more robust. Elements of these interventions are identified as having the potential to be applied to the treatment of fire setting behaviours, especially in light of the findings of the first study that fire setters with ID often have needs that are similar to those of violent offenders. However, these programmes clearly require some adaptation and evaluation before they could be confidently used to prevent fire setting behaviour.

This thesis draws on multiple data sources and multiple methods of analysis, which are synthesised to identify future directions for clinical practice, policy development, and research. Importantly, it contributes to the identification of treatment needs in fire setters with ID and demonstrates that the judiciary, the community, and professionals are all supportive of efforts to develop such programmes and provide rehabilitation. It also, however, identifies the lack of appropriate rehabilitation programmes, and the limited evidence base that exists to build evidence-based treatments. The thesis concludes with the presentation of a new model to assist understanding of the various influences on the pathways that exist from offence to treatment and the actions that may be needed to prevent further offending of this type.

At the same time, it is important to acknowledge that this thesis does not claim to present solutions to the full range of issues that have prevented the development and delivery of evidence-based treatment programmes to persons with ID who set fires. In fact, many of the problems that have affected the validity of previous research in this area also apply to this programme of research. These include the collection of data from multiple sources (UK hospitals, Australian courts, community and professional surveys) making integration and comparison difficult.
For example, different types of behaviour may be identified as problematic in different contexts, different levels of disability may characterise the population (ranging from administrative samples to persons who have received a professional diagnosis of ID), as well as the differences in the legislation across jurisdictions that determine how cases are managed. As such, it is particularly important to exercise caution before attempting to generalise the findings of these studies across different contexts, jurisdictions, and populations. Nonetheless, this thesis does provide important insights into the characteristics of persons with ID who set fires and synthesises the needs of this relatively small, but significant, subset of the community who have the potential to cause substantial harm to property, other people and themselves.
Chapter One: Arson, Deliberate Fire Setting, and Intellectual Disability

The aim of this chapter is to provide an overview of deliberate fire setting, its prevalence, what is currently known about the different types of people who engage in fire setting behaviour, and the reasons why this type of behaviour occurs. Particular attention will be given to the classification of fire setters who have an intellectual disability (ID). The chapter is not intended to provide a systematic review of the literature related to arson, deliberate fire setting, and ID, but to present a critical discussion of the major issues that arise when researching this particular topic. This narrative approach was intentionally adopted, given the breadth and complexity of the literature to be covered and the need to integrate these vast literatures so as to set the agenda for a programme of research.

What is Arson?

Arson is a legal term used to describe the offence associated with deliberate fire setting. One Australian definition, for example, describes it as an intentional act of damaging property through the use of fire (Australian Institute of Criminology, 2004), though arson may also apply when the intent is to injure any person (see Table 1). In Australia alone there are over 30 different offences of arson (across the six states and two territories), with each holding its own penalty and sentence¹ (Australian Institute of Criminology, 2012). These are presented in Table 1.

Arguably, the most important elements of many of these crimes are the intention to set fire, i.e. whether the fire setting was deliberate, and the fire setting being considered as reckless. It is important to note that intention can exist without the person being reckless, in which case the offence of arson is not considered to have occurred (Willis, 2004). For example, a person may have intentionally started a fire to burn off dry grass to prevent future unplanned fires, without behaving in a reckless way. In this case, the crime of arson would not be considered to have taken place. Willis (2004) notes that this is a particular problem for prosecutors, as both intention and recklessness need to be proven beyond reasonable doubt, resulting in low conviction rates for the crime. In relation to this thesis, it serves to

¹Different countries across the world also tend to have different legal definitions of arson. For example, in Canada there are five legal definitions of arson, and in England and Wales there are three. Scottish law does not provide for arson but does provide the offence of Wilful Fire-raising. Where the action is deemed to be reckless, other charges apply, such as culpable and reckless conduct (Government of Scotland, 2002). Outside of the common-law tradition, for example in the USA, the Federal Bureau of Investigation’s (FBI) Uniform Crime Reporting Programme regards arson as any wilful or malicious burning or attempt to burn (Federal Bureau of Investigation, 2010).
blur the distinction between fire setting and arson, and leads to a situation in which much of the existing research in this area confounds these two types of behaviour. In addition, the intentional aspect of arson implies an intent to harm that may result in criminal justice agencies classifying arson as a violent crime. This is recognised in the World Health Organisation’s definition of violence, in which violence related to property crime is considered a form of interpersonal violence (World Health Organisation, 2002). An obvious consequence of these differing definitions is that attempts to establish prevalence are fraught with problems relating to the validity of the data. Similar difficulties arise in trying to establish conviction and re-conviction rates, and baseline data from which to assess effectiveness of intervention and rehabilitation programmes.

For the purposes of the current thesis, the term fire setter will be used to refer to a person who has engaged in fire setting behaviour, but who may not have been convicted of the crime of arson (or for whom this is not clear in the study being discussed). Arson will be used where the person is known to have been convicted of the crime of arson (i.e., the act of damaging property using fire, intentionally or recklessly) or where it is necessary in a specific legal context; for example when discussing the ‘crime of arson’, rather than the act of fire setting itself.
<table>
<thead>
<tr>
<th>Description</th>
<th>Penalty Units or Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire or explosives; intending to cause bodily injury to another</td>
<td>15 Years Imprisonment</td>
</tr>
<tr>
<td>A person who destroys or damages property, by means of means of fire or explosives</td>
<td>7 Years Imprisonment</td>
</tr>
<tr>
<td>Intentionally or recklessly destroys or damages property by fire or explosives</td>
<td>7 Years Imprisonment</td>
</tr>
<tr>
<td>A person who, in the company of another person(s), intends to damage property by fire or explosives, for the purpose of benefiting any other person</td>
<td>7 Years Imprisonment</td>
</tr>
<tr>
<td>Intentionally or recklessly destroys or damaging or damaging property by fire or explosives, with intent to endanger the life of another person or somebody else</td>
<td>7 Years Imprisonment</td>
</tr>
<tr>
<td>The spread of the fire to vegetation or property belonging to the person receiving the threat of the fire; and the intent to cause, or is reckless about causing, an explosion or intends to damage a building or vehicle by fire or explosives; and intends to cause or is reckless about causing damage to a building or vehicle by fire or explosives</td>
<td>7 Years Imprisonment</td>
</tr>
<tr>
<td>Territory of the Northern Territory Amendment Act, 2002</td>
<td></td>
</tr>
<tr>
<td>Territory (criminal code, 4(a)(1))</td>
<td></td>
</tr>
<tr>
<td>Australian Capital Territory Amendment Act, 2002</td>
<td></td>
</tr>
<tr>
<td>Crimes Act, 1980 (14) 1900</td>
<td></td>
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<tr>
<td>Crimes Act, 1951(1) 1900</td>
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<td>Crimes Act, 1972(2) 1900</td>
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<tr>
<td>Crimes Act, 1972(1) 1900</td>
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<tr>
<td>Criminal Code, 405 2002</td>
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<td>Criminal Code, 404(2) 2002</td>
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<td>Description</td>
<td>Maximum Penalty</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Wilfully and unlawfully setting fire to crops, including food or feed</td>
<td>74 years imprisonmet</td>
</tr>
<tr>
<td>Officers, etc. of a building or structure are reckless as to the risk of death</td>
<td>7 years imprisonmet</td>
</tr>
<tr>
<td>Wilfully and unlawfully setting fire to buildings or structures</td>
<td>15 years imprisonmet</td>
</tr>
<tr>
<td>Intentional and recklessly using fire as an explosive</td>
<td>7 years imprisonmet</td>
</tr>
<tr>
<td>Intentionally setting fire and is reckless as to the spread to vegetation</td>
<td>14 years imprisonmet</td>
</tr>
<tr>
<td>Wilfully and unlawfully setting fire to any thing stored near</td>
<td>14 years imprisonmet</td>
</tr>
<tr>
<td>Intentionally setting fire to another person to fear the threat will be serious</td>
<td>25 years imprisonmet</td>
</tr>
<tr>
<td>Intentionally setting fire to any building to cause damage to a building or structure</td>
<td>5 years imprisonmet of 1000 penalty units, or both</td>
</tr>
<tr>
<td>Intentionally setting fire and is reckless as to the spread to vegetation</td>
<td>15 years imprisonmet</td>
</tr>
<tr>
<td>Intentionally setting fire to a building or structure</td>
<td>7 years imprisonmet</td>
</tr>
<tr>
<td>Intentionally setting fire and is reckless as to the spread to vegetation</td>
<td>7 years imprisonmet</td>
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<tr>
<td>Intentionally setting fire to a building or structure</td>
<td>7 years imprisonmet</td>
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<td>Intentionally setting fire to a building or structure</td>
<td>7 years imprisonmet</td>
</tr>
<tr>
<td>State/Territory</td>
<td>Section</td>
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<tr>
<td>----------------</td>
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</tr>
<tr>
<td>Victoria</td>
<td>85A 1993</td>
</tr>
<tr>
<td>Victoria</td>
<td>58B 1993</td>
</tr>
<tr>
<td>South Australia</td>
<td>84 1993</td>
</tr>
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<table>
<thead>
<tr>
<th>Description</th>
<th>Maximum Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doing an act knowing that the act creates a substantial risk of serious damage to the property of another, with lawful authority</td>
<td>6 years imprisonment; where damage would have been over $520,000 or the imprisonment; where damage exceeded $390,000, 12 years</td>
</tr>
<tr>
<td>Doing an act knowing that the act creates a substantial risk of serious damage to the property of another, without lawful authority</td>
<td>6 years imprisonment; where damage would have been over $520,000 or the imprisonment; where damage exceeded $390,000, 12 years</td>
</tr>
<tr>
<td>Endangering the life of another, and whether or not with a view to dishonestly gaining, or damaging property by fire or explosives, indifferent to the damage by fire or explosives</td>
<td>20 years imprisonment</td>
</tr>
<tr>
<td>Endangering the life of another, and whether or not with a view to dishonestly gaining, or damaging property by fire or explosives, indifferent to the damage by fire or explosives</td>
<td>15 years imprisonment</td>
</tr>
<tr>
<td>State/Territory</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>Belonging to another</td>
</tr>
<tr>
<td>2-20 Years Imprisonment</td>
<td>any vegetation, produce, stock, crop, fodder, or property</td>
</tr>
<tr>
<td>15 Years Imprisonment</td>
<td>On any land in country Victoria, doing any act causing a fire belonging to another</td>
</tr>
<tr>
<td>5 Years Imprisonment</td>
<td>as to the spread of the fire to vegetation on property intrinsically or recklessly causing a fire, and being reckless of the danger to a third person</td>
</tr>
<tr>
<td>25 Years Imprisonment</td>
<td>causing the death of another person, without lawful excuse making, for the purpose of causing</td>
</tr>
<tr>
<td>Maximum Penalty</td>
<td></td>
</tr>
</tbody>
</table>

22
<table>
<thead>
<tr>
<th><strong>Maximum Penalty</strong></th>
<th>1924 Criminal Code Act</th>
<th>1924 Criminal Code Act</th>
<th>Western Australia State/Territory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disseminating Fire or Bomb</td>
<td>21 years imprisonment or life</td>
<td>7 to 15 years imprisonment or life</td>
<td>21 years imprisonment or life</td>
</tr>
<tr>
<td>(including forests, trees, shrubs, grass, litter, park, tree, mine, ship or other vessel, etc.)</td>
<td>Inadvertently setting fire to any vegetation, plant or dead timber, fuel, mine, ship or other vessel, etc.</td>
<td>Inadvertently setting fire to any structure, vegetable produce,</td>
<td>Bush Fires Act 22 1954</td>
</tr>
<tr>
<td>21 years imprisonment or life</td>
<td>7 to 15 years imprisonment or life</td>
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Prevalence and Incidence of Arson in the Population Generally

Prevalence refers to the proportion of the population who have committed the crime of arson at a specific point in time. In an Australian context, prevalence is determined by dividing the number of persons who have been convicted of arson by the total population of Australia (Shields & Twycross, 2003). Incidence, on the other hand, is the number of newly convicted arsonists within Australia over a particular period of time, such as one year, usually reported as the number of new cases per 100, 1,000, 10,000, or 100,000. Incidence is therefore helpful in establishing how many new cases of arson have been committed within Australia over time (Shields & Twycross, 2003). Both prevalence and incidence are important for the current thesis, as it is important to know how many persons within the population have committed a crime of arson, and the number of newly convicted arsonists over a time period, as this information assists in determining the appropriate level of resources needed to address the rehabilitation and support of arson offenders, as well as to evaluate whether prevention strategies are effective in reducing the incidence of arson.

The lack of publicly available data on arson offences makes determining a prevalence rate of arson in Australia a difficult process. Such information would be helpful to efforts to understand the size of the problem, determine the resources needed to address it, and to enable trends over time to be analysed and the effectiveness of strategies to be evaluated (Statistics Commission, 2005). As Mayhew (2003) notes, difficulties in determining the actual prevalence rate are further complicated by the under-reporting of this crime and difficulties in gathering the evidence required to secure a conviction. What we do know is that in Western Australia alone from 2011 to 2012, 1,062 cases of arson were recorded by the police, with a sanction rate of only 20.1% (Western Australia Police, 2012). In New South Wales, 7,001 incidents of arson were reported to police in the January 2012 to December 2012 period, an increase of 14.4% from the previous yearly period (Goh & Moffatt, 2013), and in Victoria from 2011 to 2012, there were 2,899 arson offences recorded which represented a 6.6% increase from the 2010 to 2011...

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2 There may be many reasons for this, including victims not reporting small fires or police not recording a fire as arson if they are not sure if the offence of arson has occurred.
period (Victoria Police, 2012). In South Australia in 2007, 2,792 offences of arson were recorded by police (Office of Crime Statistics and Research, 2011) and in Tasmania during the 2012 to 2013 period there were 619 arson and related offences, an increase of 37% from the previous year (Department of Police and Emergency Management, 2013). There were 1,536 arson offences reported to Queensland police in the 2011 to 2012 period (Queensland Police, 2013), which represented an increase of 24% from the previous period. Of the 1,536 reported offences, 278 people were cleared in the same period. Further, 87% of these offenders were male between the ages of 15 and 19. No Northern Territory statistics for arson alone could be obtained, though there were 7,473 offences involving property damage over the 2012 to 2013 period (Northern Territory Police, 2014).

Based on these police statistics it is likely the number of arson-related incidents reported to Australian police each year is in excess of 15,000. For a population of approximately 23,000,000 (Australian Bureau of Statistics, 2013), these figures seem relatively high in comparison to other countries, although worldwide figures for the prevalence of arson are not published. Indeed, international crime databases such as the United Nations Office on Drugs and Crime, and The European Institute for Crime Prevention and Control, affiliated with the United Nations (HEUNI), typically only report data on homicide, assaults, sexual violence, robbery, kidnapping, theft, motor vehicle theft, burglary, and drug-related crime. We know, that in 2011 to 2012 there were 32,500 deliberate fires recorded in Great Britain, a decrease of 10% from 2010 to 2011 (Department for Communities and Local Government, 2012) and that in Canada in 2003, the number of fire setting incidents reported to police was 13,851 (Canadian Centre for Justice Statistics, 2003). Of these, only 1,358 persons were convicted of arson, a rate of just below 10%. These differences could simply indicate systemic issues such as varying police surveillance and related law enforcement practices. Implementing both national and international systems which standardise definitions and data reporting processes would be very useful in trying to estimate the size of the problem, which in turn can better inform resource allocation for prevention and intervention.
What is clear is that arson is a crime which is often brought to the attention of police, and requires explanation if effective prevention and treatment strategies are to be developed. As such, it is important to review attempts to classify different types of arson and fire setting behaviour and the associated theories that have been proposed.

Classification/Typologies of Fire setters

Early attempts to describe fire setting focussed on classifying and grouping fire setters into typologies. These fall into three major categories: those that are based on mental disorder; those that are based on a combination of motive and disorder; and those that incorporate a focus on behaviour. Generally, the construction of these typologies has relied on the opinions of expert observers, rather than any empirical analysis. The typologies presented here relate only to adult fire setting given the focus of this thesis, though it is acknowledged that there is also a body of work which has sought to describe and explain fire setting in children and adolescents (e.g., Mackay et al., 2009).

Mental Disorder.

One classification system, presented by Koson and Dvoskin (1982), and based on data from a group of 26 pre-trial male fire setters who had been referred to a maximum-security psychiatric hospital, emphasises the role of mental disorder in fire setting. Participants had an age range of 17 years to 56 years, 77% had a history of hospitalisation, and 50% had a criminal record. The offenders were classified into the following groups: ‘schizophrenic’, ‘antisocial personality disordered’, ‘mentally retarded/organic brain syndrome’, ‘alcoholism’, and ‘other’. An obvious problem with this study is that the participants had all been referred to a maximum-security hospital and so the resulting categories are to be expected based on the sample utilised. Further, they do not offer any explanation for fire setting behaviour.

Leong and Silva (1999) reviewed court-ordered psychiatric evaluations of 16 male and 16 female alleged arsonists, classifying them into two groups based on psychiatric diagnosis: ‘cognitive pathology’ and ‘affective pathology’. They did this using information about age, substance use history, psychiatric history and current diagnosis, prior convictions, and prior fire setting behaviour. The cognitive
pathology group included those with thought disorders and/or limited intellect, and were more likely to be older and display a substantial criminal and fire setting history. Those in the affective group had been diagnosed with alcohol or mood disorders, and were usually younger, had a limited criminal history, and were often intoxicated at the time of the offence.

As with the study by Koson and Dvoskin (1982) the Leong and Silva (1999) study also utilised participants who had been ordered to undergo psychiatric evaluations by the court after being alleged to have committed arson and is limited by possible selection biases. Both studies highlight the problems associated with classifying fire setters according to the presence of mental disorder in so far as a disorder cannot offer an explanation for the fire setting. This also has implications for treatment, in that it possibly implies that fire setting behaviour will no longer occur once the mental disorder has been treated. More recently, researchers in this area have consistently commented that this is unlikely to be the case (Ducat, Ogloff, & McEwan, 2013; Gannon et al., 2012; Tyler & Gannon, 2012). A particular problem for the current thesis is that these data only pertain to fire setters for whom an identifiable mental disorder is present, the diagnosis of which can be problematic for persons with ID (Fletcher, Loschen, Stavrokaki & First, 2007; Royal College of Psychiatrists, 2001). Other classification systems that categorise fire setters on the basis of motive for the behaviour and mental disorder are therefore potentially more useful.

**Motive and Mental Disorder.**
One early classification study based on motive and disorder was conducted by Lewis and Yarnell (1951). After observing 1,145 reports of fire setting in the United States from male incarcerated offenders over the age of 15, Lewis and Yarnell concluded that four categories of fire setter existed: unintentional, delusional, erotic pleasure, and revenge. Almost 50% of their sample were considered to have an ID, and a further 22% to have borderline intellectual functioning. Lewis and Yarnell noted that there will always be difficulties analysing fire setters, and that their analysis was restricted to records which had the necessary information available, though they do not note from where their data came. This presents problems in terms of how data was originally collected and
reported, and it is unclear whether the mental disorders, including ID, were formally
diagnosed, or whether these were self-reported by the participants. Although some
evidence has been found to support these classifications, more recent work has
provided alternative classification systems.

Following Lewis and Yarnell’s work, Inciardi (1970) proposed six fire setting
categories, after studying the case files of 133 male and five female fire setters who
were on parole between 1962 and 1966 from New York state prisons. The six
classifications were: revenge fire setters, excitement fire setters, institutionalised
fire setters, insurance claim fire setters, vandalism fire setters, and crime
concealment fire setters. Inciardi (1970) discovered 58% of his sample fell into the
revenge fire setter category, in which the fire setters had a median age of 28 years
and often had a below average intelligence level (median IQ of 84). He argued that
the revenge fire setter is the most dangerous type of fire setter, and will quite often
be intoxicated with alcohol at the time of the crime. The excitement fire setter
comprised 18% of the sample, with a median age of 23 years and median IQ of 96.
The excitement category consisted of fire setters who enjoyed the excitement that
comes from setting a fire, whether it be watching the fire burn, or watching the fire
fighters extinguishing the fire. This category of fire setter was also found to be
intoxicated with alcohol after setting the fire more often than not. A further 6.5%
of the sample were categorised as the institutionalised fire setters, who were
residents of an institution for mental defectives (sic). All were male, and the
median age was 19 years and the median IQ was 70 (i.e., borderline to mild ID).
Most of these fire setters had been in institutions since they were very young. The
insurance claim fire setters comprised 7% of the sample, and were those who set
fire to their belongings in order to collect the insurance money. The median age of
this group was 29 years, with a median IQ of 110. The vandalism fire setter
intentionally sets fire to things for the purpose of fun or sport, and comprised 4.1%
of the sample, with a median age of 18 years and a median IQ of 75. All were male.
The remaining 7% of the sample were known to set fire to the place where they had
committed another crime, in order to cover up any evidence of the previous crime.
The median age of this group was 22 years, with an average IQ of 112.
Although Inciardi (1970) was more comprehensive in collection and reporting of data than Lewis and Yarnell (1951), he did not provide sufficient details of the methodology used, including the determination of the assignment of fire setters to particular categories. As a result, it is unclear whether there was more than one person determining category assignment, and if so, whether there was sufficient inter-rater reliability (Gannon, Ciardha, Doley, & Alleyne, 2012). In addition, the sample only comprised convicted arsonists, reducing its ability to be generalised to the broader fire setting population (Dickens & Sugarman, 2012), and Inciardi does not provide any information on how IQ was assessed, even though he mentioned IQ in each of the typologies.

Levin (1976) reviewed existing literature on accused and convicted arsonists from the 25 years prior and found three categories of fire setter; those who set fires alone; those who set fires in a group; and those who set fires for profit. He found that the fire setters who set fires alone were ‘psychologically motivated’, such that they tended to be irrational or the fire setting was an extreme reaction to the precipitating events. One of the most common motivations was revenge/spite, followed by pyromaniacs, and those wanting to be the hero. Group fire setters were argued to set fires for political reasons, vandalism, and as a form of riot. The third group, arson for profit, were said to set fires for material gain. Levin noted that low intelligence and lack of achievement were often associated with a fire setter personality. In comparison to the previous two fire setting classifications, Levin’s theory is arguably relatively simplistic, and may not capture the heterogeneity of fire setters, particularly given his argument that those who set fires alone are psychologically motivated and are irrational. Further, Levin noted himself that his system of classification is largely based on the system proposed by Lewis and Yarnell (1951), which suffered its own limitations.

Bradford (1982) investigated 34 male and female fire setters who had been charged with arson and who had been sent for pre-trial psychiatric assessments (mean age 30.3 years), and 50 controls (mean age 28.1 years) who had been charged with other offences. Bradford focused on disorders and motivations associated with fire setting. He determined that fire setting was most often committed by males who had been diagnosed with a personality disorder, mental
retardation (sic), or depressive neurosis. He found that approximately 30% of his sample set fires as a means of attention seeking, and 13% set fires due to revenge. The fire setting was most likely to occur close to the fire setter’s own homes. The elevation of attention seeking motivations in this sample of fire setters could arguably be a result of the high rate of persons diagnosed with mental retardation (sic), as they may have utilised fire setting as a means of communication. Bradford’s classification system was based on a sample of charged arsonists who had been referred for pre-trial psychiatric assessments, indicating they likely had a mental disorder, which may have increased their likelihood of apprehension. As such the classifications developed from this study cannot be generalised to the broader fire setter population.

Over 10 years later, Fineman (1995) utilised the same approach as Levin (1976) and categorised the findings from previously developed classification systems into his own model of fire setting. He noted that all fire setters tended to fall under eight categories. These included: curiosity type; accidental type; cry for help type; delinquent type; severely disturbed type; cognitively impaired type; sociocultural type; and wild land fire setter type. He noted that the cognitively impaired group comprised both the retarded (sic) and organically impaired types, and that the group lacked judgement. He argued that this group present problems controlling impulses. As Fineman developed his categories based on pre-existing classifications this study could be best described as a review of classification systems, and his model of fire setting would need to be evaluated in a sample of fire setters to determine its applicability. Further, it compounds the issues arising from all the previously discussed studies, including the lack of definitions for ID and lack of reporting tools used to assess IQ, as well as the use of differing samples of fire setters, including those charged with arson, those convicted of arson, and those who were already incarcerated or who were on parole for the crime of arson.

In the same year, Puri, Baxter, and Cordess (1995) investigated sociodemographic, psychiatric, and medical case notes of 26 male and 10 female fire setters who had been referred to a forensic psychiatry service over a four year period. The mean age of the sample was 27.2 years. A psychiatric history was present in 60% of those in the sample, of which 3% had received a diagnosis of a
learning disability. Puri et al. proposed a framework for considering the cause of fire setting, which involves understanding the psychiatric, psychological, and psychosocial predisposing and precipitating factors for the fire setting behaviour. Once again, this sample is problematic due to the fire setters having been referred to a forensic psychiatry service, which implies they had been identified as having a mental health concern, and the use of a case file review method, which relies on the existing data being accurate and complete.

Through the use of cluster analysis, Harris and Rice (1996) grouped 243 males (mean age: 28.2 years) who had been admitted to a maximum-security psychiatric institution for fire setting between the years of 1973 and 1983, into subtypes. Almost half their sample (48%) had been remanded for psychiatric evaluation after being charged with an offence, a third had been admitted due to problematic behaviour in a less secure psychiatric hospital, 12% had been found not guilty by reason of insanity, or unfit to stand trial, and 6% were admitted for treatment from the corrections institutions where they had been serving out their sentences. Similar to the findings of Koson and Dvoskin (1982), asserting the potential significance of psychiatric diagnoses to understanding fire setting, 33% of Harris and Rice’s sample fell within a psychotic group, whose primary motivation for fire setting were delusions. Often, these fire setters were diagnosed with schizophrenia and had little history of criminal behaviour. The second group discovered was the unassertives, and consisted of those fire setters who had minimal criminal histories, the least problematic family backgrounds, and who were more intellectually able. This classification comprised 28% of the sample. Multi-fire setters were the third group and consisted of 23% of the total sample. These fire setters had a history of setting fires, were the least intelligent, and had high levels of aggression. They were most likely to have been institutionalised their whole lives, and have high rates of recidivism. The smallest category found within the sample was that of criminals. Criminals comprised 16% of the sample, and were likely to have a long list of prior convictions, were more often diagnosed with a personality disorder, and often had high levels of recidivism. The over representation of persons with mental disorders such as schizophrenia, personality disorder, and low levels of intelligence are reflective of the sample being drawn
from a psychiatric institution. As such, this classification is unlikely to apply to the
general fire setting population, and has little validity outside a psychiatric
population, and the authors acknowledge this. However, this is the first study to
report utilising an appropriate statistical technique, i.e., cluster analysis, to
determine the categories that fire setters fit within.

Kidd (1997) categorised arsonists into three groups: motivated arson;
motiveless arson; and juvenile fire involvement. Motivated arson included
insurance fraud, intimidation, or crime concealment, whereas motiveless arson
included pyromania, psychosis, mental disorder, intellectual disability, vandalism, or
substance use. This classification, however, is far too simplistic when considering
fire setters, particularly when the overwhelming number of differing classifications
for fire setters that have been presented are considered. For instance, simply
classifying those with a mental disorder as ‘motiveless’ implies that fire setting
behaviour is an aspect of their mental disorder, which is in some way predisposes
them to set fires, however Kidd provides no evidence for this.

A problem associated with categorising fire setters by motive is that it does
not take into account the reason why fire setting in particular was the behaviour
chosen, and does not take into account fire-specific factors such as fire interest and
previous fire setting behaviour. It also does not adequately explain those who are
involved in fire setting who do not have an identified motive for their fire setting,
nor does it consider any other risk factors present in the individual. Even where
classification systems propose a ‘motiveless’ group, they do not provide sufficient
evidence for the lack of motive, nor do they provide explanations as to how the
person’s mental disorder predisposes them to engage in fire setting behaviour.
Overall, the combination of motives and disorders for classifying fire setters fails to
provide a solution to the problems associated with grouping people based solely on
one or the other.

**Behaviour**

Douglas et al. (1992) focussed their classification system on behaviour, after
having worked within the FBI. They generally found most of the fire setters were
male. They initially classified fire setters as ‘organised’ or ‘disorganised’, where the
organised arsonist had a planned, methodical approach and left little evidence at
the scene, whereas the disorganised arsonist didn’t have a plan, used materials they found at the scene, and often left evidence behind. They also proposed six main motive categories: vandalism, revenge, excitement, profit, crime concealment, and extremist. In addition, Douglas et al. took the frequency of the fire setting into account, and classified fire setters according to whether they were ‘serial’, ‘spree’, or ‘mass’ fire setters. Serial arson was defined as three or more separate fire setting episodes, with an emotional cooling off time between fires. The spree arsonist sets fires in three or more different locations, without a cooling off period in between. The third category, mass arsonist, sets three or more fires in the same location during a limited period of time. Whilst this study used clearly defined categories, the development of this system was heavily based on anecdotal information that was gathered from crime scene investigators, and interviews with convicted offenders, highlighting its weak theoretical grounding (Doley, 2003).

A more recent classification system was developed based on theories related to behavioural action systems (Canter & Fritzon, 1998). Canter and Fritzon used content analysis and multidimensional scaling for 145 males and 35 females who had been through court proceedings related to fire setting in the UK to develop discrete fire setter profiles. The resulting profiles focus on both the motive for arson as well as the target of the arson (Canter & Fritzon, 1998). The target could be either an object, or a person, and the motivation was classified according to whether it was instrumental or expressive. A combination of different targets and motives resulted in the creation of four modes of arson: Adaptive, Conservative, Integrative, and Expressive. The first mode, Adaptive, refers to fire setters with external motivation and an external target, and usually comprise of juveniles already known to authorities. The second mode, Conservative, refers to arson directed at an external source with the objective of changing the internal state of the person setting the fire. The third mode is Integrative, and refers to fire setters who set fire to their own home, or themselves, in order to draw attention to themselves and their emotional distress. This fire setter is often psychiatrically disturbed. The fourth mode is Expressive, and involves an internal source and an external target. These fire setters use fire as a way of drawing attention and learn
that fire is an effective means of expressing themselves. Fire setters in this group often have personality disturbances, and a history of fire-related behaviour.

Whilst these systems for classifying fire setters did not necessarily provide any new information about fire setters, they improved upon previous systems by incorporating both motive and behaviour in an attempt to provide a more in-depth description of arson and fire setting behaviour. Further, Canter and Fritzon (1998) utilised an appropriate statistical technique to determine their classifications, which is a substantial improvement on previous classification systems. Both these classifications, however, have generalizability concerns given that Douglas et al. (1992) only used information that was gathered from crime scenes, and Canter and Fritzon (1998) only used information from solved fire setting cases.

Many other classifications of fire setters have been proposed, however as Doley (2003) notes, many of these have used skewed samples and have been unable to account for the variety of fire setter characteristics. A particular problem is that many of the classification systems utilised participants who had been diverted from the criminal justice system before being charged, who had been charged with criminal damage (as opposed to arson), and who had been charged and/or convicted of arson. This over-representation of fire setters who have been caught suggests that many of the typologies are actually typologies of fire setters who have been caught, rather than representing all persons who set fires. This might also explain why mental disorder often features in these typologies, as it is likely that persons with certain mental disorders might find it difficult to remain undetected. In addition, studies which comprised participants who were located in psychiatric facilities may have only investigated ‘expressive’ motives (i.e. pleasure, excitement) as these are more likely to exist in a psychiatric population, whereas ‘instrumental’ motives (i.e. financial gain, revenge) may be more likely to exist in a prison population, and as such it is unclear which sample is more likely to represent the general fire setting population (Doley, 2003).

Of particular concern is that classification systems are often developed by a single author and are not often replicated in further research, making it difficult to determine their validity. Further, they are often based on small clinical samples rendering the systems ungeneralizable to the broader population of fire setters. It
was noted early in the development of classification systems that they may be most useful if they consider the entire range of factors that might be associated with fire setting, including antecedent conditions, organismic factors, the actual fire setting behaviour, and the consequences of the act (Vreeland & Waller, 1979). However, there are very few which take all these factors into account. Arguably, classification systems have provided very little understanding of fire setters, and instead have given rise to more questions about how to best describe and understand fire setters with ID.

One common characteristic of fire setters to emerge throughout these typologies is the fire setter who has a low IQ, which might constitute an ID. What was not clear from the previous studies is the extent to which persons in the sample had received a formal diagnosis of ID, and the level of the ID, or whether they were just considered to be less intelligent than others, and thus labelled as having low IQ. Regardless of this concern, based on the consistent appearance of this type of fire setter, the current thesis will investigate the available literature on the association between fire setting and persons with ID.

Intellectual Disability
For the purpose of the current thesis, ID is defined according to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000). It is recognised that the DSM-5 is now available, though it has only recently been introduced and no literature that draws on the new diagnostic criteria is reviewed in the thesis. As such the DSM-IV-TR definition for ID will be used throughout. The DSM-IV-TR definition of ID comprises three components:

1. Significant sub-average intellectual functioning: an IQ of approximately 70 or below on an individually administered IQ test;
2. Concurrent deficits or impairments in present adaptive functioning in at least two of the following areas – communication, self-care, home living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, leisure, health and safety; and
3. The onset is before the age of 18.
Similarly, the American Association on Intellectual and Developmental Disabilities (AAIDD; 2010) defines ID as:

“Intellectual disability is characterized by significant limitations both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social, and practical adaptive skills. This disability originates before age 18” (p.1).

The AAIDD definition provides five assumptions that must be considered when applying it:

1. Limitations in present functioning must be considered within the context of community environments typical of the individual’s age peers and culture
2. Valid assessment considers cultural and linguistic diversity as well as differences in communication, sensory, motor and behavioural factors
3. Within an individual, limitations often coexist with strengths
4. An important purpose of describing limitations is to develop a profile of needed supports
5. With appropriate personalised supports over a sustained period, the life functioning of the person with intellectual disability generally will improve

There are similarities between the definitions of ID in the DSM-IV-TR and the AAIDD, including an onset before the age of 18, limitations in adaptive functioning, and impairments in intellectual functioning. The DSM-IV-TR makes specific reference to a score of approximately 70 or below on an IQ test as indicative of an ID, whereas the AAIDD refers to impairment in intellectual functioning more generally. For the purposes of research, the DSM-IV-TR definition could be considered more objective, due to its reliance on a standardised IQ assessment rather than clinical judgement of impairment alone.

Borderline intellectual functioning has been considered as an IQ of between 70 and 84 (i.e., greater than one standard deviation below the population mean of 100) by the International Classification of Disease, developed by the World Health Organisation (2010), and 71 and 84 in the DSM-IV-TR (American Psychiatric Association, 2000).
An important consideration for this thesis, and for research about persons with ID more generally, is that definitions of what constitutes an ID often differs between studies, and this is further complicated by whether studies choose to include borderline ID within their overall definition of ID (Lindsay et al., 2007). In addition, there are studies within which the authors label participants as having an ID, but do not provide any detail on whether this was a formal diagnosis, details of the tool used to make the diagnosis (i.e., full IQ test or brief screen), an administrative diagnosis, or whether the group was simply labelled this way based on researcher observation. Finally, studies often group together persons with a range of levels of ID, from mild to severe, without distinguishing between these within the results. This makes comparisons and generalizability across studies difficult, and highlights the heterogeneity within the ID population.

In 2003 the prevalence of ID in Australia was approximately 3% (Australian Institute of Health and Welfare, 2008). Almost 65% of those with ID were under the age of 65, and 60% of persons with ID had severe communication issues. Further, persons with ID were characterised with difficulties learning, retaining and applying knowledge, particularly in regards to decision making (Australian Institute of Health and Welfare, 2008). All such issues could be relevant to understanding fire setting behaviour in persons with ID, and for planning their treatment and longer-term support.

**Intellectual Disability and Fire Setting**

A link between ID and criminal behaviour has been asserted since the late nineteenth century (Lindsay, Sturmey, & Taylor, 2004). Some explanations provided for this putative association include limited social skills, impulsivity, maladaptive social learning, an inability to understand consequences of actions, and a low ability to resist temptation (Johnson, 2004). All such characteristics might benefit from being the focus of individual intervention and treatment. The Social Model of Disability argues that offending behaviour can be explained as the failure of society to provide the supports needed by people with ID, to allow them to live in the community without the need to revert to behaviour deemed criminal (Oliver, 1990). On this basis, intervention is needed at the level of the service system and
community more broadly. Here though the evidence to inform policy and practice remains subject to both scientific and political debate.

Studies have attempted to understand the types of offences committed by people with ID, and it has been suggested that fire setting is one of the most commonly committed (Day, 1993; Männynsalo, Putkonen, Lindberg, & Kotilainen, 2009; Simpson & Hogg, 2001). Others, such as Drabsch (2004), have supported Johnson’s notion, arguing that those with an ID are particularly impulsive and have limited ability to relate their current behaviour to the future possible consequences, such as the potential for harm to people and property as the result of setting a fire. Questions have also been raised concerning the extent to which the cognitive limitations and impaired psychosocial development of persons with ID might account for, or provide mitigation for, their actions (Hall et al., 2005; Read & Read, 2008).

Prevalence rates of offenders with ID, particularly in regard to fire setting, are difficult to determine. Holland and Persson (2007) conducted a study to determine the characteristics of prisoners with an ID released from the Victorian prison system from 2003 to 2006. They discovered that of the 7,805 offenders released from prison between 2003 and 2006, 102 were registered with the Department of Human Services as having an identified ID. The prevalence rate was 1.3%. In addition, Holland and Persson found that prisoners with ID had a significantly higher level of recidivism than offenders without ID.

In contrast to the study conducted by Holland and Persson (2007), many other Australian studies have found far higher prevalence rates of ID in their samples. For example, Vanny, Levy, Greenberg, and Hayes (2009) estimated that up to 12% of Magistrate Court attendees in NSW had an ID, based on scores on the Kaufman Brief Intelligence Test, second edition (KBIT-2; Kaufman & Kaufman, 2004), and the Vineland Adaptive Behaviour Scales, second edition (VADS2; Sparrow, Cicchetti, & Balla, 2005). Further, a study conducted by Parton, Day, and White (2004) on 74 remand prisoners found that 32.5% fell within a mild to borderline ID range, using the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999). They also noted that those with an IQ under 70 had a lot of difficulty understanding court procedures, and in particular only one participant had a basic understanding
of available legal defences. The most recent study conducted in Australia assessed the presence of ID in 1325 adult prisoners within six weeks of their release from seven prisons across Queensland over the period of 2008 to 2010 (Dias, Ware, Kinner, & Lennox, 2013). The authors identified persons as having an ID if they scored less than 85 on the Hayes Ability Screen Index (HASI; Hayes 2000), and reported either having attended a special school, or having been diagnosed with ID. Of those assessed, 181 (14%) reported attending a special school, and 56 (4%) reported having been previously diagnosed with an ID. Overall, 115 (9%) of the participants assessed were identified as having an ID. However, this prevalence rate should be interpreted with caution, given that the HASI is a 13-item scale that only assesses whether people should be referred for a formal assessment for an ID if they score under 85, so the combination of this with having attended a special school may not be indicative of a diagnosable ID. Further, they did not report specifically on fire setting offences, and the proportion of these offenders in Australia is yet to be determined. So too, prevalence rates for pyromania (an impulse control disorder—refer to American Psychiatric Association, 2000) among people with ID are largely unknown (Fletcher, Loschen, Stavrakaki, & First, 2007).

Some studies have attempted to determine the prevalence of offenders with ID who commit fire setting offences. For example, Hogue et al. (2006) report in a study of 212 male offenders with ID (mean age: 37.4 years) that 21.4% of a low- and medium-security group had arson as an index offence, whereas only 2.9% of the community group had been referred for arson. Further, Rose, Cutler, Tresize, Novak, and Rose (2008) report a fire setting prevalence rate of 12.7% in a population of 42 males and five females (mean age: 35.3 years) who had contact with both ID services and the criminal justice system in a single urban district in the UK. Lindsay et al. (2010) evaluated the prevalence rate of offenders with ID with arson as an index offence who were referred by community generic services, community specialist forensic services and low, medium, and maximum security services across the UK. They reported the overall prevalence rate to be 4.2% in a population of 354 male and 123 female offenders (mean age: 33 years). Broken down across the settings in which offenders were assessed, these rates were reported to be: community generic services 1.3%; community specialist forensic
services 6.2%; low and medium secure services 7.7%; and maximum security facilities 8.0%. However, possibly due to the relatively small numbers (N=20), these variations across settings were not statistically different. Regardless of their index offence, the percentage of offenders with ID in this same survey who had a history of fire setting amounted to nearly 18% of the sample, with two thirds of offenders in secure settings.

The difference in prevalence rates is likely a result of the differences in populations studied and the time periods covered. For example, Rose et al. (2008) investigated people who were currently using services for people with ID, and who had come into contact with the criminal justice system at some point in their lifetime, and Lindsay et al. (2010) only looked at people who had been referred to services over a single calendar year period. If these figures are extrapolated to the Australian context, between 46 and 140 of the 1,099 fire setting offenders convicted in NSW over the period of 2001 to 2006 (Muller, 2008) would have an ID.

It has been argued that it is difficult to determine with certainty whether fire setting is over-represented in offenders with ID (Taylor, Thorne, Robertson, & Avery, 2002). Suggestions have been made that high prevalence rates may be due to the medium and high secure facilities at which these offenders are being studied, rather than an actual representation of all ID offenders (Hogue et al., 2006; Lindsay et al., 2010). Another concern in determining prevalence of fire setting among persons with ID is that if they are already in disability services, staff may choose not to, or may be reluctant to report the behaviour to police (McBrien & Murphy, 2006). Or, persons with ID might have been diverted from the criminal justice system before being charged or convicted (discussed in further detail in Chapter 4). As such the actual proportion of persons with ID engaging in fire setting behaviour may be higher.

Thus far, consideration has only been given to the prevalence of offenders with ID who have been involved in fire setting. Attention also needs to be given to the prevalence of ID in the broader population of fire setters. For example, Hall, Clayton, and Johnson (2005) note that although there has been minimal research in the area, fire setters tend to have a low IQ. More recently, an Australian study conducted by Ducat, McEwan, and Ogloff (2013) compared 167 male and 40 female
offenders (mean age: 30.5 years) who were convicted of fire setting offences over
the 2004 to 2009 period in Victoria, with 174 male and 23 female (mean age: 30.7
years) randomly selected offenders who had not been convicted of fire setting from
the same time period in Victoria. Within their comparison Ducat et al. looked at the
presence of ID and the level. They found that 8.5% of offenders from the fire setter
group had an ID (all mild), and only 3.9% of the non-fire setting group had an ID (all
mild).

Accurate estimates of prevalence are confounded by methodological issues
such as whether those with borderline ID are included in summary statistics, and
the different definitions of ID that are used. This is further confounded by a lack of
publicly accessible data for this offence, which is essential and urgently needed to
inform rehabilitation (McEwan & Freckelton, 2011). An additional concern is the
reliance on people who have an identified ID for use in research in this area. The
reliance on the person having a pre-identified ID also has implications for
prevalence studies, in that many of these studies were conducted on persons in
secure settings. It may be that those who had an identified ID might have been
diverted away from the criminal justice system, and as such are not represented in
the prevalence studies discussed here. Or, it may be that those fire setters who did
not have a pre-identified ID were convicted of arson, sentenced to prison, and
either have not been assessed for an ID, or who are not involved in research studies
due to constraints associated with including prisoners in research studies (Roberts
& Indermaur, 2008). Regardless of the problems associated with prevalence
studies, it is clear that fire setting does occur in the ID population and there is a
need for effective targeted intervention programmes to be developed and delivered
to this group (Taylor, Thorne, et al., 2002).

A study conducted by Murphy and Clare (1996) discovered that the seven
male and three female fire setters with ID (mean age: 26.4 years) they interviewed
reported varying characteristics. For example, they each had several different
motivations for fire setting; had problems identifying events, feelings, and
cognitions following the fire setting; and two of those interviewed reported a
comorbid mental disorder. In addition, Devapriam, Raju, Singh, Collacott, and
Bhaumik (2007) reported that fire setters with ID are likely to repeat fire setting
behaviour, as well as engage in other offending. Based on these findings, it is not surprising that Taylor et al. (2002) argue that fire setters with ID present a set of complex needs that need to be addressed in effective and evidence-based service provision and treatment.

Table 2 summarises the characteristics of fire setters from the classification studies which included persons who were reported to have a low IQ, or who were reported to have an ID. The commonalities found across the typologies gives some indication of the characteristics with which a fire setter with ID might present.

Although the literature presents a variety of characteristics for fire setters with ID, these do not appear to be distinct from other types of offenders with ID (e.g. violent or sexual offenders). In fact, the question has been posed as to whether these ID offenders are in fact different to violent offenders (Jackson, Glass, & Hope, 1987b). Certainly, there have been typologies of fire setters proposed which focus on anger/aggression as the sole explanation for the fire setting. Barker (1994) proposed five main categories of arson, building on a four category explanation for aggressive behaviour developed by Edmunds (1978). Edmunds’ categories for aggressive behaviour were:

1. Acquisitive: Attacking an innocent person or property for personal gain
2. Vindictive: Behaviour intended to hurt a perceived aggressor
3. Instrumental: Behaviour as a tactic to achieve an end, that is in response to an environmental stimulus
4. Cathartic: Expression of an emotion such as anger, despair or tension, directed toward a randomly chosen target
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Table 2

Characteristics evident or likely to be evident in fires set by ID.
Gender (male)
Based on these four categories, Barker (1994) presented five of her own categories specific to arson:

1. Acquisitive: Arson committed for profit
2. Vindictive: Arson committed for revenge, or out of jealousy
3. Instrumental: Arson committed to cover up a crime, cry for help, for self-destruction, or to be the hero
4. Cathartic: Arson committed for sexual pleasure, pleasure, excitement, vandalism, boredom, or relief of tension
5. No obvious motive: Arson committed during a psychotic episode, or accidental arson

What is clear from Barker’s categories of arson, as well as from the classification literature for fire setting more broadly, is that a commonly reported motive for arson-related offences is revenge. Figure 1 below demonstrates the most common motives reported by the studies described earlier: revenge, financial, political, excitement, crime concealment, and vandalism. The triangles around the studies in Figure 1 indicate that the authors directly discuss persons with ID having that particular motive for fire setting. The circles denote studies in which the authors report those motives as typical in their sample, and who also discuss persons with ID to be common in their sample, and whilst they do not explicitly link the two it would be reasonable to assert that there was a crossover between them. The figure demonstrates that revenge is commonly cited in the literature as a motive for fire setting and in line with Edmunds’ categories this could be considered an aggressive motive.

If revenge is considered an aggressive motive, then perhaps those fire setters with ID who report their motivation for fire setting to be revenge should be considered a type of violent offender. In support of this position, revenge could be considered an intention to harm another person, and in the case of arson this is through the use of fire. Those who report motives such as excitement and financial gain for fire setting are less likely to fit the violent offender typology as their intention is likely self-serving, without necessarily an intention to do harm to others when setting a fire.
Figure 1: Common motives for the setting
Any analysis of characteristics of a fire setter with ID must also take into account the specific diagnostic characteristic of the person. This is particularly important when considering the cognitive and developmental processes underpinning recklessness and intent.

It has been asserted that currently no programmes that might be considered evidence-based have been developed for use with adults with an ID as their primary intended focus (Palmer, Caulfield, & Hollin, 2007). Rather, many of the existing treatments address fire setting behaviour by children and adolescents, rather than adults (Gannon & Pina, 2010), although examples of emerging programmes for adults are beginning to be reported (to be discussed later in Chapter 6). However, prior to investigating intervention and treatment options, it is important to first examine what we know with respect to theories of fire setting behaviour more generally, and how these theories might be applied, or adapted, to better understand fire setters with ID.

**Explaining Fire setting Behaviour in Persons with ID**

The following section will present a select range of theoretical perspectives on fire setting from the literature in an attempt to explain the link between persons with ID and fire setting behaviour. There are many theories that attempt to provide an explanation for fire setting, though not all are applicable for persons with ID. Further, only recently has it been acknowledged that there is not a sole explanation for fire setting, and instead it presents a complex combination of various components.

First, the general theories of crime that are applicable to fire setting will be presented, with fire setting specific explanations provided where necessary. Theories that attempt to explain fire setting but do not have recent empirical support or do not necessarily apply to persons with ID will then be presented. Based on the literature previously discussed about persons with ID, and the particular characteristics presented about fire setters with ID from the classification and typology literature, it is likely the most relevant theories of crime are social learning theory, social control theory, and strain theory.
Social learning theory.
Social learning theory argues that behaviour can be learned in two main ways: through direct experience, or through observing the behaviour of others (Bandura, 1971). The theory notes that behaviour that is acquired through direct experience results from both reinforcing and punishing consequences for performing certain behaviours. These experiences provide people with expectations of outcomes for performing certain behaviours. People also learn through observing the consequences of behaviours performed by others, which is arguably a function of survival (Bandura, 1971).

In the context of social learning theory, fire setting is argued to occur due to the interaction of modelling, imitation, and reinforcement (Bandura, 1976; Kolko & Kazdin, 1986). Some social psychologists have argued that a person who sets fires has not been able to appropriately obtain rewards from their environment, and thus to gain control over the unrewarding environment, they set a fire (Vreeland & Waller, 1979). Vreeland and Levin (1980) furthered the social learning view by noting that by setting fires, an individual is instantaneously reinforced by the sensory excitement of the fire, the sirens, the noise, and the crowds that arise as a result of the fire. Not only is this reinforcement what encourages the fire setting behaviour, but it is also the observational learning that takes place when the individual is either purposely or incidentally exposed to fire setting throughout their life.

From a social learning perspective, the combination of reinforcement and observational learning that has taken place means treatment of fire setters will need to focus on demonstrating the negative consequences of fire setting through, for example, role-playing situations where the fire setters can observe a model receiving consequences for their behaviour, and can also play the fire setter in the role play to experience the consequences themselves. Another strategy may be to teach more reinforcing behaviours for the person to use in situations where they feel like starting fires. However, the effectiveness of such intervention is likely to be impeded in situations in which fire setting has been reinforced or observed throughout a fire setter’s life. Social learning theory provides some explanation for developmental experiences that may contribute to fire setting, and can account for
aspects of fire interest, however its ability to describe the combination of factors leading to fire setting is limited (Gannon & Pina, 2010).

Social learning theory though could be seen as applicable to fire setters with ID. Most children grow up with exposure to fire, perhaps only through a fireplace in their home, and as a result may develop an interest in fire. Research has found that fire setter’s fathers often hold occupations involving exposure to fire (Macht & Mack, 1968). Further, it is likely that they have been exposed to others starting fires whether in their lives, or on television. Some research has shown a link between fire setting, and growing up in an environment where fire is more prevalent such as in the countryside (Wolford, 1972), though these findings are more than 30 years old and no recent research was able to be located which replicated these findings.

One difference for persons with ID may be that although they might understand the immediate consequence of the fire, their understanding of the long-term consequences may be less developed or perhaps these long term consequences are just not considered. Based on the typologies of fire setters with ID it is likely that this might be the case, as if they are setting fires for revenge, they may think of the short term consequences (‘I am going to get this person back for what they did to me’), however they may not consider that setting the fire could result in consequences such as harm to others or imprisonment.

Barnoux and Gannon (2014) suggest that social learning theory can explain revenge fire setting, the most common motive identified through the typology literature (see Figure 1), by viewing the fire setting behaviour as resulting from poor childhood socialisation, exposure to negative developmental experiences, and negative roles models which can each result in aggression, poor coping skills, and a lack of assertiveness, all of which combine to increase the individuals likelihood to set fires to obtain control. The best way to treat the behaviour if this is the case may be to work with the person to help them to develop problem-solving skills, which will enable them to deal with more immediate situations in which they feel they need revenge against someone differently.
Although social learning theory provides some explanation for why persons might set fires, it does not provide any evidence as to why persons with ID might be particularly vulnerable to reinforcement and observational learning, and why fire is the particular crime chosen by these persons. One theory that is specific to fire setting that has been developed based on social learning theory is Jackson’s only viable option theory (1994).

Jackson’s only viable option theory.
Jackson’s only viable option theory (1994) is grounded in Functional Behaviour Assessment (FBA). FBA is an assessment that attempts to determine the environmental functions of particular behaviours that may be maintaining a problem behaviour (Martella, Nelson, Marchand-Martella & O’Reilly, 2012). There are three types of FBA assessments: Indirect assessments, descriptive analyses, and functional analyses. Indirect assessments involve obtaining information from sources other than a first-hand analysis of events occurring in the environment; for example interviews, checklists, and self-report rating scales. Descriptive analyses involve directly observing the person in their natural environment where the challenging behaviour is most likely to occur. This can be done using an A-B-C analysis, whereby the observer records the antecedents (A) prior to behaviour of interest (B), and the consequences (C) after the behaviour of interest, or by observations forms where the observer completes a checklist based on observed behaviours. The third type of FBA is functional analysis, which systematically and experimentally investigates the relationship between a problem behaviour and environmental events (Didden, 2007). The purpose of conducting a functional analysis is to identify why (i.e., the purpose) the person is using the behaviour, importantly from the person’s own perspective. It is commonly associated with the so-called Communications Hypothesis, which asserts that people use behaviours, some of which might be culturally abnormal or unacceptable, to convey personal needs, priorities and preferences (Durand & Crimmins, 1988). Once the function of the behaviour is understood, from the person’s perspective, the environment can be modified to better meet their needs, and they can be taught functionally equivalent alternative behaviours so as to be better able to meet their own needs, communicate these more appropriately, or tolerate circumstances where their needs cannot be met (Carr et al., 2006). Functional analysis has been regarded as
useful for assessing challenging and problem behaviour, particularly given most of these behaviours are linked to predictable consequences such as obtaining attention (Delgado-Casas et al., 2014). Further, these types of assessment have been argued to have high reliability and internal validity (Martella, Nelson, Marchand-Martella & O’Reilly, 2012). However, questions have been raised regarding the applicability of FBA for rare and dangerous behaviours such as fire setting (Murphy & Clare, 1996).

Jackson (1994) argued that fire setting is the outcome of an interaction between the antecedents of the behaviour and its consequences. In support of this perspective, Jackson, Glass and Hope (1987) provided five factors that they asserted underlie fire setting: psychosocial disadvantage; life dissatisfaction and associated self-loathing; social ineffectiveness; factors determining individual experience of fire; and internal and external fire setting triggers. They argued that the power and acceptance gained from peers and an increased level of attention from caregivers arising from fire setting behaviour is sufficient to encourage a child experiencing social difficulties, who is normally unable to receive such attention, to set fires. A consequence of the heightened attention received is that the child may then have an increased desire to set fires on later occasions.

Jackson et al. stated that from a functional analytical perspective, fire setting may be used as the solution to any problems, or difficult situations, that the individual feels are unsolvable by other methods. However, the functional analysis theory fails to take into account cognitions associated with fire setting behaviour as well as the wide array of individual motivations that may be present (Gannon et al., 2012).

The only viable option theory is similar to social learning theory, in that the social reinforcement received encourages the person to continue setting fires. Persons with ID may feel as though they cannot communicate their ideas, or gain the social contact with others that they desire, and fire gains the attention of those around. Further, fire may be seen as the most appropriate solution to a problem as the person may not have other, more appropriate, problem solving skills in their repertoire.
Fineman (1995) also developed a theory specifically for fire setting which has its roots in social learning theory, but which also comprises a cognitive aspect. It is known as the dynamic behaviour theory.

**Dynamic behaviour theory.**
The dynamic behaviour theory suggests that fire setting is a result of the interaction between dynamic historical factors, historical environmental factors, and immediate environmental contingencies (Fineman, 1995). The theory can be expressed as the formula:

\[
\text{Fire Setting} = G1 + G2 + E
\]

**G1**: dynamic historical factors that predispose the offender to maladaptive and antisocial behaviours, for example problems with family, friends or health

**G2**: historical and current environmental factors that have taught and reinforced fire setting behaviour as an acceptable behaviour, e.g., lack of fire safety knowledge and training and poor parental supervision in regards to fire

**E**: immediate environmental contingencies that encourage fire setting

where \( E = C + CF + D1 + D2 + D3 + F1 + F2 + F3 + Rex + Rin \)

**C**: crisis or trauma that precedes the fire setting

**CF**: characteristics of the fire setting behaviour

**D1**: distortions before the fire setting

**D2**: distortions whilst the fire is lit

**D3**: distortions experienced after the fire setting

**F1**: feelings before the fire setting behaviour

**F2**: feelings during the fire setting behaviour

**F3**: feelings after the fire setting behaviour

**Rex**: external reinforcement for the fire setting
**Rin**: internal reinforcement for the fire setting

Dynamic behaviour theory comprises many explanations for why fire setting might occur, and many of these could be applied to persons with ID. For example, persons with ID may have a lack of fire safety knowledge due to an inability to understand information that may have been presented to them, and they may believe that fire is an appropriate way to gain attention, communicate with others, and solve problems. However, the distortions held by this particular subset of the population are not well understood, and as a result it can only be speculated that these may contribute to fire setting behaviour in persons with ID.

There is insufficient evidence to support social learning theories as appropriate explanations for fire setting behaviour generally, particularly for persons with ID. Whilst many of the concepts within these theories can theoretically be applied to persons with ID, this would need to be tested within an ID population who sets fires. Another criminological theory for offending which may provide some explanation for the fire setting behaviour of persons with ID is Social Control Theory.

**Social control theory.**

Social control theory argues that offending is a result of a weak social bond between the individual and society (Hirschi, 1969). The theory postulates that people who have weak bonds with society will not feel the pressure to conform or socially integrate and thus will have little reason not to offend for their own self-interest. The bond to society is argued to have four components: attachment; commitment; involvement; and belief.

*Attachment* refers to the value placed on relationships with others such as parents and peers. Those who are strongly attached to others are less likely to offend, as they do not want those they care about to be disappointed (Hirschi, 1969). *Commitment* is the investment people place in the moral and ethical code of society. Hirschi argues that people are less likely to offend if it will in any way jeopardise their social position, reputation, or investment in life or property. *Involvement* refers to being a part of many areas of the community such as school, family or sport, such that no time remains to engage in offending behaviour. The fourth component is *belief*, which refers to the respect the individual has for
societal norms and laws, and for the people and institutions who enforce the law. A person who believes in the social norms and laws is more likely to act in accordance with these, and as a result will not offend.

Offending behaviour by persons with ID can be explained by this theory, as it is likely they experience weak societal bonds and as a result have low social control (Emerson et al., 2005; Wheeler, Clare, & Holland, 2013). This may leave them with little reason to restrain from setting fires. Specifically, the typology literature suggested that fire setters with ID are likely to be single, and may have frequented institutions since they were young. This may mean they have very few attachments to others and thus do not have anyone who would be disappointed as a result of their fire setting. If they set a fire as a child, and realised that no one had noticed or cared, this may have encouraged further setting of fires as there was no disappointment as a result of the fire. Further, it is unlikely that fire setters with ID have been involved in the community in the same way as persons without ID, as their involvement at school may have been hindered by their lower intellectual functioning, and they may not have had the ability to participate in sport (depending on their level of disability). If they are not involved in community activities such as these, it is argued by social control theory that they have more time to engage in offending behaviour.

Both the commitment aspect and belief aspect of the theory require a certain knowledge of social norms, and the moral and ethical code of society. It is unclear whether persons with ID know about, or understand these unwritten conventions. Based on the findings by Langdon, Clare, and Murphy (2010) it could be argued that as persons with ID have not reached the ‘mature’ level of moral development, they have difficulty understanding social structures, as well as rights and values within a society.

Social Control Theory has some supporting evidence in its explanation for offending behaviour in persons with ID. Wheeler, Clare, and Holland (2013) investigated whether the Social Control Theory was applicable to offenders with ID in community settings. Their study, using 18 male and nine female active offenders with ID (mean age: 36.5 years) and 10 male and nine female non-offenders with ID (mean age 37.8 years), found that the active offenders scored lower than the non-
offenders with ID on a subscale of the Life Experiences Checklist (Ager, 1990) known as ‘personal relationships’, indicating a low level of social inclusion and thus social bonds. This is, however the only study to investigate this link, and it requires further investigation to determine its applicability, particularly with fire setters. The final theory of crime that might be associated with fire setting in persons with ID is Strain Theory.

**Strain Theory.**

Strain Theory has a focus on the negative relationships a person has with others, in which the offender feels that he or she is not being treated in a way that they would like to be (Agnew, 1992). Further, it argues that persons are pressured into crime by negative affective states such as anger and related emotions, which are usually a result of negative relationships. The negative emotions may encourage the person to commit crime to achieve goals, attack or escape from the source of the problem, or use drugs to manage the emotion. Thus, this theory would explain persons who set fire out of anger, or when they are upset.

This theory can be related to fire setters with ID. For example, persons with ID have often had difficulties in their childhood with poor parenting (Farrington, 1995). The theory argues that the experience of poor parenting may have resulted in a negative relationship with the parents or caregivers, which results in a person setting fires in an attempt to deal with the associated undesirable emotions. Further, the classification/typology literature suggested that revenge was a common motive for fire setters with ID, and this may be due to the person being put into a state of negative affect by another person, and because of this negative state the person with ID sets a fire to that person’s property, for example.

Treatment of fire setting behaviour in which revenge was the motive may need to focus on teaching anger regulation, problem solving, and social skills. Such skills would give the individual the ability to consider more proactive ways of dealing with situations in which they feel revenge is necessary, such as raising the issue with the other person involved. Another approach that may be effective would be to address the distorted cognitions that may be present that result in the person believing setting a fire is an appropriate way to get retribution.
Wheeler, Clare, and Holland (2013) also investigated whether the strain theory was applicable to offenders with ID in community settings. They found that the active offenders scored lower than the non-offenders with ID on the ‘life as a whole’ subscale of the Personal Well-being Index-ID (Cummins & Lau, 2005), which includes standards of living, health, life achievement, personal relationships, personal safety, community connectedness and future security, which may provide some support for the strain theory for fire setters with ID, though no direct association has been made.

Strain Theory is the theory of crime which appears to be most relevant to fire setters with ID given its focus on using crime as a way to get back at people (i.e. revenge) which is consistent with the most common motive identified for fire setting in persons with ID in Figure 1. Once again, however, it has only been investigated in one study, and the focus on negative relationships and crime being committed as a result of negative affect may not be complex enough to account for the heterogeneity of fire setters, particularly those with ID.

Moral development.
Although it is not considered a traditional theory of crime, moral development is an important consideration when explaining offending behaviour in persons with ID. Consistent with the assertions of Hall et al. (2005) and Read and Read (2008) that the psychosocial level of development of an ID offender should be considered as a mitigating factor in offending, it has also been argued that there is a relationship between intellectual ability and moral reasoning, such that those with ID are less developed than those without. Such assertions have traditionally been made with reference to assessing people according to established theories based on the work of Piaget (1932) and Kohlberg (1969). More recently, arguments have been made that the moral reasoning ability of those with ID is representative of a transition between stages one and two of level one in Gibbs’ Sociomoral Stage Theory (Langdon, Clare, & Murphy, 2010). The Sociomoral Stage Theory (Gibbs, 2003, 2010) proposes four stages of moral development (see Table 3).

Langdon, Clare, and Murphy (2011) noted that the relationship between intelligence and illegal behaviour might not always be linear, as those with borderline intellectual functioning tend to be over-represented amongst
populations of offenders with ID. This may be a result of them being more likely to be convicted due to their ID being less obvious, and as such they are held more culpable and responsible by the criminal justice system. The authors acknowledge the paucity of evidence in the area and suggest further research is needed to determine whether moral reasoning moderates the relationship between intelligence and illegal behaviour, i.e. whether it is the person’s individual level of moral reasoning that influences their likelihood of participating in illegal behaviour, rather than their level of intelligence.

Table 3

The Sociomoral Stage Theory

<table>
<thead>
<tr>
<th>Level and Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1: Immature</strong></td>
<td></td>
</tr>
<tr>
<td>Stage 1: Unilateral and physicalistic</td>
<td>Moral justifications are based on unilateral authority and rules, or related to punitive consequences of the violation of rules.</td>
</tr>
<tr>
<td>Stage 2: Exchanging and instrumental</td>
<td>Moral justifications are based on an understanding that has arisen from social interaction. For example, a decision to help others may be justified because that person may help you in the future. However, justifications remain superficial.</td>
</tr>
<tr>
<td><strong>Level 2: Mature</strong></td>
<td></td>
</tr>
<tr>
<td>Stage 3: Mutual and prosocial</td>
<td>Moral justifications are characterised by further decentration, and are based on a prosocial understanding of emotional states (e.g. empathy), care, and good conduct.</td>
</tr>
<tr>
<td>Stage 4: Systemic and standard</td>
<td>Further maturity is indexed by the development of an understanding of the complex social structures in which humans live. Justifications are also based on constructs such as rights, values, and character within society. Other justifications may be based on social justice and responsibility or conscience.</td>
</tr>
</tbody>
</table>

*Note: Adapted from Langdon, Murphy, Clare, Stevenson, and Palmer (2011).*

A further study by Langdon et al. (2011) compared the moral reasoning of 20 male offenders with ID, 20 non-offender males with ID, 20 male offenders without ID, and 20 non-offender males without ID. They found that the moral reasoning of men with ID in the offender group was more mature than that of the men with ID in the non-offender group. The men in the offender without ID group had a higher
level of moral reasoning than offenders with ID. They found that both groups of men in their study with ID (both offenders and non-offenders) were reasoning at Stage two of the Sociomoral Stage Theory, whereas those without ID were at Stage three. The results of the study support the low level of moral reasoning by offenders with ID, such that they are considered to be in the ‘immature’ level of Gibbs’ Sociomoral Stage Theory.

Langdon et al. (2011) also found that the offender group with ID had lower levels of empathy and more distorted cognitions than those without ID. Based on their findings, the authors argued that group interventions would be beneficial to assist in perspective taking, as this seems to be lacking in offenders with ID. Further, focusing on cognitive distortions and social skills would ensure more effective interventions, and as the offenders with ID were found to have similar moral reasoning to young offenders in the general population, the question of applicability of youth interventions to these offenders is raised. This will be further discussed in Chapter 6.

Other Theories of Crime

Many other theories of crime exist, and a substantial number of these include the notion that there is an intentional cognitive decision made to commit crime, and acknowledgement that crime is wrong. The applicability of these theories, however, to persons with ID seems limited based on their impaired cognitive ability, and potentially low level of moral development (Langdon, Clare, & Murphy, 2010). For example, rational choice theory is unlikely to be relevant to fire setters with ID, as it is based on the notion that the person is a rational decision maker who weighs up both the costs and benefits of a crime before committing it (Becker, 1968). From the information already known from the classification/typology literature, it is unlikely that fire setters with ID are engaging in such a complex decision making process, or at least not at the level of sophistication presumed by rational choice theory.

In addition, neutralization theory is another that is less likely to apply, as it assumes that the person is aware that the behaviour is wrong, and they participate in self-talk before offending in an attempt to ease the anticipated shame and guilt of breaking social norms (Topalli, 2005). Based on the potential low level of moral
development identified earlier, it is unlikely that fire setters with ID enter into a complex inner dialogue to consider social norms when offending (Langdon, Murphy, et al., 2011). This implies a certain level of moral development, which persons with ID may not yet have reached.

**Other Theories of Fire Setting**

There are other explanations that have been provided for criminal behaviour involving fire setting in particular, though these have received less empirical support in recent years. Here though, to ensure a comprehensive consideration of fire setting theory is presented, these are considered below.

**Psychoanalytical theory.**

Freud (1932) argued the existence of a link between sexual feelings and urination, observed in the excitement of igniting fires and extinguishing them with urine. He claimed this was due to the unconscious connection between the power of a fire hose and that of the male penis. In 1943, Stekel furthered this view, suggesting that pyromania (pathological fire setting) was a type of paraphilia that resulted from impeded or unfulfilled sexual tension. He noted three distinct sexual motives; sexual sadism, in which the fire setter enjoys seeing the pain experienced by both humans and animals as a result of the fire, often evidenced by their masturbating at the scene; fire setting committed when the person has been forced to be abstinent from masturbation; and the third is that the fire setter believes setting the fire will free them of their masturbation habit.

Some psychoanalysts have suggested that fire setting behaviour is caused by a fixated sexual drive (Macht & Mack, 1968). It has also been argued that fire setters receive sexual excitement from fire setting due to the strong association between fire and water that is developed in childhood (Morneau & Rockwell, 1980). The typology of fire setter presented by Lewis and Yarnell (1951) known as the ‘erotic pleasure’ fire setter fits with this perspective, though no other typologies report this type of fire setter and research has failed to provide empirical evidence of such an occurrence despite efforts by many psychoanalysts.

Contradicting the psychoanalysts’ view, a review by Barnett and Spitzer (1994) discovered that sexual desire could be implicated in very few cases of fire setting. In addition, many of the psychoanalytic theories assume that it is only
males who have a sexual motive for fire setting, however there have been accounts of females setting fires for sexual gratification (Balachandra & Swaminath, 2002).

The capacity of this theory to explain fire setting behaviour in fire setters with ID is limited. No studies which discussed psychoanalytic theory as applicable to fire setters with ID could be located. That is not to say that some fire setters with ID may still hold sexual motives for committing such crimes, however this theory does not have sufficient scope to satisfactorily explain the behaviour of this particular offending group.

**Biological theory.**

Biological explanations for fire setting tend to focus on neurobiological deficits existent in the fire setter. These range from low levels of certain metabolites, to chromosomal anomalies. For example, Virkkunen et al. (1987) discovered that fire setters had a significantly lower level of cerebrospinal fluid 5-Hydroxyindoleacetic (CSF 5-HIAA), which is an indirect measure of central nervous system serotonin turnover, than violent offenders or controls. Low concentrations of CSF 5-HIAA have been linked to impulsivity, rather than aggression or violent behaviour (Virkkunen et al). Links have also been suggested between fire setting and poor frontal lobe functioning (Friedman & Clayton, 1996), and Klinefelter syndrome (KS; Eytan, Paoloni-Giacobino, Thorens, Eugster, & Graf, 2002; Miller & Sulkes, 1988). For example, Miller and Sulkes (1988) report on four males with KS who had set fires, two of which presented with XXY sex chromosomes, one with XXXY, and one with XXYY. These individuals were given testosterone therapy as the authors note that this had been shown to reduce impulsive and criminal behaviour. For the first three individuals improvements were found after this therapy. The authors did not, however, state what ‘improvement’ was defined as. A further study conducted by Stochholm et al. (2012) found that persons with KS were more frequently convicted of arson than a control group of age-matched males, and this occurred even though the total number of convictions were not increased in persons with KS compared to the control group. This finding suggests that arson may be over-represented amongst persons with KS, though this assertion requires further investigation before any conclusions are drawn. This is particularly important, given that studies conducted on persons with KS and fire setting
behaviour have multiple methodological flaws; such as their reliance on case studies that are not readily able to be generalised, or using just one participant. Further, there have been very few cases in which biological causes have been the only factor contributing to the fire setting behaviour (Gannon & Pina, 2010).

Biological theory may contribute to the link between ID and fire setting, as research has shown some links between fire setting and disorders which are associated with reduced intellectual functioning (e.g. KS). Again, the issue of the paucity of research investigating this association is a problem, as it does not allow for any conclusions to be made about the potential link. It is suspected, however, that such an association exists and further investigation is certainly warranted to ascertain if fire setting in some instances can be identified as a behavioural phenotype of an underlying biological condition.

Descriptive Models

More recent explanations have been provided for fire setting, however as they are relatively new they are best described as models rather than theories due to a lack of supporting evidence for their ability to explain fire setting. With further research and evidence they may have the ability to become theories. These include the Multi-trajectory Theory of Adult Fire setting (M-TAFF), and the Fire setting Offence Chain Model for Mentally Disordered Offenders (FOC-MD).

Multi-trajectory theory of adult fire setting (M-TAFF).

Gannon, Ciardha, Doley, and Alleyne (2012) developed what they call a multi-trajectory theory of adult fire setting that suggests there are four psychological problems that are likely to be associated with fire setting. These include inappropriate fire interest, offence-supportive cognition, self-emotional regulation issues and communication problems. The M-TAFF also takes into account psychological vulnerabilities and developmental factors including biological factors/temperament, cultural factors, social learning factors and contextual factors. These psychological problems and vulnerabilities are discussed below.

Inappropriate fire interest/fire scripts.

Gannon et al. (2012) discuss fire interest as a natural curiosity that resulted from the role it has played in the survival of the human race. In westernised cultures, however, fire is not openly set or manipulated by children, resulting in fire
becoming a highly salient concept, which in turn increases children’s interest. In this regard, it could be asserted that the novelty factor of fire in modern, western societies makes it inherently attractive and at the same time rewarding, thus fire setting could be a self-reinforcing and self-sustaining behaviour. Although fire interest is often associated with fire setting behaviour, there is very little research supporting the development of fire interest in this way, particularly in relation to persons with ID.

**Offence-supportive cognitions.**

Offence supportive attitudes and beliefs are thought to be formed from individual experiences of the social world, which assist the individual in adapting to, and interpreting social interactions (Gannon, Ward, & Beech, 2007). Gannon et al. (2012) propose that fire setters may hold a combination of schemas that both directly and indirectly support fire setting, for example believing that fire may be controlled and is therefore harmless, and also seeing oneself as entitled to set fires. In cognitive behavioural terms these can be described as maladaptive schemas, which are developed in infancy and childhood, and can lead to distorted cognitions, or psychological disorders (Beck, 1976; Dozois & Beck, 2008). Modifying these maladaptive thought patterns could be undertaken using a type of cognitive behavioural therapy known as cognitive restructuring in which more adaptive thought patterns replace those that are distorted (Ellis, 2009). It is currently unclear how likely persons with ID are to hold such maladaptive schemas, and further research is required to determine this.

**Self/emotional regulation issues.**

Gannon et al. (2012) give a brief description of self-regulation, comprising of goal setting, self-monitoring and evaluation processes associated with self-control. Impulsivity is an aspect that falls under the overarching concept of self-regulation and has been implicated in many fire setting cases (Räsänen, Puimalainen, Janhonen, & Väisänen, 1996). These issues might be particularly evident for revenge fire setters who may impulsively set a fire when they are angry, and for whom emotion regulation issues might be relevant. Given that revenge is a motive commonly identified for fire setters throughout the literature, and which might
particularly apply to persons with ID, self/emotional regulation issues are likely important concerns for this particular group of fire setters.

**Communication problems.**

Communication problems, such as a lack of social skills and assertiveness, have been highlighted within many fire setters (Noblett & Nelson, 2001). Gannon et al. (2012) contend that it is for this reason that individuals set fires, as it enables them to obtain status and power, or express frustration- not dissimilar to Jackson et al.’s reasoning for their theory of functional analysis. In regard to persons with ID, it has been argued that problem behaviours are performed for five particular reasons: to gain attention, to escape/avoid, to get something, regulation, and play (Durand & Crimmins, 1988). Durand and Crimmins note that classifying problem behaviours according to their function may be more useful than focussing on form when designing treatments to mitigate inappropriate or challenging behaviours.

Setting fires to gain attention can be linked with the classifications of fire setters with ID presented by Inciardi (1970) and Harris and Rice (1996). If communication problems are the reason for fire setting behaviour, then it is important treatment focuses on providing fire setters with the skills that will allow them to communicate their needs effectively without having to resort to crime. This may involve a combination of both social skills training, and problem solving skill development.

**Developmental Factors.**

Developmental factors and context play a vital role in the psychological vulnerabilities associated with fire setting behaviour. For example, a poor caregiver environment such as abusive or negligent parenting, has been found to negatively influence social development (Scarr & Eisenberg, 1993). The caregiver environment also provides the child with social learning, including teaching the child communication and coping skills, and even specifically providing information about fire. Biological influences are also crucial as an under developed brain structure or neurobiology have been implicated in social skill deficits as well as problems with self-regulation (Gannon et al., 2012). Developmental factors might be particularly relevant to understanding the perspective and actions of persons with ID, who may have poor communication and coping skills, and are likely to be at an earlier stage
of psychosocial (and moral) development than their age-equivalent peers. Confounding their circumstances could be the extent to which they are supported. For example, a younger child using an equivalent developmental lens to interpret their world and moderate their actions is likely to have a relatively high level of practical support available to them (from parents, teachers, and other carers), than an adult with ID who, with the equivalent developmental lens, might be expected to be acting with relatively lower levels of support and greater independence in the community.

The M-TAFF model proposed by Gannon et al. (2012) does not mention the influence of both cognitive and moral development which can be considered important aspects of development, and which could also influence fire setting behaviour. For example, an important question is whether children, who are at a particular stage of Piaget’s stage model of cognitive development, are more susceptible to engaging in fire setting. A similar question can be asked for persons with ID, who in terms of their cognitive ability may not be dissimilar to children progressing through Piaget’s earlier stages.

**The M-TTAF trajectories.**

In addition to the problems associated with fire setting presented by Gannon et al., they also integrate current knowledge and pre-existing theories on fire setting to develop five prototypical trajectories associated with fire setting: antisocial cognition, grievance, fire interest, emotionally expressive/need for recognition, and multi-faceted.

**Antisocial cognition.**

Gannon et al. (2012) argue that the fire setters who fall into the antisocial cognition category have specific cognitions and scripts that are criminal in nature. The fire setting is simply the crime they have chosen, perhaps due to convenience, out of the many others they may have chosen to commit; the individual most likely does not hold any interest or fascination with fire. It is likely that individuals falling into this category have had previous issues with impulsivity and may have even been previously diagnosed as having conduct disorder or antisocial personality disorder. Gannon et al. claim that if the antisocial cognitions and attitudes held by these individuals can be restructured, fire setting behaviour is likely to diminish as a
result. This type of fire setter is similar to the antisocial personality fire setter
typology presented by Koson and Dvoskin (1982). It is unclear whether fire setters
with ID possess antisocial cognitions, as there are a paucity of studies investigating
this. It is certainly an important area to investigate further, particularly as fire
setters tend to have a history of other offending behaviours.

Grievance.
Grievance describes those fire setters who have issues in the areas of
aggression, anger, and hostility (Gannon et al., 2012). These individuals tend to use
fire as a revenge tactic, i.e., to send an authoritative message to those that have
done wrong by them. It is likely that the individuals falling into this category have
experienced significant aggression at an earlier age, whether it was witnessed by
them, or they were the direct victim. Similarly to antisocial fire setters, grievance
fire setters are not likely to have a fascination with fire, but will understand the
usefulness of fire as a means of revenge. Revenge was a common motive reported
by almost all typologies presented earlier, indicating it is an essential component of
fire setting to address. To reduce fire setting behaviour in these individuals,
strategies to enhance problem-solving skills and increase anger management will be
beneficial. As revenge was commonly cited in the classification literature as a
motive common in samples within which there were fire setters with ID, it is likely
that some fire setters with ID would fit the grievance trajectory.

Fire interest.
Fire setters who demonstrate an elevated interest in fire may use it as a
coping mechanism in times of high stress (Gannon et al., 2012). It is likely that
those who fall within this category hold fire supportive attitudes, in some instances
believing they are in complete control of the fire, though they are unlikely to hold
any other criminal values or attitudes, and usually have no other criminal history. It
is important to discover the importance of the fire setting behaviour to the
individual to attempt to reduce it. Whilst fire interest is considered to be an
important aspect of fire setting behaviour, it is not clear whether this trajectory
alone would describe fire setters with ID, as it is very simplistic. Further
investigation into those fire setters whose sole offence is fire-related, and an
understanding of the significance of the fire setting to them would provide insight into the likelihood of fire setters with ID fitting this trajectory.

_Emotionally expressive/need for recognition._

Those fire setters who are considered to fall into the emotionally expressive category are considered to be lacking in problem solving skills and are quite high in impulsivity. They may feel unheard and hopeless, and feel as though they cannot communicate their needs. They use fire to ‘send a message’, though this is not in the same context as the grievance fire setter. The emotionally expressive fire setter attempts to bring attention to themselves and their emotional needs, whereas the grievance fire setter’s focus is on revenge. These fire setters are more likely to use fire as a means to self-harm or suicide. The focus for treatment for these fire setters should be on increasing emotional expression skills.

Those who set fires as a need for recognition do so to send a dramatic message to others. By setting the fire it gives them the opportunity to gain social attention and status from saving others from the fire. It is important that when treating these fire setters the focus is on establishing ways to gain social acceptance through other avenues. As persons with ID tend to have communication difficulties and lack social skills, it is likely that this trajectory would apply to many of them. It may be that fire setters with ID are a combination of both grievance and emotionally expressive fire setters, further research is needed to determine the applicability of the M-TAFF to fire setters with ID.

_Multi-faceted._

This type of fire setter may have developed problems across an array of factors linked to fire setting behaviour. The individuals falling into this category will have a high level of fire interest, have antisocial cognitions and attitudes, and may use fire as a means of serving many of their needs. Due to the combination of fire related issues evident in this fire setter, treatment needs to be comprehensive and focus on each aspect of the individual.

Gannon et al. (2012) argue that the M-TAFF theory is the most comprehensive theory that attempts to account for fire setting behaviour. It is important to note, however, that the M-TAFF provides a description of common characteristics of fire setters, rather than attempting to explain why the fire setting
itself occurs. Although it is known as a theory, the M-TAFF would be better described as a model of common characteristics of fire setters, rather than a theoretical explanation of their behaviour. It is unclear whether the M-TAFF is a useful model for describing fire setting behaviour and the trajectories leading to fire setting for fire setters with ID, and further research is required to determine this.

Although some of the aforementioned theories can explain aspects of fire setting behaviour in persons with ID, they do not explicitly discuss this or attempt to provide explanation for this behaviour. One recent model has been developed by Tyler et al. (2014), which acknowledged the lack of inclusion of mental disorder in fire setting research in past theories, and as a result has placed particular focus on those fire setters diagnosed with a mental disorder. This model is known as the Firesetting Offence Chain Model for Mentally Disordered Offenders (FOC-MD), though again it should be noted that this is quite descriptive and it does not attempt to explain why fire setting behaviour occurs in the population, only common characteristics associated with persons who engage in fire setting behaviour. The FOC-MD is described below.

**Fire setting offence chain model for mentally disordered offenders.**
To develop this model the authors recruited 16 males and seven females (mean age: 39.1 years) with at least one current diagnosed mental disorder, and who had at least one incident of fire setting in their offence history from two medium secure psychiatric hospitals in the UK. Two of these participants were identified as having a borderline ID. The model was developed through a grounded theory approach, in which the authors interviewed the fire setters about the events and their thoughts and feelings leading up to the fire setting offence. The model that resulted had four phases: background factors; early adulthood; pre-offence period; and offence and post-offence period.

**Background factors.**
Background factors included the historical factors from the childhood and adolescent period of the offender. *Caregiver experiences* was the first category within this phase. These experiences were generally negative, and included poor relationships with parents, and parental absence. Six of the participants specifically described a poor relationship with their mother. Further, 10 of the 14 participants
who reported negative caregiver experiences had a family history of mental health issues or substance abuse.

Another category to emerge from the phase was *separation experiences*. Six participants were taken into care, and two participants were taken to live with extended family during their childhood. Separation experiences were uncommon, however, with 15 participants reporting no separation experiences.

The third category to emerge from the background phase was *abusive experiences*. Eight participants reported an experience of physical abuse, seven reported sexual abuse, and four reported emotional abuse in their childhood and/or adolescence. Just over half of participants had experienced some form of abuse in their childhood, with the majority reporting it was by someone who was responsible for their care.

The authors argue that as a result of these negative early experiences, participants had all developed risk factors for fire setting. Such risk factors included early fire setting (56.5%), antisocial behaviour (56.5%), mental health concerns, and maladaptive coping (72.2%). Four participants specifically reported early fire setting to be their coping strategy in order to either draw attention to a problem or to cope with the difficulties associated with that problem. Arguably, the children had developed risk factors for offending behaviour more generally, given that antisocial behaviour, mental health concerns, and maladaptive coping are likely to be present in the childhood experiences of many different types of offenders.

**Early adulthood.**

The authors report the major category within this phase to be *problematic intimacy*. All participants reported problems in this area, including abusive relationships, difficulties in forming intimate relationships, and high levels of promiscuous behaviour. It is unclear, however, how problems with intimacy are associated with fire setting, and the authors make no attempt to try and explain this. It is not sufficient to simply look at the childhood experiences of fire setters, note the things they have in common, and argue it is associated with fire setting without evidence to support this.
**Pre-offence period.**
This period was defined as being approximately one year prior to the crime, up until moments before the offence was committed. All participants within this period experienced *mental health deterioration*, which was a result of either relationship issues, a problem with substance use, or triggered by another stressor. In this time, six participants reported being admitted to a psychiatric hospital, and seven participants sought care from a mental health service in the community. Ten participants did not seek any care for their mental health deterioration. The authors noted that all participants had *poor problem solving skills*, such as not being able to cope after a hospital discharge, not knowing how to deal with their fire interest, or with problematic relationships. All participants reported that fire was the best problem solving strategy they could use to deal with the problem at hand.

The authors identified 10 motives to offend from their participant interviews. These were boredom (N=2), fire interest (N=4), protection (N=2), protest (N=2), crime concealment (N=1), hallucinations (N=8), revenge/anger (N=16), cry for help (N=7), and suicide/self-harm (N=1). Participants often held more than one of these motives. Planning for the offence tended to occur from two days prior to minutes before the offence. Five participants reported undertaking detailed explicit planning which usually occurred several days or hours before the offence. Seven people undertook low-level explicit planning, which involved some planning of the offence, but only in the hour or minutes before. Three fire setters engaged in implicit planning, which is when they did not plan the offence, but they had thought about committing it in the days prior. Eight participants reported no prior plans to commit the offence. Fire setters who were using substances at the time of the offence were less likely to have planned the fire setting, and participants who felt positively about the fire were more likely to have planned the offence in some detail.

**Offence and post-offence factors.**
The first category within this phase is *fire ignition and fire knowledge*. Twelve participants reported using their fire knowledge to ignite the fire. These fire setters had engaged in early fire setting, thought positively about fire, and had developed fire interest as a child.
The second phase is fire-related affect/cognitions. Five fire setters reported positive affect/cognition such as excitement, relief and happiness when they saw the fire that they had started. Four participants experienced mixed affect/cognition in which they were excited, but also feared detection and consequences. A further five participants reporting negative affect/cognitions such as fear, being upset, and negative thoughts about the fire. Nine participants reported feeling indifferent about the fire, i.e., no strong affective or cognitive arousal.

The last category in this phase is whether the participants watched the fire or not. Just under half of the participants reported watching the fire as they were interested, five participants did not watch as they were not interested, and seven participants reported not staying to watch due to the circumstances not allowing it.

The authors examined pathways through these phases for the participants and determined there were three major pathways: fire interest-childhood mental health approach (N=11), no fire interest-adult mental health (N=7), and fire interest-adult mental health (N=4). These three pathways are described below.

**Fire interest-childhood mental health.**
These participants had developed two or more risk factors in childhood, and had experienced mental health problems in childhood. They were more likely to participate in detailed planning of the fire, experience positive fire-related affect and cognitions, and to stay and watch the fire.

**No fire interest-adult mental health.**
These participants generally did not have any risk factors in childhood, and mental health issues tended to occur just prior to the fire setting behaviour. The offence was mostly unplanned, and when planning did occur it was low-level. These participants felt indifferent toward the fire, and did not stay to watch.

**Fire-interest-adult mental health.**
These fire setters had developed two or more risk factors in their childhood, did not experience any mental health issues until adulthood, undertook a low-level of planning, and stayed to watch the fire as long as circumstances allowed.

An important outcome of the development of the FOC-MD is the implications that it has for rehabilitation. The model recognises the role that early
Fire experiences and fire cognitions have in the fire setting behaviour of persons who have been diagnosed with mental disorders, as well as the role of mental disorder, highlighting the importance of these to programme development. The FOC-MD suffers the same limitations as the other explanations for fire setting in that it provides a model for what characteristics these fire setters might have, but makes no attempt to try and explain why such characteristics have resulted in fire setting. For example, the FOC-MD theory notes that many mentally disordered fire setters reported poor caregiver experiences, however there is minimal evidence to demonstrate why this is linked with fire setting. It also utilised only 23 participants from secure forensic psychiatric facilities in the UK, indicating a need to replicate the findings with a larger sample, across different settings and jurisdictions.

In an attempt to provide some understanding of the FOC-MD categories, and how they might apply to ID, the World Health Organisation’s Biopsychosocial framework for understanding disability (2001) has been applied to the model in Table 4. Biological refers to a physical or mental health condition, psychological refers to personal/psychological factors that can influence a person’s functioning, and social comprises the social context, pressures, and constraints that are placed on functioning. The biopsychosocial model provides a useful framework for understanding the types of factors that have been identified as contributors to fire setting behaviour, and the domains that might be most suitable to address in any treatment programme that aims to reduce fire setting behaviour.

In addition, it seems that the FOC-MD model for fire setting behaviour (i.e. background, early adult, pre-offence, and post-offence) might be a useful framework for understanding fire setters with ID. However, given that this model was not developed for persons with ID and the initial study only included two persons with borderline ID, it is recognised that it may have limited application for persons with ID. Further testing of the model with fire setters with ID would be beneficial in attempting to understand the model’s transferability from persons with a diagnosed mental disorder to persons with ID.

Fire setting is a dangerous and consequently very serious behaviour, which is reflected in its associated penalties (see Table 1). Prevalence rates are difficult to establish based on differing definitions of arson, a lack of publicly available data on
convictions, as well as the under-reporting of fire setting and problems apprehending fire setters. Many theories exist that attempt to explain fire setting behaviour though most of these theories are presented in the literature as models, rather than explanations, and this highlights the complexity of understanding the rehabilitation needs of this heterogeneous subset of the population.

Table 4

*Synthesis of the FOC-MD categories according to the World Health Organisations’ biopsych-social understanding of disability*

<table>
<thead>
<tr>
<th>Fire setting Offence Chain Model for Mentally Disordered Offenders (FOC-MD)</th>
<th>Background</th>
<th>Early Adult</th>
<th>Pre-Offence</th>
<th>Offence / Post Offence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biological</strong></td>
<td>History of family mental health difficulties</td>
<td>Impulsivity</td>
<td>Substance Abuse</td>
<td></td>
</tr>
<tr>
<td>History of family substance abuse</td>
<td>Parental Abuse</td>
<td>Abusive relationships</td>
<td>Need for recognition</td>
<td>Fire Interest</td>
</tr>
<tr>
<td>Neglect</td>
<td>Poor coping skills</td>
<td>Limited problem solving skills</td>
<td>Fire setting scripts</td>
<td>Fire knowledge</td>
</tr>
<tr>
<td>Mental Health concerns</td>
<td></td>
<td>Fire Interest</td>
<td>Affect/Cognitions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mental Health deterioration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poor Emotional regulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social/Environmental</td>
<td>Physical and Sexual abuse</td>
<td>Problems with Intimacy</td>
<td>Communication difficulties</td>
<td>Watching the fire</td>
</tr>
<tr>
<td>----------------------</td>
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<td>------------------------</td>
<td>---------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td>Parental absence</td>
<td>Promiscuous behaviour</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Separation from parents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poor relationships with parents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Early fire setting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Antisocial behaviour</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Recent theories focus on multi-component explanations for fire setting, indicating there are substantial variations within the population of fire setters. Fire setters with ID present a complex set of needs for rehabilitation, and as such services working with them require evidence-based approaches for doing so. A major concern revealed by the review of the literature in this chapter is the substantial lack of any theory which has the ability to explain fire setting in persons with ID, highlighting the lack of understanding of persons with ID who set fires, and considering the FOC-MD theory comprises many differing factors which may contribute to fire setting in persons with mental disorder, it seems likely that fire setters with ID will have a variety of needs, requiring a specialised rehabilitative response.

Over the past 80 years, many theories, typologies, and models have been presented for fire setting behaviour, and yet there remains a lack of consensus on how to best describe and explain fire setting behaviour, particularly for persons with ID. As such, there is a need to develop a better understanding of this population in regard to their characteristics and support needs, as well as how the criminal justice system responds to them. These are seen as the necessary lines of enquiry for this body of research, and are particularly important if effective prevention and treatment programmes are to be developed.
Chapter Two: Research Questions and Methodology

This chapter presents the research questions derived from the literature presented in Chapter 1, and the associated methodologies for answering these. Quantitative, qualitative, and mixed methods approaches are discussed in regard to how they are utilised throughout the thesis, and why particular methodologies were chosen for each study. Finally, a brief overview of the four studies comprising the thesis is provided.

Research Questions

1. What are the characteristics and support needs of fire setters with ID?

It is important to identify the characteristics and support needs of fire setters with ID, as these are essential elements to be targeted in any effective rehabilitation programme. Various typologies of fire setters have been proposed in the literature, and these are commonly based on demographic and psychological characteristics such as motivation for the act of fire setting. These characteristics have been used in risk assessment and risk prediction. There is a paucity of literature integrating these characteristics and support needs in the context of the treatment and rehabilitation of fire setters with ID. Consequently, an analysis will be conducted of fire setters with ID from an existing UK health database that had been developed for another project (see Hogue et al., 2006), comprising persons with ID who were referred to community services, as well as low, medium and high secure hospitals for offending related behaviour. Various hypotheses are presented within, pertaining to group differences between index arson, index violent, and index sex offenders with ID, including that there would be no difference between those with an index offence of arson, those with a violent index offence, and those with an index sex offence in regard to number of prior convictions; that a history of fire setting will be more prevalent in index arson offenders, than in those with an index violent or index sex offence; that those with an index offence of arson will be less likely to have a history of violent offending than those with an index violent offence; and that comorbid mental disorder, particularly diagnoses of schizophrenia and personality disorder, will be more common among those with an index offence of arson than among those with an index violent or sex offence.
2. How does the criminal justice system, particularly the judiciary, respond to matters concerning persons with ID who commit arson offences?

Given the previous hypotheses regarding group differences between persons with ID with an arson index offence, with a violent index offence, and with a sex index offence, it is important to identify how persons with ID charged with arson are viewed and treated in Australian judicial proceedings, bearing in mind issues specific to their ID; such as their assessed level of moral culpability, and their vulnerability to exploitation within corrective services. Cases located through an Australian case law review will be analysed in regard to the sentencing remarks made by judges. This will enable differences in approaches to sentencing persons with ID charged with arson and persons without ID charged with arson to be uncovered, which in turn will assist in uncovering potential reasons for variations in sentencing procedures and provide a better understanding of how persons with ID who commit fire setting offences are responded to by the criminal justice system. It is hypothesised that persons with ID who have been charged with arson will be viewed as less culpable, and be extended leniency in judicial proceedings, as evidenced by shorter sentences.

3. What are the attitudes and expectations of the community to the treatment and rehabilitation of fire setters with ID?

Given the influence of public opinion on the formulation of justice policy and the allocation of public resources relating to the punishment and rehabilitation of offenders, it is important to understand community attitudes as they relate to fire setters with ID, and in particular those who commit the offence of arson. Furthermore, community attitudes can influence the reintegration of offenders back in to the community and, subsequently, their longer term offending profile. It is hypothesised that community attitudes will reflect stereotypical prejudices towards both people with ID and offenders as documented in the literature. To achieve these ends, a scale to measure community attitudes will be developed to enable attitudes toward rehabilitation of fire setters with ID to be gauged. The scale will be subject to some initial validation procedures, and will be used to assess the community’s view toward rehabilitating fire setters with ID.
4. What are the attitudes and expectations of professionals to the treatment and rehabilitation of fire setters with ID?

Understanding professionals’ attitudes towards fire setters with ID and their rehabilitation prospects is pertinent as they are in contact with these persons, and can influence how treatment and other support programmes are implemented. It is hypothesised that professionals’ attitudes will reflect stereotypical prejudices towards both people with ID and offenders, as are evident in the wider community, but that these will not be to the same degree. This latter prediction is based on literature suggesting that regular contact with people with ID (and other minority groups) contributes to more positive attitudes.

5. Do professionals identify a need for treatment programmes specifically for fire setters with ID and, if so, what do they think such programmes should include?

Given the serious nature of fire setting, and the complexity of the clinical profiles of those who engage in it, it is important to be able to identify the essential components of effective treatment and rehabilitation. Consequently, professionals’ knowledge of fire setters with ID will be utilised; including obtaining information regarding the need for a treatment programme, the importance of treatment programmes for fire setters with ID, and the usefulness of treatment programmes for fire setters with ID. In addition, professionals will be asked to identify key components of a programme specifically for ID fire setters.

6. What treatment programmes are available for fire setters who have an ID, and what is the evidence base for their effectiveness?

Whilst the professionals may identify important components of treatment programmes, it is unclear how aligned these will be with treatment more generally in the forensic ID field. To determine the applicability of professional suggestions, as well as the availability and effectiveness of fire setting treatment programmes, a systematic literature review of both fire setting treatment programmes for those with and without ID will be undertaken. The literature from the ID and non-ID population will be compared and discussed in terms of quantity, quality, and similarities and differences in the treatment programmes.
7. What can be concluded about risk and treatment needs based on the findings of the current thesis?

The thesis will conclude by synthesising the things that we know about fire setters with ID, particularly in regard to risk and treatment needs. It will discuss both the strengths of the literature and our knowledge base more broadly, as well as acknowledging the gaps in our knowledge base. A model will then be presented for the potential influences on service delivery and rehabilitation of fire setters with ID, and will identify areas for future research.

Methods

The selection of an appropriate methodology for scientific research is determined by the nature of the question to be investigated, coupled with ontological and epistemological perspectives of the research. Thereafter, quantitative, qualitative, or mixed method designs can be selected. Comprehensive consideration of the existing literature in the development of an appropriate methodology, and the interpretation of subsequent findings, is also essential.

Ontology pertains to an understanding of ‘what is’, or how reality exists (Crotty, 1988). Ontology questions whether reality is objective and has stable qualities that exist independently, or whether there is a subjective reality that exists only when it is considered by the individual, and can differ between various individuals. The current thesis incorporates both ontological perspectives; as aspects of the thesis attempt to gain objective knowledge (e.g. through the quantitative analysis of databases), and other components attempt to obtain the participants subjective perspective on issues (e.g. through qualitative analysis of court transcripts).

Epistemology refers to a way of understanding, or a way of explaining ‘how we know what we know’ (Crotty, 1998). According to Crotty (1988) there are three major epistemological views: objectivism, constructionism, and subjectivism. Objectivist epistemology posits that meaning and meaningful reality exist separate to consciousness, and that there is an objective truth that exists regardless of whether we know it exists. In contrast, constructionism holds that there is no objective truth, and that meaning is constructed, not discovered. It is based on the
idea that people construct meaning in very different ways, and in constructionism the subject and the object are partners in the development of meaning. Subjectivism involves the subject providing meaning to the object, however the meaning does not come from an interaction between the subject and the object. The current thesis employs both objectivism and subjectivism. Objectivism is evident in the quantitative analyses that present a set of questions developed to uncover the objective truth. Subjectivism, however, is seen in the qualitative analyses in which the goal is to obtain participants’ perspectives on topics of interest, and whose answers will depend solely on the meaning they have applied to the question.

**Quantitative Methods**

Quantitative research views the study of phenomena as fundamentally the measurement of something (Michell, 2003). Quantitative methods are commonly employed by researchers as they allow relatively large amounts of data to be integrated and reduced to a size that can be easily interpreted (McVilly, Stancliffe, Permenter, & Burton-Smith, 2008). One of the major benefits of quantitative research is its ability to allow generalisation of findings to other circumstances or events, and the ability to predict occurrences in similar situations (Maykut & Morehouse, 1994). In the current thesis, quantitative approaches are used in the analysis of a database, recording the characteristics of fire setters with ID (Chapter 3). Quantitative approaches are also used to construct a survey and analyse data pertaining to respondents’ attitudes towards the treatment of fire setters with ID (Chapter 4 & 5).

**Database analysis.**

Databases provide a means of collating large quantities of information on a given topic. Importantly, they provide a means by which elements of data can be selectively retrieved for analyses. These data can be subjected to descriptive analysis, to portray the characteristics of a phenomena. They can also be subject to inferential analyses to infer predictions about a larger population, of which the sample is representative. Quantitative database analyses allows for the similarities and differences between variables to be explored, and the strength of the relationships among variables and the extent to which these might have occurred beyond chance to be determined. In the current thesis quantitative database
analyses were utilised to compare and determine group difference between persons with ID who had an index arson offence, and index violent offence, and an index sex offence, on a variety of characteristics and support needs, as well as to compare community and professional attitudes toward the treatment of fire setters with ID. In addition to these, the use of databases allowed a tool developed for the current thesis to undergo initial validation, as well as to control for confounding variables such as social desirability.

**Surveys.**

Surveys are one form of quantitative research design that are commonly utilised, due to their versatility and efficiency (Schutt, 2012). Survey research allows for a large number of participants to be recruited from a variety of populations that can increase the generalizability of the findings (Schutt, 2012). Self-report surveys, however, are often confounded by self-report biases, where, for example, the participant answers in a particular way to portray themselves favourably. Consequently, caution should be exercised when interpreting survey results. One strategy to allow for potential bias to be taken into account in the analyses of survey results concerning personal beliefs and values is the inclusion of a social desirability or a lie/deception scale (Paulhus, 1991). Such a technique was employed in the current thesis in Chapter 5.

Online surveys in particular have become increasingly popular. They can increase the potential participant population across geographic regions and in a time-efficient manner, they allow flexibility in the presentation of prompts, questions, and response categories, and can streamline data entry and analysis (Evans & Mathur, 2005). One particular weakness of online surveys are problems with samples not being representative of the population in question, or not being truly random. This may be due to volunteer participation, including bias arising from those who intentionally sign up to websites in order to participate in research (Evans & Mathur, 2005), or simply because they involve only those who are computer literate (Wyatt, 2000). The current thesis employed an online survey technique in Chapter 5. While it was acknowledged that some bias might be inherent in the community sample with respect to computer literacy, it was expected that the professionals would all be computer literate.
Qualitative Methods

Qualitative research involves analysing explanations, or what participants have said, in a narrative or descriptive way. Qualitative methods are used when the research question attempts to explore why a phenomenon occurs, for theory development, or to describe particular individual’s experiences (Fetters, Curry, & Creswell, 2013). The goal of qualitative approaches is to gain an understanding of a phenomenon from the perspective of those who have, or who are experiencing it; i.e., those purposively selected because of their particular expertise (Vaismoradi, Turunen, & Bondas, 2013). Being both exploratory and descriptive of phenomena, they can capture both the participant’s experience and their explanation of that experience (McVilly et al., 2008). Whilst it has been argued that qualitative research is subservient to quantitative research with respect to validity and reliability, developments such as the consolidated criteria for reporting qualitative studies (COREQ), are ensuring qualitative research is of the same quality and standard as quantitative research (Tong, Sainsbury, & Craig, 2007).

One technique commonly employed in qualitative methods is that of thematic analysis. Thematic analysis was used in the current thesis to analyse themes within judges’ sentencing remarks (see Chapter 4) and again to identify themes within professionals’ suggestions for key components of a treatment programme (see Chapter 5).

Thematic analysis.

Thematic analysis is a method that involves identifying, analysing and reporting themes within a data set. It is used for obtaining rich, detailed, and complex account of the data (Braun & Clarke, 2006). It has been argued that thematic analysis is the first type of qualitative analysis that should be learnt as it provides researchers with core skills for performing other types of qualitative analysis (Braun & Clarke, 2006).

Thematic analysis is in line with both essentialist/realist and constructionist paradigms. The essentialist/realist perspective focuses on the reporting of experiences, meanings, and realities of participants (Potter & Wetherell, 1987; Widdicombe & Wooffitt, 1995). The constructionist perspective, on the other hand, assumes that meaning and experience are produced socially (Burr, 1995), and as
such it attempts to provide theory around socio-cultural contexts and conditions that account for differences in individuals responding (Braun & Clarke, 2006). The current thesis utilises an essentialist/realist approach to thematic analysis, as it did not require the underlying ideas, assumptions, and conceptualisations of responding to be explored.

There are two types of thematic analysis- inductive and deductive. An inductive approach is used when there are little to no previous studies in the area, and as such the categories are developed solely based on the data (Vaismoradi et al., 2013). This means the resulting categories are not biased by the researcher’s (or discipline’s) preconceptions (Braun & Clarke, 2006). A deductive approach, on the other hand, is useful if the aim of thematic analysis is to confirm previous theory (Hsieh & Shannon, 2005). Deductive analysis is also known as theoretical analysis, and often results in a detailed analysis of a particular area of interest within the data (Braun & Clarke, 2006). In the current thesis inductive analysis is employed to obtain relevant themes, as there was little existing literature available to guide a deductive analysis (see Chapters 4 & 5). To guide this process Braun and Clarke’s (2006) six step framework for conducting thematic analysis was used:

1) Familiarising with data
This step involves reading through the data comprehensively, and recording any initial thoughts or ideas.

2) Generating initial codes
Developing codes for interesting ideas that arise in the data, and grouping relevant data under these codes.

3) Searching for themes
This involves grouping similar codes into themes, and ensuring all data relevant to each theme is gathered.

4) Reviewing themes
This step involves cross-checking the themes against the codes and the dataset to ensure they work, and then creating a thematic map. The thematic map is a visual presentation of the themes, the codes, as well as the relationships between these, with the intent of generating clear and distinct themes.
5) Defining and naming themes
Developing names for each theme, and ensuring they are clearly defined and are consistently refined.

6) Producing the report
This step involves choosing interesting and compelling examples that relate to the research question that can be included in a report of the analysis.

The current thesis utilises one particular type of inductive thematic analysis, known as the constant comparative method. This method involves identifying categories within data, and fitting the data to these categories (Glaser & Strauss, 1967). Although categories are initially identified within the data, they are constantly developed and refined throughout the process as comparisons between incidents in the data are made and explored. As the analysis continues these categories become concepts that form a coherent explanatory model (Taylor & Bogdan, 1984).

Thematic analysis is useful when researchers only want to undertake a relatively low level of interpretation (Vaismoradi et al., 2013). Vaismoradi et al. (2013) argue, however, that thematic analysis is robust enough to be utilised for emerging research on new phenomenon. Furthermore, basic thematic analysis can be extended in approaches such as grounded theory (Glaser & Strauss, 1967), to explore the relationship between themes and to generate an overarching explanation of a phenomena. In the current thesis grounded theory was not considered appropriate given the combination of the research questions and the limited sample sizes available for analyses.

One particular strength of thematic analysis is its flexibility. It is not confined by a particular set of rules and guidelines, meaning it does not become limited or restricted which allows some freedom in determining the themes that are identified from the data (Braun & Clarke, 2006). There are, however, limitations of this method which include problems with under-analysis of the data; where researchers may just report a collection of interesting extracts together without actually narrating how and why they form a particular theme (Braun & Clarke, 2006). To address this potential limitation, data arising from the thematic analysis
in Chapters 4 and 5 are later integrated in a more detailed discussion in Chapter 7, which includes reflection on all other components of the thesis.

**Mixed Methods**

Often quantitative researchers will criticise qualitative researchers, arguing the sample sizes are too small, that samples are not representative, or that findings are not generalizable and can’t be used for predictive purposes. On the other hand, qualitative researchers commonly express concerns about the lack of detail obtained in quantitative research, inflexibility of data collection techniques, and the inappropriateness of random sampling in specialist populations, or when seeking to investigate specific phenomena for which particular expertise or experience is required (McVilly et al., 2008).

One solution is to use a mixed methods design. A mixed methods design involves utilising both quantitative and qualitative approaches, to obtain a more comprehensive outlook on an issue or phenomena (Stange, Miller, Crabtree, O’Connor, & Zyzanski, 1994), as well potentially generating more questions of interest for future research (Caruth, 2013). Mixed method designs allow the strengths of quantitative and qualitative research to be drawn upon (Fetters et al., 2013); including adding meaning to numbers, being able to respond to a wider range of research questions, providing a more robust conclusion, enhanced validity, deeper insight into issues, and increased generalizability (Cronholm & Hjalmarsson, 2011).

Seven purposes of mixed method designs have been presented by Venkatesh, Brown, and Bala (2013). These are:

1) Complementarity - obtaining various views about similar experiences or issues
2) Completeness - ensuring that all experiences or issues are represented
3) Developmental - building questions from one type of data that can be tested using the other type of data (e.g. qualitative data being used to develop hypotheses to test quantitative data)
4) Expansion - to expand upon, or to clarify findings from a prior method
5) Corroboration/Confirmation - to ensure findings from one method are trustworthy
6) Compensation - to ensure the weaknesses from one method are compensated by the other

7) Diversity - to gather a range of viewpoints (including opposing viewpoints) on the same experiences or issues

Mixed methods designs are somewhat more complex in their approach than simply using different techniques or undertaking a variety of investigations. Fetters et al. (2013) report three type of mixed methods designs:

1) Exploratory Sequential
When using this design the researcher collects and analyses the qualitative data first, and then uses this data to inform quantitative data collection.

2) Explanatory Sequential
In this design the researcher collects and analyses the quantitative data first, and then uses these findings to inform qualitative data collection.

3) Convergent Designs
Both the quantitative and qualitative data are collected at the same time. Most often, the analysis of data and the integration process occur after data collection has finished, and the quantitative and qualitative data are analysed separately, and then merged.

The mixed methods design used in the current thesis, and in particular in Chapters 4 and 5, is a convergent design. In the studies within these chapters, qualitative and quantitative data are both collected at the same time, are analysed individually, and are merged together to strengthen the findings.

In addition to the different designs for mixed methods research, Creswell and Plano Clark (2011) note that there are several ways the quantitative and qualitative data can be integrated at the methods level: Connecting; Building; Merging; and Embedding.

Connecting involves one type of data (e.g. quantitative or qualitative) being linked to the other through the sampling frame. An example of this occurs when a sample of participants completes a survey and at the end are asked to leave their
details if they would like to be contacted for a follow up interview. If those participants are then contacted to participate in qualitative interviews this is known as connecting through the sampling frame.

Building is said to have occurred when the data collected from one type of data informs the collection of data for the other approach. For example, collecting data on a quantitative survey to gather the most important aspects of an area to focus on, and then using that to develop qualitative questions to ask.

Merging is the process of converging two databases together to allow for comparison. For the process to work properly, the during the design phase researchers should have a well-developed plan for ensuring the collection of both types of data will be conducive to merging (Fetters et al., 2013).

The final way of integrating data is through embedding which involves linking data collection and analysis at multiple points, through a combination of other forms of integration.

Connecting is the process used in Chapter 4 and 5. Chapter 4 uses a retrospective case law review, and as such the same cases were utilised for both the quantitative and qualitative aspects. Further, Chapter 5 uses the same participants for both quantitative and qualitative data, demonstrating a usage of the same sampling frame.

Fetters et al. (2013) also notes that data can be integrated at the interpretation and reporting level. There are also three approaches through which this can take place: integrating through narrative; integrating through data transformation; and integrating through joint displays.

Integrating through narrative involves combining the qualitative and quantitative findings in a single or series of reports. There are three ways to do this:

1) Weaving approach
Weaving is the process of writing both qualitative and quantitative results together, either on a theme-by-theme or concept-by-concept basis.

2) Contiguous approach
The contiguous approach involves presenting the findings in a single report, however the quantitative and qualitative data are presented separately in different parts of the report.

3) Staged Approach
This approach occurs in a multistage method study where each stage of the study has results reported separately.

*Integration through data transformation* occurs through two steps. The first step is converting one type of data into the other type, i.e. qualitative to quantitative, and the second step is integrating the transformed data with the non-transformed data. An example of this process is content analysis, where qualitative data is coded and then counted for frequency (Krippendorff, 2013).

The third type of integration presented is *integrating through joint displays*, which involves researchers combining the data by visual means such as a figure or graph, in order to gain insights on the data beyond what can be gained from the data types being kept separate.

In both Chapter 4 and 5 a narrative contiguous approach is employed. The quantitative and qualitative findings are presented together, however the quantitative data is presented first, and the qualitative data is presented in a separate section of the chapter.

Fetters et al. (2013) also highlight the importance of determining the “fit” of data integration, which is the coherence of the quantitative and qualitative results. Assessing fit can results in three outcomes: confirmation; expansion; and discordance.

*Confirmation* has occurred when the results for each of the data types confirms the results of the other, i.e. they find similar conclusions.

*Expansion* involves the results from each type of data addressing different aspects of the same area, and as such the results expand the insights gained about the area of interest.

*Discordance* is said to have occurred when the findings from both types of data are inconsistent, or are conflicting. Fetters et al. (2013) report that if this
occurs findings should be reported in regards to any potential bias or methodological downfalls.

The current thesis employs an expansion fit of data integration. That is, the qualitative data builds on the quantitative data. Both types of data are collected on similar aspects of the topic of interest, however the qualitative data provides a richer perspective on this.

Mixed method designs also have some limitations. These include the need for a research team to be able to deal with the quantity and concurrent nature of the data, the longer time taken to complete, and the requirement of the research team to understand a variety of methods (Cronholm & Hjalmarsson, 2011).

**Literature Review**

There are two main types of literature review; a systematic review (which may contain a meta-analysis) and a non-systematic review, sometimes referred to as a traditional literature review. A systematic literature review is conducted to address a formal research question. It requires the researchers to identify key search terms from the literature, and to specify inclusion and exclusion criteria by which to evaluate the relevance of the literature to the question under consideration. The process typically involves consistently using the search criteria in a number of databases, and recording the retrieval process together with the subsequent inclusion and exclusion of material. Items proposed for inclusion are typically subject to a quality appraisal, with items of lesser quality subsequently excluded.

A systematic literature review can be presented in a narrative format or as a meta-analysis, depending upon the nature of the material retrieved and the intended purpose of the review. A narrative review is most suited to the reporting of descriptive data and where the primary purpose is an analysis and synthesis of the discussion, implications, and applications of the findings. A meta-analysis is most suited to reporting quantitative data, where the primary purpose is an analysis and synthesis of the results of a study, and to use the power of multiple studies to generate inferences about a larger population.

Importantly, for both systematic reviews and non-systematic reviews, the extent to which their findings can be considered reliable rests upon the extent to
which the literature included has been sourced with attention to relevance to the topic. Furthermore, it is important that the quality of the literature is appraised to provide the reader with insight into the validity, reliability, and generalizability of existing studies (Rutter, Francis, Coren, & Fisher, 2010). There are also checklists and guidelines available for completing systematic reviews and meta-analyses, to ensure all relevant components are included (Moher, Liberati, Tetzlaff, & Altman, 2009; The Campbell Collaboration, 2014).

The literature review that forms the basis of the current thesis was a systematic literature review (Chapter 6). The benefits of this form of review included the ability to recognise gaps in the literature, as well as to acknowledge any emerging trends (Pickering & Byrne, 2014). Problems identified with traditional literature reviews, such as their subjectivity (Borenstein, Hedges, Higgins, & Rothstein, 2009), meant they were not considered appropriate for the review undertaken in Chapter 6. Pickering and Byrne (2014) note that systematic literature reviews are best used in fields of emerging research, or where there is a variety of methodologies used. Further, as systematic literature reviews are based on a peer-reviewed protocol a replication can be conducted if needed, which is something that a traditional literature review cannot achieve (Hemingway & Brereton, 2009).

Khan, Kunz, Kleijnen, and Antes (2003) propose a five step procedure for conducting a systematic review. These steps formed the basis of the review conducted as part of the development of the current thesis.

**Step One: Frame questions for a review**

This involves developing clear, structured questions that the review seeks to answer, before the review is started. Khan et al. (2003) argue that these should only ever be changed if there are alternative ways of describing populations, interventions, or outcomes discovered during initial searching.

**Step Two: Identify relevant work**

This involves extensively searching for any relevant studies in the area of interest. This searching should not be limited by types of language. This step also involves developing rules for inclusion and exclusion of studies, and a process of recording such reasons when choosing articles for the review.
Step Three: Assess the quality of the studies

The selected studies should be assessed critically against some form of criteria or design-based quality checklist. This allows the researcher to determine whether a meta-analysis is feasible, as well as assisting the researcher to make recommendations for future research.

Step Four: Summarise the evidence

This step involves developing a table that summarises the studies, including characteristics, methodology, quality, and outcomes.

Step Five: Interpret the findings

The last step involves highlighting any concerns that have arisen from previous steps, as well as noting any risk of publication or related biases. An overall summary should be provided, including the strengths and weaknesses in the existing literature.

Although the systematic review method has largely replaced the traditional literature review methods (Hemingway & Brereton, 2009), there are limitations that still need to be considered. For example, there are still biases that are a result of an over-representation of positive results in the literature (Borenstein et al., 2009), as well as problems with articles being published in other languages that are not available in some electronic databases (Pickering & Byrne, 2014).

Studies in the Thesis

This thesis employs a mixed methods approach, with a convergent design. Using both quantitative and qualitative designs is important, particularly in the field of ID, given the complexity of understanding human experiences (Teddle & Tashakkori, 2003), and that the mixed design allows a more comprehensive theory around the data to be developed (Strauss & Corbin, 1998). The results of the studies are integrated through narrative, using a contiguous approach, with the intention that the qualitative data will expand upon the quantitative data to provide a deeper insight into the issues at hand.
Study One

The first study will be purely quantitative, as it is undertaken using a pre-existing quantitative database retrieved from research in the field from the UK. The database contains information obtained through client file reviews from the clients’ point of entry into community services, as well as low, medium, and high secure service services in the UK. The data from this database will be analysed using SPSS 21 (IBM, 2012).

Study Two

Study two is a review of Australian case law, retrieved from case law databases known as Lexis Nexis, AUSTLII, and Westlaw AU. The first part of study will involve a systematic search through case law databases using a specific set of inclusion and exclusion criteria, to ensure all relevant fire setting cases are captured. The review will locate cases in Australia in which the defendant had engaged in fire setting, and also in which they had an identified ID. When such cases are located some quantitative data will be collected, such as the number of cases located and the length of the sentence handed down. A comparison will be made between those fire setters who do not have an ID, and those who do on these variables.

The second part of the study will be qualitative, to allow for common themes discussed by judges to be drawn from the case law report, and to provide a more in-depth understanding of the themes than simply describing them quantitatively. It will utilise the cases identified through the case law review and will analyse the sentencing remarks made by the judges, using inductive thematic analysis. This will be conducted using the programme NVivo 10 (QSR International Pty Ltd., 2012).

Study Three

The third study will adopt a mixed methods design to allow for collection of important quantitative data regarding attitudes, but to also allow for richer qualitative data to be gathered regarding programme development that could not be obtained through quantitative research alone. Two samples will be utilised, the first of which will be a random sample of community members, which is an important aspect in a quantitative design as it ensures the results can be
generalised to the broader population (McVilly et al., 2008). The second sample will be purposive, in that there are specific conditions required to be met for participants to be included in that sample. A benefit of purposive sampling is the ability to draw on experts’ in-depth knowledge and understanding of the issue (McVilly et al., 2008), however it does not allow generalisation to the broader population. The second sample will be recruited via a snowball method in that the initial participants will be asked to pass on the information of the study to other persons who may fit the criteria for participation.

The study will involve having members of the community, and professionals who have had experience working with fire setters with ID complete a self-report online survey. The survey comprises both quantitative and qualitative questions. Only the professional sample will be asked the qualitative questions, as they are deemed to be experts in the area. Some of the qualitative questions will be utilised to add additional information to quantitative answers, and others are standalone qualitative questions that attempt to gain the professionals’ views on areas of concern. To screen for any possible effect of social desirability in participant responses to aspects of the studies, a social desirability scale will be implemented within the surveys.

The qualitative data obtained in the current thesis will be of a phenomenological nature, and as such having a small number of participants, as would be expected in this very specialised area, has been argued to be sufficient for data saturation; i.e. when there are no new contributions from participants to what is already known (Morse & Field, 1995).

The findings of this mixed method design will be integrated through narrative using a combination of the weaving and contiguous approaches. The contiguous approach will be most evident in the thesis as quantitative and qualitative data are often reported separately, however there will be aspects of the thesis in which weaving will be utilised to demonstrate the concordance between the quantitative and qualitative results where they were collected to support one another.
Study Four

Study four will be a systematic review of existing fire setting programmes to determine whether there are any existing programmes for fire setters with ID, and whether these are effective. Undertaking a systematic narrative analysis was deemed most appropriate for the current thesis as there is a paucity of literature on the topic, and as such it is considered to be an emerging area of research. Further, due to the small number of studies conducted, and variation around methodologies, comparisons via meta-analysis becomes difficult (Pickering & Byrne, 2014). Table 5 provides a summary of the various methodologies used through the current thesis.

Overall, the current thesis adopts a variety of methods each of which has its own strengths and limitations. Each has been chosen specifically for the purpose of this thesis, and where necessary subsequent chapters will refer back to this chapter for detailed descriptions of these methods.
Table 5

*Summary table of the methods utilised in the current thesis*

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Research Questions</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>What are the characteristics and support needs of fire setters with ID?</td>
<td>Quantitative database analysis</td>
</tr>
<tr>
<td>4</td>
<td>How does the criminal justice system, particularly the judiciary, respond to matters concerning persons with ID who commit arson offences</td>
<td>Systematic case law review and qualitative data analyses</td>
</tr>
<tr>
<td>5</td>
<td>1. What are the attitudes and expectations of the community to the treatment and rehabilitation of fire setters with ID?</td>
<td>Quantitative and qualitative data analysis</td>
</tr>
<tr>
<td></td>
<td>2. What are the attitudes and expectations of professionals to the treatment and rehabilitation of fire setters with ID?</td>
<td></td>
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<td></td>
<td>3. Do professionals identify a need for treatment programmes specifically for fire setters with ID</td>
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<td></td>
<td>4. If so, what do they think such programmes should include?</td>
<td></td>
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<tr>
<td>6</td>
<td>What treatment programmes are available for fire setters who have an ID, and what is the evidence base for their effectiveness?</td>
<td>Systematic narrative review</td>
</tr>
</tbody>
</table>
Chapter Three: Characteristics and Needs of Fire Setters with ID

This chapter presents an analysis and synthesis of the characteristics of index arson offenders with ID, to provide a more in depth understanding of their rehabilitation and support needs. This is achieved through the testing of hypotheses (generated from the literature previously reviewed in Chapter 1, and based on previous research into offenders with ID) with a UK database of persons with an ID who have an index offence of arson, who are located in community services, and low, medium, and high secure hospitals. Further, exploratory analysis of the needs of this population in regard to their offending behaviour is also undertaken. Here it should be noted that while later studies in the current thesis focus on Australian data, data comparable to that in the UK database were not available for Australia and, despite efforts to address this, they could not be generated within the constraints of the current programme of research. Conclusions are drawn about the characteristics and treatment needs presented by persons with ID who have an index offence of arson from the current sample, and these are compared and contrasted to those persons with ID who have a violent or sexual index offence, to determine whether there are any distinct treatment implications or considerations for this particular offending group.

Introduction

As asserted in Chapter 1, the literature base for establishing the characteristics, and providing an understanding of fire setters with ID is minimal. Currently, the characteristics reported about fire setters with ID have been located through the methodologically problematic classification/typology models discussed in chapter 1. As these studies represent much of what is presently known about fire setters with ID they are explored in the context of addressing treatment needs for fire setters with ID.

Firstly, Inciardi (1970) reports on a group of convicted arsonists in his sample known as the ‘institutionalised fire setter’ group, in which the median IQ was 70. He notes that these fire setters were likely to have been socialised in institutions since birth or from a very early age after their parents deserted them, though does not define how IQ was assessed, nor which types of institutions these fire setters were located in. Further, Fineman (1995) noted that those who were cognitively
impaired in his sample lacked judgement and had impulsivity difficulties, which are two characteristics often used to describe fire setters throughout the literature, as well as persons with ID more broadly. A more in depth study by Murphy and Clare (1996) investigated 10 fire setters with ID, and found varying characteristics. For example, the age of fire setters with ID ranged from 18 to 38 ($M=26.4$, $SD=7.5$), IQ, as measured by the Wechsler Adult Intelligence Scale-Revised (WAIS-R; Wechsler, 1981), ranged from 60 to 78 ($M= 68.4$, $SD= 5.7$), and two of those interviewed reported a comorbid mental disorder, with one person reporting a diagnosis of schizophrenia, and another reporting a diagnosis of psychotic depression.

There is little evidence to demonstrate a link between fire setters with ID and comorbid mental disorder, though mental disorder has been reported to be common amongst fire setters more generally. Antisocial personality disorder in particular has been reported at a higher rate for fire setters compared to non-fire setters (Ducat, Ogloff, & McEwan, 2013), with Blanco et al. (2010) reporting personality disorder was 22 times more likely for fire setters when compared to controls. Further, a diagnosis of schizophrenia has been argued to be quite prevalent in fire setters (Anwar, Langstrom, Grann, & Fazel, 2011; Dickens et al., 2007; Enayati, Grann, Lubbe, & Fazel, 2008; Harris & Rice, 1996; Koson & Dvoskin, 1982; Long, Banyard, & Fulton, 2013; Repo & Virkkunen, 1997; Rice & Harris, 1991; Ritchie & Huff, 1999). Studies comparing these rates to other offenders, however, have produced mixed results, resulting in a lack of clarity as to whether mental disorders may simply occur commonly among persons who commit crimes or who engage in problematic behaviours (Anwar et al., 2011; Ducat, Ogloff, et al., 2013). As such, further investigation of comorbidity would be useful in further understanding fire setters with ID.

Two typology studies shed some light on the relationship between fire setting and mental disorder. Harris and Rice (1996), in their study of 243 fire setters from a maximum security psychiatric institution, reported that their ‘multi fire-setter’ group were the least intelligent, had a history of setting fires and had high levels of aggression. Aggression is one characteristic of fire setters that has been subject to much debate in the literature with some studies reporting low levels, and others reporting high levels and histories of violent offending in fire setters more
generally (Blanco et al., 2010; Dickens et al., 2007), though limited literature exists on this association in fire setters with ID. The second study, conducted by Leong and Silva (1999), classified 32 fire setters into two groups, one of which was known as ‘cognitive pathology’. This group comprised persons with limited intellect, who were likely to be older and to have a lengthy history of criminal behaviour and fire setting. Whilst these studies utilised persons with ‘low intelligence’ or ‘limited intellect’, it is not clear whether these persons had a formally diagnosed ID and whether they experienced the characteristics typical of the classification they were grouped in, or whether they just formed a subset of that classification. As such, further investigation of whether fire setters with ID have long histories of fire setting, violent offending, and criminal behaviour generally, and whether they have high levels of aggression is warranted.

Although some studies report that fire setters have lengthy criminal histories, the number of previous convictions they have received has not been shown to differ from other offenders (Labree, Nijman, van Marle, & Rassin, 2010), and once again the evidence for fire setters with ID is limited. Devapriam, Raju, Singh, Collacott, and Bhaimik (2007) concluded that fire setters with ID are likely to repeat fire setting behaviour, as well as engage in other offending. Furthermore, it has been suggested that offenders with ID will likely have limited social skills, be impulsive, and have an inability to resist temptations (Johnson, 2004), which may have increased their likelihood of engaging in offending behaviour.

Although there is limited evidence for differences between fire setters with ID and those without, Taylor, Thorne, Robertson, and Avery (2002) argue that fire setters with ID present a set of complex needs that must be addressed in effective and evidence-based service provision and treatment. Although only a handful of studies report on characteristics of fire setters with ID, it is clear that characteristics reported vary between studies. This not only demonstrates the complexity presented by fire setters with ID, but also the need for further research to provide the much needed evidence-base to better understand their offending-related characteristics and, in turn, enable treatment, rehabilitation and longer-term support to be better informed. For example, knowing whether a person has a history of fire setting and previous convictions is useful in that it might be indicative
of a pattern of anti-social behaviour and potentially coinciding pro-criminal attitudes that need to be addressed in treatment (Andrews & Bonta, 2010a). This also applies to understanding levels of aggression and previous engagement in violent offending, which might need to be addressed through other forms of treatment, such as anger management.

In addition to the limited and mixed literature regarding characteristics of fire setters with ID, the understanding of treatment needs of fire setters generally, and fire setters with ID in particular is limited. In this context, an understanding of the difference between static risk factors and dynamic risk factors/treatment needs is important. Specifically, static risk factors are those that cannot be changed, as they are part of the offender’s personal history, such as childhood experiences (Lofthouse et al., 2014). They do however, form an important part of the offender’s profile that should be taken into account when planning treatment. Needs, also known as criminogenic needs or dynamic risk factors, are those factors related to the offending behaviour that are amenable to change and as such should be targeted by treatment programmes (Andrews & Bonta, 2010a).

Fritzon, Doley, and Clark (2013) note that although there is a lack of evidence for the needs of fire setters due to their heterogeneity, the multi-trajectory theory of adult fire setting (M-TAFF) presented by Gannon et al. (2012) appears to identify some consistent needs for this subset of the population. The M-TAFF model groups the needs under four major areas of concern: inappropriate fire interest, offence-supportive cognitions, self-emotional regulations issues, and communication problems. Although this model presents many needs that might be considered relevant for fire setters with ID, these have yet to be evaluated in a fire setting population, let alone for those who also have an ID. Here though, Fritzon, Doley, and Clark assert that the M-TAFF is an appropriate model for appraising offender needs in this population.

Recently, Long et al. (2013) utilised Jackson et al.’s functional analysis theory (Jackson et al., 1987a) to develop their arson and fire setting risk assessment tool, highlighting the prominence of this theory decades later in the fire setting literature. Jackson et al.’s theory proposes five factors that are believed to underlie fire setting: psychosocial disadvantage, life dissatisfaction and associated self-
loathing, social ineffectiveness, factors determining individual experience of fire, and internal and external fire triggers. Once again, this tool was developed for the general fire setting population, and as such its applicability to persons with ID is unclear.

With the need to develop evidence-based practice in this area, Tyler et al. (2014) developed a model known as the Firesetting Offence Chain for Mentally Disordered offenders (FOC-MD). This recent model provides some insight into mentally disordered offenders that might be considered relevant to fire setters with ID. The FOC-MD model suggests that mentally disordered fire setters may have had poor family experiences as children (caregiver experiences, abuse), intimacy problems in early adulthood, mental health concerns, poor problem solving skills, and fire knowledge, affect, and cognitions. Further, they are suggested to have problems with planning, which can be linked with impulsivity. Whilst the model aligns with other studies in the area, it has not been replicated nor has it been investigated specifically for persons with ID, given their sample only contained two persons with borderline ID.

Similar to the characteristics literature, the literature regarding the needs of fire setters with ID is varied, and a lack of evidence or testing of proposed needs means no conclusions can be drawn about those that are likely to be in existence in fire setting populations.

Although there are a variety of factors presented thus far, Camilleri and Quinsey (2011) note that there are also predictors of antisocial behaviour that may directly or indirectly result from the person’s ID, which may also be useful needs to address. These include childhood behaviour problems, unemployment, lower socioeconomic status, deviant sexual preferences, low self-esteem, and unassertiveness (Holland, Clare, & Mukhopadhyay, 2002; Keeling, Beech, & Rose, 2007; Lindsay, Elliot, & Astell, 2004; Turner, 2005).

Overall, our understanding of fire setters with ID both in regard to their characteristics and their treatment and support needs, appears minimal and fragmented. Much of what we know is based on case studies, relatively small samples in single settings, or typology systems which do not provide direct
associations between persons with ID and the characteristics/needs they discuss as typical of particular classifications. Consequently, the aim of this study is to use a sample of persons with ID, drawn from multiple settings in the UK, to investigate these issues further. Identifying the presenting characteristics and needs of these fire setters with ID will increase understanding of this specific subset of the population, and will allow evaluation of existing programmes and services to be conducted in terms of not only ‘what works’, but more importantly ‘what is needed’.

The review of the literature presented in Chapter 1, and the brief summary in the introduction of this chapter highlights the limited literature about fire setters with ID, and the variety of characteristics that may distinguish fire setters with ID, emphasizing the importance of investigating these further. As the facilities the index arson offenders with ID utilised in the current study are presently residing in/attending on a daily basis are also attended by both violent and sex offenders with ID, and these offender groups commonly have access to specialist programmes, the persons with ID who have an index arson offence will be compared to these groups of offenders to determine if the characteristics with which they present differ, and any potential implications for programme design and implementation.

Due to a lack of existing literature comparing arson offenders to both violent and sex offenders in regard to a variety of characteristics and needs, the current study will be exploratory in nature. Whilst hypotheses are presented for testing, these will be based on the literature comparing fire setters to non-fire setters, rather than specifically regarding violent and sex offenders. A comparison of their needs will also be undertaken, though given there is an even more limited literature base than for characteristics, this phase of the analysis will be purely exploratory. The variables chosen for this study were largely based on those used in previous studies using persons with ID who have engaged in offending behaviour (Hogue et al., 2006; Hogue et al., 2007; Lindsay et al., 2008; O’Brien et al., 2010).

Based on the literature, and the available data, the following hypotheses are proposed:
1) There will be no difference between those with an index arson offence, an index violent offence, and an index sex offence in regard to number of prior convictions

2) A history of fire setting will be more prevalent in index arson offenders, than in those with an index violent or sex offence

3) Those with an index offence of arson will be less likely to have a history of violent offending than those with an index violent offence

4) Comorbid mental disorder, particularly a diagnosis of schizophrenia and personality disorders, will be more common for those with an index offence of arson than for those with an index violent or sex offence

Method

Ethics Approval

The original study giving rise to these data had ethics approval for each of the study sites at which data were collected (see Appendix A). The current study received approval from both the custodians of the original database (see Appendix B), as well as from the Deakin University Human Research Ethics Committee (see Appendix C).

Study Sites

Three study sites contributed to the database, identified as L1, L2 (which is both medium and low security), and L3. All three sites were UK National Health Service forensic psychiatric services, who accepted people who had a tested full-scale IQ of less than 75 and significant deficits in adaptive behaviour, and childhood/adolescent onset of these (Hogue et al., 2006). L1 is a high security site and is the national centre for high-secure ID services. Patients are received from both England and Wales. Such patients are usually referred from prisons, secure hospitals, and from the courts. Patients are accepted into this service if they are considered to be a grave and immediate danger to the public. L2 is a medium and low security site, which provides inpatient forensic services for people with ID on a local, regional, and national basis. Patients are usually referred to this site via health authorities, the courts, and prisons. L3 is a community site, and comprises a 10-bed open unit and a large number of day places. These settings are described in detail elsewhere (Hogue et al. 2006).
Procedure and Materials

All data were collected by Research Assistants from each participant’s existing clinical files with assistance from relevant keyworkers and support workers over a one year period from 2001 to 2002. All staff who were involved in data collection received extensive training in reviewing, collecting, and coding information. These data were received for use in the current thesis in a de-identified database. Although data were collected for many variables (see Hogue et al., 2006 for description of these), the data that will be utilised for the current analyses are age, number of prior convictions, history of fire setting and violent offending, comorbid mental disorder and ratings on the Short Dynamic Risk Scale.

Short Dynamic Risk Scale (SDRS).

The SDRS is an eight item scale that focuses on a range of dynamic risk factors/needs, which include hostile attitude, coping skills, self-care skills, and consideration of others. The items for this scale were selected from the Problem Identification Checklist (Rice, Harris, Quinsey, & Cyr, 1990) and the Proximal Risk Factor Scale (Quinsey, Coleman, Jones, & Altrows, 1997) if they demonstrated a significant linear trend across previous, prior, and index months for clients with ID who had been involved in antisocial incidents in a field trial in community settings. Clients were rated on a 0 to 4 scale (where 0= No problem, and 4= Severe problem). The scale demonstrated an ability to predict violent and sexual incidents with a high level of accuracy (Quinsey, Book, & Skilling, 2004), however no psychometric properties were reported by the authors.

Results

Data Screening

One hundred and seventy cases were available in the database. Cases with missing data were removed prior to analyses. Subsequently, the distribution of 125 cases were screened. Table 6 presents the normality statistics for the outcome variables.

None of the variables to be used in the analyses met the assumption of normality. This remained the case after transformations were applied, and as such parametric testing was not considered appropriate. Non-parametric tests were used where assumptions of normality were required.
Data Analysis

Subsequently, a total of 125 male offenders with ID were included in the current study. All participants included in this study had a clinical diagnosis of intellectual disability. Of these participants, 109 were diagnosed using the International Classification of Diseases (ICD) criteria (World Health Organisation, 2010) as having a mild ID (87.2%), 11 as having a moderate ID (8.8%), one as having a severe ID, and three as having an unspecified ID (2.4%).

The majority of participants (39.2%) were from L1, of which three had an index arson offence, 31 had an index violent offence, and 15 had an index sex offence. Just under one third of the sample were from L2 (35.2%), of which 14 had an index arson offence, 14 had an index violent offence, and 16 had an index sex offence. The remainder of the sample (25.6%) were from L3, which included one person with an index arson offence, 11 persons with an index violent offence, and 20 persons with an index sex offence. Of those located at L2, 14 had a security level of medium (3 with an index arson offence, 6 with an index violent offence, 5 with an index sex offence), and 30 had a security level of low (11 with an index arson offence, 8 with an index violent offence, and 11 with an index sex offence).

Participants were in these settings under a variety of restrictions including Section 41 of the Mental Health Act 1983 (N=6), Section 37 of the Mental Health Act 1983 (N=13), Section 37 and Section 41 of the Mental Health Act 1983 (N=48), Section 48 and Section 49 of the Mental Health Act 1983 (N=3), Section 47 and Section 49 of the Mental Health Act 1983 (N=7), Section 3 of the Mental Health Act 1983 (N=10). The remaining 38 participants were classified as ‘other’ (N=6) or had missing data about the restriction under which they were held. All of those with an arson index offence were restricted under the England and Wales Mental Health Act 1983, where two participants with a violent index offence and three with an index sex offence were restricted under the Scottish Mental Health (Care and Treatment) Act 2003.

Given the intent of the current study was to determine characteristics and needs for the purpose of informing treatment, groups were classified based on their index offence, as this is how they would likely be referred to treatment. Offence information within the existing database was classified as per the original case
notes, such that any violent offence was labelled in case notes as violent, any sexual
offence was labelled as a sex offence, and any fire setting related offence was
labelled as arson. Consequently, the sample was categorised into three groups:
index arson offenders, index violent offenders, and index sex offenders. It should
be acknowledged that even though an offender was classified in one group based
on their index offence, they may still have had other convictions, or a reported
history of other offending behaviour.

Table 6

*Normality statistics for outcome variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Skew</th>
<th>SE Skew</th>
<th>Kurtosis</th>
<th>SE Kurtosis</th>
<th>Kolmogorov-Smirnov</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convictions before 18</td>
<td>4.43</td>
<td>0.22</td>
<td>26.05</td>
<td>0.43</td>
<td>0.28***</td>
</tr>
<tr>
<td>Convictions after 18</td>
<td>2.49</td>
<td>0.21</td>
<td>6.43</td>
<td>0.43</td>
<td>0.26***</td>
</tr>
<tr>
<td>SDRS 1</td>
<td>0.07</td>
<td>0.25</td>
<td>-1.34</td>
<td>0.50</td>
<td>0.15***</td>
</tr>
<tr>
<td>SDRS 2</td>
<td>0.07</td>
<td>0.25</td>
<td>-1.61</td>
<td>0.549</td>
<td>0.24***</td>
</tr>
<tr>
<td>SDRS 3</td>
<td>0.10</td>
<td>0.25</td>
<td>-1.26</td>
<td>0.50</td>
<td>0.17***</td>
</tr>
<tr>
<td>SDRS 4</td>
<td>0.57</td>
<td>0.25</td>
<td>-1.01</td>
<td>0.49</td>
<td>0.25***</td>
</tr>
<tr>
<td>SDRS 5</td>
<td>0.78</td>
<td>0.25</td>
<td>-0.83</td>
<td>0.49</td>
<td>0.29***</td>
</tr>
<tr>
<td>SDRS 6</td>
<td>0.39</td>
<td>0.25</td>
<td>-1.31</td>
<td>0.50</td>
<td>0.25***</td>
</tr>
<tr>
<td>SDRS 7</td>
<td>0.98</td>
<td>0.26</td>
<td>-0.23</td>
<td>0.51</td>
<td>0.28***</td>
</tr>
<tr>
<td>SDRS 8</td>
<td>1.04</td>
<td>0.25</td>
<td>-0.17</td>
<td>0.48</td>
<td>0.30***</td>
</tr>
</tbody>
</table>

Note: p<.001***

As seen in Table 7, those with an offence of arson had a mean age of 29.50
years (SD=10.1), and were also the oldest group at the time of data collection (i.e.,
assessment) (M=49.0 years; SD=14.5 years). A Kruskal-Wallis Independent Samples
H-test was conducted for mean convictions prior to 18, $\chi^2(2, n=125)=0.66$, $p=.72$,
and mean convictions after 18, $\chi^2(2, n=125)=3.55$, $p=.17$. No significant differences
were found. Offence histories and reports of mental disorder were also compared
across the three groups. These are reported in Table 8.

Table 7
### Demographic Variables

<table>
<thead>
<tr>
<th></th>
<th>Index Arson Offence N=18</th>
<th>Index Violent Offence N=56</th>
<th>Index Sex Offence N=51</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age at admission</td>
<td>29.50 (10.1; 16-48)</td>
<td>30.58 (9.18; 14-50)</td>
<td>31.24 (11.69; 16-59)</td>
</tr>
<tr>
<td>(SD; Range)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean age at time of</td>
<td>49.00 (14.5; 28-77)</td>
<td>48.19 (10.51; 29-79)</td>
<td>49.1 (11.52; 30-73)</td>
</tr>
<tr>
<td>assessment (SD; Range)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean prior convictions</td>
<td>2.22 (2.65; 0-8)</td>
<td>2.53 (4.77; 0-24)</td>
<td>2.65 (5.83; 0-39)</td>
</tr>
<tr>
<td>before 18 (SD; Range)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean prior convictions</td>
<td>5.06 (10.53; 0-45)</td>
<td>7.75 (10.18; 0-43)</td>
<td>3.90 (5.80; 0-28)</td>
</tr>
<tr>
<td>after 18 (SD; Range)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A chi square analysis was conducted to determine group differences in history of fire setting. A history of fire setting was most frequent in the participants who had an index offence of arson (52.9%), $\chi^2(2, n=125)=25.64, p<.001$, $V=.45$. According to Cohen (1988) a small effect size for Cramer’s V is .10, a medium effect size is .30, and a large effect size is .50. The effect size for history of fire setting was in the medium range and indicates a moderately strong relationship between the offences and a history of fire setting.

A chi square analysis was conducted to determine group differences in history of violent offending. Those with an index violent offence were the most likely to have a history of violent offending (58.9%), $\chi^2(2, n=125)=11.54, p<.01$, $V=.30$. Cramer’s V was in the medium range, indicating a moderate relationship between the index offences, and having a history of violent offending.

A chi square analysis was conducted to determine group differences in comorbid mental disorder. All groups experienced high levels of comorbid mental disorder, with the highest rate experienced by in the index violent offence group (71.4%), $\chi^2(2, n=125)=6.62, p<.05., V=.23$. Cramer’s V indicated only a weak relationship between a violent index offence and comorbid mental disorder.

Table 8
Mean frequencies of fire setting and violent offending history, as well as comorbid mental disorder

<table>
<thead>
<tr>
<th></th>
<th>Index Arson</th>
<th>Index Violent</th>
<th>Index Sex</th>
<th>( \chi^2 )</th>
<th>( \nu )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=18</td>
<td>N= 56</td>
<td>N= 51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N with history of fire setting</td>
<td>9 (52.9%)( ^\dagger )</td>
<td>4 (7.1%)</td>
<td>4 (7.8%)</td>
<td>25.64***</td>
<td>.45</td>
</tr>
<tr>
<td>N with violent offending history</td>
<td>6 (33.3%)</td>
<td>33 (58.9%)</td>
<td>14 (2.5%)</td>
<td>11.54**</td>
<td>.30</td>
</tr>
<tr>
<td>N with comorbid mental disorder</td>
<td>11 (61.1%)</td>
<td>40 (71.4%)</td>
<td>24 (47.1%)</td>
<td>6.62*</td>
<td>.23</td>
</tr>
<tr>
<td>N of those with comorbid mental disorder with schizophrenia</td>
<td>1 (5.6%)</td>
<td>14 (25%)</td>
<td>6 (11.8%)</td>
<td>5.24</td>
<td>.21</td>
</tr>
<tr>
<td>N of those with comorbid mental disorder with personality disorder</td>
<td>7 (38.9%)</td>
<td>25 (44.6%)</td>
<td>8 (15.7%)</td>
<td>10.74**</td>
<td>.29</td>
</tr>
</tbody>
</table>

Note: p<0.05*, p<0.01**, p<0.001***. \(^\dagger\) Missing data from one person

An exploratory analysis was conducted to determine offender needs using the SDRS ratings. Means and standard deviations are presented in Table 9, categorised by offence type.

A Kruskal Wallis H Test was conducted to determine differences between the groups on each of the offender needs measured by the SDRS. There were two statistically significant differences between groups- item two (Few positive coping skills), and item four (anger in the past month resulting in inappropriate temper). The violent offender group scored higher than both the arson and sex offender group on these two items. Whilst significant, the mean rating for these variables is still relatively low, and as such it could therefore be concluded that there is little evidence to suggest that those with an index offence of arson present with needs distinct from either index violent or index sex offenders with ID, as assessed by the SDRS.
Table 9

Mean (SD) SDRS clinician ratings split by arson, violent, and sex offences

<table>
<thead>
<tr>
<th>SDRS Items</th>
<th>Index Arson Offence N=18</th>
<th>Index Violent Offence N=56</th>
<th>Index Sex Offence N=51</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- No responsibility</td>
<td>1.53 (1.41)</td>
<td>2.11 (1.45)</td>
<td>1.79 (1.50)</td>
<td>2.09</td>
</tr>
<tr>
<td>2- Few positive coping skills</td>
<td>1.33 (1.54)</td>
<td>2.27 (1.50)</td>
<td>1.26 (1.48)</td>
<td>9.81**</td>
</tr>
<tr>
<td>3- Anxiety /anger/frustration in past month</td>
<td>1.69 (1.40)</td>
<td>2.09 (1.31)</td>
<td>1.50 (1.39)</td>
<td>3.70</td>
</tr>
<tr>
<td>4- Anger in past month resulting in inappropriate temper</td>
<td>0.94 (1.50)</td>
<td>1.66 (1.31)</td>
<td>0.97 (1.27)</td>
<td>7.11*</td>
</tr>
<tr>
<td>5- Insulting, teasing, obnoxious</td>
<td>1.13 (1.51)</td>
<td>1.36 (1.45)</td>
<td>1.03 (1.38)</td>
<td>1.15</td>
</tr>
<tr>
<td>6- Callousness/little empathy</td>
<td>1.56 (1.71)</td>
<td>1.58 (1.40)</td>
<td>1.39 (1.50)</td>
<td>0.36</td>
</tr>
<tr>
<td>7- Poor housekeeping</td>
<td>0.93 (1.28)</td>
<td>1.29 (1.47)</td>
<td>0.83 (1.05)</td>
<td>1.42</td>
</tr>
<tr>
<td>8- Poor self-care/hygiene</td>
<td>0.67 (1.05)</td>
<td>1.04 (1.30)</td>
<td>1.11 (1.37)</td>
<td>1.47</td>
</tr>
</tbody>
</table>

Note: p<0.05*, p<0.01**, p<0.001***. Rating scale: 0=no problem, 2=moderate problem, 4=severe problem.

Although the means for all SDRS items were quite low for the three offenders groups, there were needs that could have important implications for treatment. Based on the scoring criteria for the SDRS, items that are particularly relevant are those with an average of one or more, indicating at least some problem with these issues. For instance, the ‘anxiety/anger/frustration’, the ‘no responsibility’ and ‘callousness/little empathy’ needs were amongst the highest for index arson offenders, though statistically these were no different to index violent and index sex offenders.
Discussion

There is a paucity of literature reporting on characteristics and needs of fire setters with ID. As such the aim of the current study was to contribute to this knowledge base, by utilising characteristics located for fire setters in the literature to inform an analysis of 125 male offenders with ID located in community, low and medium, and high secure sites in the UK.

The first hypothesis predicted that number of previous convictions would be comparable for those with an index offence of arson, a violent index offence, or a sexual index offence. This was supported. Although index violent offenders had the highest number of prior convictions, the differences between offence groups were not significant. These findings are consistent with the fire setting literature more generally, which suggests that prior convictions and an extensive criminal history for other offences are common for fire setters (Dickens et al., 2009; Doley, Fineman, Fritzon, Dolan, & McEwan, 2011; Harris & Rice, 1996; Rice & Harris, 1991; Soothill, Ackerley, & Francis, 2004).

The second hypothesis proposed that a history of fire setting would be more prevalent in those with an index arson offence, than in those offenders who had an index offence for violence or sex offending. More than half of offenders with an index offence of arson reported a history of fire setting behaviour, compared to less than one in 10 index violent offenders and index sex offenders. As such, this hypothesis was supported and was consistent with previous research indicating a history of fire setting as a common characteristic of those eventually convicted of arson (Dickens et al., 2009; Doley et al., 2011; Harris & Rice, 1996; Rice & Harris, 1991; Soothill et al., 2004).

Hypothesis three proposed that those with an index offence of arson would be less likely to have a history of violent offending, than those with an index violent offence. This was supported as over one third of those with an index offence of arson had a history of violent offences, however this was much lower than for index violent offenders. The literature on prior violent offences for fire setters is mixed, with some studies finding it to be common (Blanco et al., 2010; Dickens et al., 2007; Dickens et al., 2009) and some finding relatively low levels of violence among this group (Rice & Harris, 1991).
Hypothesis four predicted that levels of comorbid mental disorder would be highest for those with an index offence of arson, when compared to those with an index violent or index sex offence. This hypothesis was partially supported, with just fewer than two thirds of those with an index arson offence having been diagnosed with a comorbid mental disorder, compared with almost three quarters of index violent offenders. Those with an index sex offence were least often diagnosed with a comorbid mental disorder, with under half reporting a comorbid diagnosis. Personality disorders were comparable between index violent offenders and index arson offenders, but these were far higher than for index sex offenders. In contrast to the hypothesis, a diagnosis of schizophrenia was far more common for those with an index violent offence, than for both index arson and index sex offenders. These findings must be interpreted with caution as many fire setters within the sample utilised for the study were drawn from a population of ID offenders who had been referred to secure settings. As such, they are likely to have an over-representation of comorbid mental disorders, and challenging and complex behaviours.

In summary, the characteristics presented by index arson offenders with ID in the current sample are a history of fire setting behaviour, multiple prior convictions, a history of violent offending, and a high likelihood of having a comorbid mental disorder. These characteristics, however, are common among offenders more generally, rather than being exclusive to fire setters. Further, with the exception of a comorbid mental disorder, these are all characteristics that are static, i.e. that are not amenable to treatment. As such, further consideration of the treatment and support needs of these offenders is essential.

An exploratory analysis of the dynamic characteristics of fire setters with ID was therefore conducted to determine if any needs were elevated for index arson offenders with ID, compared to index violent and index sex offenders with ID. Subsequently, analysis of the SDRS ratings identified several issues that, though not statistically distinct for fire setters, were elevated for this group.

The first of these issues for potential intervention was their elevated experience of anxiety, anger, or frustration in the past month. This is consistent with the fire setting literature which suggests that a potential characteristic of fire
setters is the existence of anger based motives for fire setting (Rix, 1994), coupled with a low frustration tolerance (Jackson, 1994). It may be that these offenders are setting fires during a period in which they are angry and are unsure how else to regulate that anger. This might also provide some explanation for revenge fire setting behaviour, which has been suggested to be common for fire setters more generally, as well as for those with ID (Bradford, 1982; Douglas, Burgess, Burgess, & Ressler, 1992; Inciardi, 1970; Koson & Dvoskin, 1982; Levin, 1976; Lewis & Yarnell, 1951; Rix, 1994). The levels of anger for those with an index offence of arson in this particular sample may also be a result of almost half of the sample having also been diagnosed with personality disorders (ten Have, de Graaf, van Weeghel, & van Doreselaer, 2014). Regardless, in treating these fire setters with ID it seems that a cognitive behavioural approach which focuses on the identification of feelings and the regulation of both thoughts and actions would be beneficial. In fact, the use of CBT in the management and regulation of anger in persons with ID has been shown to be effective (Taylor, Novaco, Gilmer, & Thorne, 2002; Willner et al., 2013).

The second issue for potential intervention was the reports of their taking ‘no responsibility’ which refers to the person taking no responsibility for their behaviour over the past month, and blaming others or circumstances for their problems, and/or seeing themselves, inappropriately, as the victim. Responsibility, in the context of ID, is often debated in legal terms, in regard to the extent to which persons with ID are responsible for their criminal behaviour (Murphy & Mason, 2007). For those who have problems with taking responsibility, treatment programmes could beneficially focus on addressing the person’s cognitive distortions regarding responsibility and victim blaming. In addition, assessment of the fire setter’s level of moral development may be crucial as it could be that they are operating at relatively early stage of development in contrast to their chronological age. If this was determined to be the case, a treatment programme could also usefully incorporate a focus on moral development. An existing programme which has been demonstrated to be effective at increasing moral reasoning ability and reducing cognitive distortions through perspective taking and social skills development is known as the Equipping Youth to Help One Another Programme (EQUIP) (Gibbs, Potter, Barriga, & Liau, 1996; Gibbs, Potter, &
Goldstein, 1995; Langdon, Murphy, Clare, & Palmer, 2013; Potter, Gibbs, & Goldstein, 2001). EQUIP was initially developed based on aggression replacement training, and it uses anger management training to address distortions in cognition, to develop social skills, and to discuss moral dilemmas in order to encourage moral development. Although evidence for the effectiveness of EQUIP for increasing moral reasoning abilities in offenders with ID is in its infancy, it appears to be a useful programme for fire setters with ID.

The third issue was a lack of consideration for others, or callousness and showing little empathy. This involves anything that signifies an attitude of thinking only about their own concerns and never of the thoughts, feelings of, or consequences for other clients or staff. This variable is of particular interest as it is not a factor that has previously been identified in the literature as a likely dynamic risk factor for fire setters.

Although a lack of empathy is not distinctly associated with fire setting in the literature, a lack of empathy has been demonstrated in offenders with ID more generally. In particular, a study conducted by Langdon, Murphy, Clare, Steverson, and Palmer (2011) found that offenders with ID had more limited empathy than a group offenders without ID who formed their comparison group. As fire setters did not have an elevated score on this variable compared to violent and sex offenders with ID, the score may be reflective of a general lack of empathy in offenders with ID, rather than just for fire setters. This is supported by the literature that suggests empathy is associated closely with moral and social development- which ID offenders arguably have lower levels of than the general offending population (Langdon, Clare, & Murphy, 2011). In fact, Langdon et al. report ID offenders being in stage two of the Sociomoral Stage Theory, whereas empathy is not expected to be fully developed until stage three (Gibbs, 2003). Langdon et al. note that to increase empathy in offenders with ID, treatment programmes should incorporate perspective taking techniques within a group setting.

Many of the remaining needs on the SDRS were not elevated, particularly in regard to violent and sex offenders. In addition, there are a variety of needs related to offending generally that were not considered in the SDRS; including relationships with antisocial associates, poor family and marital relationships, low levels of
performance and involvement in school/work, and leisure/recreation, as well as problems with substance abuse (Andrews & Bonta, 2010b). In addition, the ARMIDILLO-S, a risk assessment tool developed for sex offenders with ID, notes there are environmental needs that should be considered, including attitudes towards the client, communication among support persons, consistency of supervision/intervention, changes in social relationships, changes in monitoring and intervention, and situational changes (Boer et al., 2012). Further investigation of such potential needs could be incorporated into future research.

This study had some limitations. First, the majority of the sample were currently detained in secure settings, resulting in an inability to generalise the findings outside of this context, particularly as there was a large discrepancy between age at time of admission and at time of data collection, indicating a long period of time spent in the institution, on average. The second problem is that these data were collected for a prior study, and consequently only certain needs and characteristics could be investigated, and the database only contained males. It is important to consider that female characteristics and treatment needs are likely to be different than those presented by males (Fagan, Horn, Hawkins, & Arthur, 2007) and as such future research should aim to incorporate both males and females. Further, the majority of the sample fell into the mild ID range, which means that the findings might only apply to those with an index offence of arson who have a mild ID, rather than representing a broader range of persons with ID who set fires. In addition, the data was collected solely from the original client case notes and as such is dependent on the quality of these (Hogue et al., 2006), as well as the ability of the research assistants to collect this data accurately and consistently. There were also a small number of persons with an index offence of arson within the sample, and the lack of a control group of offenders who would fit into the categories, but who do not have an ID. A comparison group of offenders without an ID would allow direct distinctions to be drawn between fire setters who have an ID, and those who don’t which would demonstrate any particular differences that may need to be addressed in treatment of fire setters with ID, and whether there is indeed a need for adaptations to existing programmes, or development of new programmes. Whilst comparing fire setters to other offender
types provides some indication of their uniqueness, it does not provide evidence for specialised programmes for fire setters with ID that differ from those currently used with fire setters more generally. Finally, the SDRS, whilst it allowed dynamic risk factors to be explored in the current study, has only demonstrated predictive validity for violent and sexual reoffending. As such, it may not be a valid tool for use with fire setters, and the current study did not shed any light on this due to a lack of reoffending data in the existing database. Further studies utilising the SDRS with fire setters should undertake studies of predictive validity to ensure the tool itself is useful, and has the potential to demonstrate the dynamic needs of fire setters with ID.

Although these findings only serve to provide an initial understanding of characteristics and needs of fire setters with ID who have been referred to community, low and medium, and high secure hospitals, they provide a first step toward determining those needs which should be targeted in any treatment programme that is developed for this population. Ensuring treatment is targeting these dynamic needs is important in achieving effective outcomes. Furthermore, the current study highlights a number of characteristics and needs requiring further investigation in relation to fire setters with ID, to determine whether they are consistently demonstrated as needs for this population, and whether they can be successfully targeted through treatment and in turn reduce recidivism. Some of these include comorbid mental disorder, a history of offending behaviour (both fire setting and other offences), low frustration tolerance, anger management, and low levels of empathy.

This study also demonstrates the subtle differences between those who have an index offence of arson and an ID and both violent and sex offenders in the current sample. These findings suggest that simply including fire setters with ID in treatment programmes for violent or sex offenders, without focused attention on their fire setting behaviour, may not lead to effective treatment outcomes and longer-term rehabilitation. This needs to be further investigated with consideration given to the motives reported for fire setting as it may be that those with a revenge based motive for fire setting would respond to a violent offending treatment programmes, whereas those with an excitement or financial gain motive may not.
Future research needs to determine if the treatment needs identified in the current study are predictive of future re-offending, and as such whether they should be considered priority needs of fire setters with ID for the purpose of treatment. This will be a difficult task particularly for an ID population as such studies require substantial numbers and the participants to be in the community with an opportunity to re-offend. A subset of the sample utilised in the current study, for example, were being detained indefinitely, and as such were likely not have an opportunity to be released back into the community, thus rendering even longitudinal follow-up studies problematic.
Chapter Four: Judicial Sentencing of Fire Setters with ID

Following from the analysis of offender characteristics and dynamic needs in the UK database, this chapter utilises publicly available case law to investigate both the characteristics of fire setters with ID who reach the Australian court system, and to analyse judge’s remarks and considerations when sentencing them. The case law review identified six cases comprising fire setters with ID, and these cases are described, and the associated sentencing remarks are exposed to qualitative analysis. The analysis reveals seven common themes throughout the remarks, which are then discussed in regard to the need for further investigations into their application. The chapter concludes by noting the importance of systematically collecting data about fire setters with ID and making these data more available for research purposes, as well as a need to increase public awareness of fire setters with ID and the need to further understand these persons who present a particular concern to the criminal justice system, and the community more broadly.

Introduction

The relevance of ID to offending behaviour has been a point of contention within the criminal justice literature, with many concerns being raised around mental competency and moral culpability of persons with ID. What is of particular relevance to the current thesis is how the diagnosis of ID can impact the pathway of the person through the criminal justice system, and how the justice system might be therapeutic, or counter-therapeutic, for offenders in this population. The following chapter will describe the processes that occur on entry into the criminal justice system for persons with ID who have been charged with arson, analyse judicial considerations of their circumstances, and the subsequent rehabilitation options available to them.

Persons with ID are substantially over-represented in the criminal justice system, both in Australia and in other jurisdictions (Hayes, Shackell, Mottram, & Lancaster, 2007), and have been for many years. Most Australian studies have measured the prevalence of ID in persons who appear before the court. For example, in 1997, Hayes investigated the prevalence of ID in persons appearing before local courts in NSW, Australia, and found that nearly one quarter of her sample had scores on the Kaufman Brief Intelligence Test (KBIT; Kaufman &
Kaufman, 1990) below 70, indicating they could be diagnosed with an ID, and a further 14.1% scored in the borderline range (70-79) on the KBIT. Further, Vanny, Levy, Greenberg, and Hayes (2009) conducted a study to determine the prevalence of ID among Magistrate court attendees in NSW, and found that 30% of their sample demonstrated deficits in intellectual abilities, with 10% scoring below 70 on the KBIT-2 (Kaufman & Kaufman, 2004). Amongst offenders with ID, fire setting appears to be particularly common (Day, 1993; Männynsalo et al., 2009; Simpson & Hogg, 2001). An Australian study using the court records of 207 persons convicted of fire setting in either the County or Supreme court in Victoria between 2004 and 2009, found that 8.5% had an ID (all mild); a rate which is far higher than the 3.9% that was found in a comparison group of 197 randomly selected non-fire setting offenders (Ducat, McEwan, et al., 2013). It has also been suggested, however, that high prevalence rates may be due to the settings in which these data have been gathered (commonly medium and high secure facilities), rather than reflecting an actual over representation of ID offenders in the wider justice system (Hogue et al., 2006; Lindsay et al., 2010). Prevalence studies of persons with ID in prisons in Australia are minimal. One study by Holland and Persson (2007) found that of the 7,805 offenders released from prison between 2003 and 2006, 102 (1.3%) were registered with the Department of Human Services as having an identified ID.

Further, a recent report revealed 8% of the NSW prison population required further assessment for ID after they scored below the cut-off on the HASI (Hayes, 2000), whereas they make up only 2% of the general population (NSW Law Reform Commission, 2012). The most recent study conducted in Australia assessed the presence of ID in 1,325 adult prisoners within six weeks of their release from seven prisons across Queensland over the period of 2008 to 2010, and using the HASI (Hayes, 2000), and self-report of an ID or attendance at a special school, found a 9% prevalence rate of persons with ID (Dias, Ware, Kinner, & Lennox, 2013).

In the USA it is estimated that between four and 14% of prisoners have an IQ score below 70 (Petersilia, 2000), and around 28% in Ireland (Carey et al., 2000). A recent comprehensive study in the UK of 140 males in prison (mean age: 33.5 years) found that 7.1% of participants scored below 70 on the Wechsler Adult Intelligence
Scale- Third Edition (WAIS-III; Wechsler, 1997), and an additional 23.6% scored in the borderline range (Hayes et al., 2007).

Prevalence studies focused on persons with ID have also suggested an over-representation of defendants and prisoners with ID from ethnic minority groups (Hayes, 1993; 1996; Holland, Clare, & Mukhopadhyay, 2002), though further research is required to investigate whether this is specific to persons with ID, or the defendant and prison population more generally.

Prior to considering how persons with ID who have been charged with arson are managed by the judicial system, it is important to consider how a diagnosis of ID more generally can influence their pathway through the justice system. Depending upon the jurisdiction in which the person is apprehended, there are typically four such pathways for persons with ID in Australia: diversion from the usual court processes; assessment of fitness to plead; entering a plea of not guilty by reason of mental impairment; or a guilty plea and subsequent sentencing.

**Diversion**

Thomas (2010) discusses a type of diversionary intervention known as ‘pre-arrest intervention’, which is practiced throughout Australia. This allows police to exercise discretion in cases involving people with mental disorder, or similar concerns such as ID, by providing them with a warning or caution. It also allows police to undertake a systematised mental health screening and assessment to determine whether to proceed with prosecution, or to refer to appropriate treatment and support both within and outside of the criminal justice system. If this process is not undertaken by police at the initial interaction with the person with ID, but they are instead recognised by services early, there is a further opportunity for diversion from the mainstream court system (Lim & Day, 2013). In Australia, this would typically require formal registration with a government agency, such as the Department of Human Services.

A report by the NSW Law Reform Commission noted only 6.5% of those who received diversionary orders in the local court were persons with a cognitive impairment. The term ‘cognitive impairment’ is used here to refer not only to those with ID, but also those with acquired brain injury and mental disorder (NSW Law Reform Commission, 2012). The authors suggest that many people who were
diverted, were diverted because of their comorbid mental disorder, rather than as a response to their ID, though data are not available on the number of diversions of persons with ID involved specifically in fire setting. Furthermore, there are no data on the persons who are ‘informally diverted’ from the courts, by virtue of offences not being reported, or where police discretion is applied. These are arguably important gaps in our knowledge base; impeding our ability to identify and respond to people early in their offending history, particularly as Chapter 3 revealed that fire setters with ID tended to be older at the time they were engaging with the criminal justice system and were reporting an established history of fire setting at that time. For these reasons, administrative reform is required to ensure these data are gathered, and that they are collated in a way that can inform both research and practice.

Fitness to Plead

Where an accused person with ID is not diverted from the usual judicial proceedings, the question of fitness to plead (or what is referred to as ‘competency’ in the USA) can be put before the court. Although the legislation defining fitness varies across Australia, a lack of fitness to plead is typically established by virtue of the person being unable to understand or respond rationally to the charge or allegations, being unable to exercise procedural rights, being unable to understand the nature of the proceedings to follow the evidence, or to instruct counsel. In Victoria, for example, a person’s unfitness to stand trial is documented in Part Two, Section Six of the Crimes (Mental Impairment and Unfitness to be Tried) Act 1997. It states that a person is considered unfit to stand trial if they are:

a) Unable to understand the nature of the charge; or

b) Unable to enter a plea the charge and to exercise the right to challenge jurors or the jury; or

c) Unable to understand the nature of the trial; or

d) Unable to follow the course of the trial; or

e) Unable to understand the substantial effect of any evidence that may be given in support of the prosecution; or
f) Unable to give instructions to his or her legal practitioner

A study conducted by Parton et al. (2004) of 74 remand prisoners, of whom 32.5% fell within the range for mild to borderline intellectual functioning according to the WASI (Wechsler, 1999), found that those with an IQ under 70 were likely to have a lot of difficulty understanding court procedures, and only one participant had a basic understanding of the available legal defences. Further, even those in the borderline range of intellectual functioning (IQ=70 to 79) had limited understanding of court procedures. The issue here is not only a criminal justice concern, but also a potential human rights infringement, as this study suggests that many persons with ID might not have access to a fair trial due to their cognitive impairments.

If a defendant is ruled unfit to plead, he or she may be held indefinitely in a forensic mental health institution, or until a time at which he or she is considered fit to plead (Samuels, O'Driscoll, & Allnutt, 2007). A person may also be placed on a supervision order until a time at which they are considered no longer a risk to society, which in the Northern Territory (NT) can be based on level of disability (Freckelton, 2011). This is a concern for those with a moderate or severe ID who may never become fit to plead, rendering them in detention or under supervision for their lifetime, and without ever having the evidence against them tested in court.

Plea of Not Guilty by Mental Impairment

An alternate option for these persons is to be found ‘not guilty by reason of mental impairment’. This defence (also known as the Mental Illness, Mental Incompetence, or Insanity defence) is recognised in each jurisdiction of Australia as relevant to those who cannot be considered responsible for a crime committed under the criminal law, and who may require safeguarding based on their high vulnerability due to cognitive, volitional or moral limitations (Sentencing Advisory Council, 2013). Although various forms of mental impairment legislation exist in each jurisdiction, most contain certain conditions that must be met for this defence to be successful. Namely, the person must be unable to understand what he or she was doing, and be unaware that his or her conduct was wrong. Some legislation
also requires evidence that the person was unable to control the conduct to be considered.

Importantly, if this defence is successful, the person is no longer considered responsible for the crime and is not held responsible by the law. This allows for the court to sentence these individuals differently. For example, in South Australia the court can release the person unconditionally, detain them, or release them on a license or supervision order (Sentencing Advisory Council, 2013). This defence is, however, rarely utilised for persons with ID; e.g., only 1% of ‘not guilty based on mental incompetence’ findings in South Australia were based on the person having an ID (Sentencing Advisory Council, 2013). One reason for it being rarely used is that similar to being found ‘unfit to plead’, it can lead to an indeterminate order being made. For many, it might be that risking a ‘guilty’ finding, and being imprisoned for a set period of time may seem more appealing. The use of this defence for persons with ID may also be restricted in its use for procedural reasons; complicated by what is understood across different jurisdictions to constitute ‘mental impairment’. In fact, South Australia is the only Australian state that specifically incorporates ID into their mental incompetence legislation.

Plea of Guilty

In the case of a guilty plea, or if the person is found to be guilty, there are various factors that judges must take into consideration when sentencing. McEwan and Freckelton (2011) note that these include the protection of the community, deterrence of the offender (general and specific) and other potential offenders, and mitigation of punishment, where appropriate, by taking into account the offender’s mental state.

A review of the sentencing guidelines from all states in Australia reveals other considerations for the judiciary to take into account, including: the effect of the crime on the victim (Western Australia (WA), South Australia (SA), Australian Capital Territory (ACT), Northern Territory (NT), Queensland (QLD), Victoria (VIC), Tasmania (TAS)); community protection (WA, SA, NSW, NT, QLD, VIC, TAS), deterrence (SA, NSW, NT, QLD, VIC, TAS); the seriousness of the offence (WA, NSW, NT, QLD, VIC); mitigating and/or aggravating factors (WA, NSW, NT, QLD, VIC); punishment (SA, NSW, NT, QLD, VIC); and rehabilitation (SA, NSW, NT, QLD, VIC),
TAS). *Moral culpability*, or the offender’s responsibility for the offence, was only mentioned in four of the states’ legislation (ACT, NT, QLD, VIC).

**Sentencing Considerations**

In considering what the judiciary might take into account on sentencing, only South Australia (*Criminal Law [Sentencing] Act, 1988*) and Victoria (*Sentencing Act 1991*) have specific guidelines on how to sentence offenders with ID. Criteria for determining the most suitable sentence are, however, not provided and judges have to balance general sentencing principles (i.e. general deterrence, protection of the community etc.) with the circumstances unique to offenders with ID. The Australian Capital Territory (*Crimes [Sentencing] Act, 2005*) legislation notes that mental condition needs to be taken into account during sentencing, New South Wales (*Crimes [Sentencing Procedure] Act, 1999*) legislation states any disability should be considered, and in Queensland (*Penalties and Sentences Act, 1992*) and the Northern Territory (*Sentencing Act, 2013*) legislation provides that intellectual capacity needs to be considered during sentencing. The remaining states, Tasmania (*Sentencing Act, 1997*) and Western Australia (*Sentencing Act, 1995*), do not have any specific provisions for consideration of ID when sentencing offenders.

Freckelton (2007) raises the question as to whether the principle of deterrence is appropriate for those with mental impairment. He notes that such concerns were raised in *R v Mooney* (1978), in which the judge considered the relevance of general deterrence; finding that an offender suffering from a mental disorder or abnormality in general is not an appropriate medium for making an example to others. Further, in *R v Engert* (1995) the judge discussed general deterrence with specific reference to persons with ID, stating that persons with ID do not require as severe punishment as those without disability as it would be inappropriate for their circumstance. Further, the judge noted that persons with ID may not have a full understanding of the authority or requirements of the law.

Freckelton (2007) proposes the *Tsiaras* (1996) principles as a guide to judicial decision making, especially where legislation is silent or deficient. Initially, the Tsiaris principles were primarily defined in terms of ‘serious psychiatric illness’, however after issues arose as to what types of disorder could be included in this definition, the Victorian Court of Appeal sought to clarify this in *R v Verdings, Buckley*
and Vo (2007), by adopting the terminology ‘impaired mental functioning’ (Freckelton, 2007). These principles propose that impaired mental functioning, whether temporary or permanent, can be considered relevant to sentencing in at least six ways:

1. The condition may reduce the moral culpability of the offending conduct, as distinct from the offender’s legal responsibility. Where that is so, the condition affects the punishment that is just in all the circumstances; and denunciation is less likely to be a relevant sentencing objective
2. The condition may have a bearing on the kind of sentence that is imposed and the conditions in which it should be served
3. Whether general deterrence should be moderated or eliminated as a sentencing consideration depends upon the nature and severity of the symptoms as exhibited by the offender, and the effect of the condition on the mental capacity of the offender, whether at the time of the offending or at the date of sentence or both
4. Whether specific deterrence should be moderated or eliminated as a sentencing consideration likewise depends upon the nature and severity of the symptoms of the condition as exhibited by the offender, and the effect of the condition on the mental capacity of the offender, whether at the time of the offending or at the date of the sentence or both
5. The existence of the condition at the date of sentencing (or its foreseeable recurrence) may mean that a given sentence will weigh more heavily on the offender than it would on a person in normal health
6. Where there is a serious risk of imprisonment having a significant adverse effect on the offender’s mental health, this will be a factor tending to mitigate punishment

These considerations all appear relevant to the sentencing of persons with ID who have been charged with arson, especially in cases which are considered very serious, and where a relatively long sentence might otherwise be expected for an offender from the general population (Curtis, McVilly, & Day, 2012). They have implications for the effective administration of justice and the safety of the
community, the community's perceptions of the justice system and, importantly the rehabilitation of offenders.

The current study will therefore focus on the complexity of sentencing offenders with ID who have been charged with arson, and provide an analysis of judges’ sentencing remarks. A particular advantage of focusing on judicial sentencing is that issues of diversion and fitness to plead or to stand trial are often raised in sentencing remarks, providing important judicial insights into how the courts interpret and apply these considerations to offenders with ID. This study aims to identify the main considerations and concerns that arise for judges in sentencing offenders with ID, and in particular those who have been charged with arson, in order to identify strengths and deficiencies in the current legislative frameworks guiding sentencing, and the associated procedural options available to the courts for this population.

Method

A case law search was conducted using the public case law databases AustLII, West Law AU, and Lexis Nexis AU to determine how many cases of reached the court system over the last decade (from 2003- June 2013). Consequently, this component of the research programme was exempt from requiring ethics approval. The databases were screened to determine the proportion of cases that involved defendants with an identified ID. Search terms used included the word ‘arson’, the relevant section of the legislation from each state (e.g. Crimes Act 1958, Section 197, Victoria), and the search term ‘fire*’. Information recorded about cases included the date, the charge, the plea, a description of the crime, any other charges the accused had at the same time, prior convictions, fitness to plead, mental disorder and ID issues, the verdict, and the sentence given. These findings are discussed below, in the section titled Intellectual Disability and Arson Characteristics.

The cases that were located were only discovered through specific courts (see Table 10), as some courts do not have readily accessible documents. For example, to obtain documents from the Magistrates Court of South Australia it is necessary to lodge an application which identifies a specific case. Consequently,
only those cases that were available by means of a publicly accessible legal database are included in the current review. Case law remains useful in so far as it provides access to published law reports, which include a summary of the case, often including the identification of the accused’s disability or mental health status, together with the judge’s description of the crime, its impact, and reasoning underlying sentencing. All cases located that pertained to fire setting and a person with ID were included. As case law generally consists of cases that contribute something new to the law, it is likely cases located through this search will be particularly informative about persons with ID who have been charged with arson.

In addition to the case law searches, police crime statistics from each state’s police website were examined to determine the number of fire setting cases reported to police over the same period (2003-June 2013). Relevant police data were not available for the Northern Territory and these statistics were only available from 2004 onwards for both the ACT and Tasmania.

Once cases related to fire setting were located in which the person was identified as having an ID, the sentencing remarks of the judges were analysed using NVivo 10 (QSR International Pty Ltd., 2012). Using the constant comparative method, a methodology which involves comparing and integrating information that fits within certain categories evident from within the data (Glaser, 1964), the analysis was informed by inductive content analysis (Schreier, 2012), with a focus on topics and themes that related to the considerations made by judges when sentencing persons with ID who had been charged with arson. For further discussion of these methods of analyses, and the principles underlying them, refer to Chapter 2.

**Results**

**General Characteristics of Persons Charged with Arson and their Sentences**

Fifty cases in which the person was charged with arson were located from 2003 to 2013 within the public court databases for Australia. In comparison, 127,307 cases of fire setting were reported to police in Australia (excluding NT) over the period of 2004-2012. This suggests that only .03% of instances of suspected arson reported to police are reported in public case law.
Of those cases reaching the court system, 27 were heard in state Supreme Courts, 16 were heard in either the District or County courts, and seven were heard in specialist Mental Health Courts. No cases in the current review were heard in the Magistrates court; though this was expected considering that generally only low tariff cases are heard by the Magistrates courts.

Table 10

*Courts in Australia with publicly accessible information available for the current review*

<table>
<thead>
<tr>
<th>State</th>
<th>Court</th>
<th>AustLII</th>
<th>Lexis</th>
<th>West</th>
<th>How many arson cases located?</th>
<th>No. arson cases in which the fire setter had an ID?</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>Supreme Court</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Magistrates Court</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>NSW</td>
<td>Supreme Court</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>District Court</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Local Court</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>NT</td>
<td>Supreme Court</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Magistrates Court</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>QLD</td>
<td>Supreme Court</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>District Court</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Magistrates Court</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Mental Health Court</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>SA</td>
<td>Supreme Court</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>District Court</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Magistrates Court</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>TAS</td>
<td>Supreme Court</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Magistrates Court</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>VIC</td>
<td>Supreme Court</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>County Court</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>
In 25 (50%) of the cases the defendant pleaded guilty, in 17 (34%) the defendant pleaded not guilty due to mental incompetence, and in 8 (16%) cases the defendant pleaded not guilty. Of those who pleaded not guilty, five (62.5%) were found guilty. Of those who pleaded not guilty due to mental incompetence, two (11.7%) were found guilty.

For all cases located in the search the average length of sentence was 5.23 years. The sentences ranged from six months to 17 years and nine months. In the Supreme Court alone, 17 cases received sentences of imprisonment, which ranged from two years to 17 years and nine months, with the average Supreme Court sentence being 6.4 years. Breakdowns for the courts from each state can be seen in Table 11.

Table 11

Range and Mean sentences of imprisonment for the courts from each state

<table>
<thead>
<tr>
<th>State</th>
<th>Court</th>
<th>Range of maximum penalties provided in state legislation</th>
<th>Range of sentences in years</th>
<th>Mean Sentence in years</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>Supreme</td>
<td>7-25 years</td>
<td>5*</td>
<td>5</td>
</tr>
<tr>
<td>NSW</td>
<td>Supreme</td>
<td>5-25 years</td>
<td>2 - 4.5</td>
<td>3.25</td>
</tr>
<tr>
<td></td>
<td>District</td>
<td>.5*</td>
<td></td>
<td>.5</td>
</tr>
<tr>
<td>SA</td>
<td>Supreme</td>
<td>2-20 years</td>
<td>3 - 13</td>
<td>8.94</td>
</tr>
<tr>
<td>VIC</td>
<td>Supreme</td>
<td>1-25 years</td>
<td>2 - 17.75</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td>County</td>
<td>1 - 4</td>
<td></td>
<td>2.55</td>
</tr>
</tbody>
</table>

* Only one case located, therefore no range reported.

In 31 of the 50 cases the fire setter was diagnosed with some form of mental disorder (excluding ID), representing a prevalence rate of 62%. All seven of the Queensland cases mentioned a diagnosis of mental disorder, although these were
all heard at the Mental Health Court. Nearly two thirds of identified cases held in New South Wales and Victoria involved fire setters with mental disorder. The most common mental disorder that participants had been diagnosed with was schizophrenia in various forms (28% of cases). Depression was also evident, with 12% of defendants having this diagnosis. In four cases the issue of fitness to plead was considered. In one of these the fire setter was subsequently determined to be unfit to plead.

Intellectual Disability and Arson Characteristics

In six of the 50 cases the persons charged with arson was diagnosed with an ID, a prevalence rate of 12%. Of these persons, the majority (83%) had also been diagnosed with a comorbid mental disorder. The cases identified as involving people with ID are summarised in Table 12 according to state, date, gender, charge, plea, description of crime, priors, fitness to plead, comorbid mental disorder, and verdict/sentence.

Four of the six persons with ID who had been charged with arson were male. Two had prior offences which included damaging a building or motor vehicle, causing harm, and rape. Another two had other offences they were charged with at the time of their current fire-related offence, including further charges of arson and murder. Ages were reported for four of the six persons and these ranged from 19 to 48 years old, with a mean of 37 years.

Three of the cases involved the person setting fire to their own house, one to a brothel, one to another person’s house and one person set a bushfire that resulted in the death of 10 people. Only three cases provided information on damage costs, which ranged from $18,750 to $240,000, with the average cost of damages amounting to $112,916.

One of the six persons charged with arson pleaded guilty (17%), two pleaded not guilty by reason of mental impairment (33%), and three pleaded not guilty (50%). Of those who pleaded not guilty by reason of mental impairment, one was found to be guilty, and one was found to be not guilty by reasons of ‘unsound mind’ at the time of the crime. All three persons who pleaded not guilty were found to be guilty. Four of the six persons charged with arson were given prison sentences (67%), with an average imprisonment length of 7.3 years, ranging from three years
to 17 years and nine months. One person was detained in a secure hospital, and one sentence was unable to be located.
Hospital
Catherine
detained at the
she was
after another
arrested and
offence
police after the
time she was
interviewed by
not fit to be
suicide
Psychiatrists said
imprisonment
(reason of mental
arrested twice
Not guilty by

Yes/No
specifies
specified
Guilty/Sentence

Prior Offences:
Mental
Disorder

Other Offences:
(Compromising)

Plea

Description of
Crime

Age

Date of
Charge

Gender

Name of case:
State

Territory
5 June 2008
Supreme Court
Melbourne
Female
Arson
Melbourne set
Fire to her house
Methaqualone
Tabled
Australian

Summary of arson cases in Australia located through publicly accessible court law involving defendants with ID

Table 12
<table>
<thead>
<tr>
<th>State</th>
<th>Male</th>
<th>Female</th>
<th>Age</th>
<th>Court &amp; Date</th>
<th>Other charges</th>
<th>Description of crime</th>
<th>Other offenses</th>
<th>Competent to plead</th>
<th>Other charges</th>
<th>Reason of mental disorder</th>
<th>Impairment of mental function</th>
<th>Reason of mental disorder</th>
<th>Impairment of mental function</th>
<th>Sentence</th>
<th>Verdict &amp; Reason of crime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queensland</td>
<td>Male</td>
<td>Female</td>
<td>2012</td>
<td>Supreme Court</td>
<td>Arson</td>
<td>Arson: damage to property &amp; set fire to medical equipment in the course of the crime</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>(?)</td>
<td>(?)</td>
<td>3 years</td>
<td>ADHD, depression &amp; severe</td>
</tr>
<tr>
<td>South Australia</td>
<td>Male</td>
<td>Female</td>
<td>2012</td>
<td>Supreme Court</td>
<td>Arson</td>
<td>Arson: damage to property &amp; set fire to medical equipment in the course of the crime</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>(?)</td>
<td>(?)</td>
<td>3 years</td>
<td>ADHD, depression &amp; severe</td>
</tr>
<tr>
<td>Victoria</td>
<td>Male</td>
<td>Female</td>
<td>2012</td>
<td>Supreme Court</td>
<td>Arson</td>
<td>Arson: damage to property &amp; set fire to medical equipment in the course of the crime</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>(?)</td>
<td>(?)</td>
<td>3 years</td>
<td>ADHD, depression &amp; severe</td>
</tr>
<tr>
<td>New South Wales</td>
<td>Male</td>
<td>Female</td>
<td>2012</td>
<td>Supreme Court</td>
<td>Arson</td>
<td>Arson: damage to property &amp; set fire to medical equipment in the course of the crime</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>(?)</td>
<td>(?)</td>
<td>3 years</td>
<td>ADHD, depression &amp; severe</td>
</tr>
<tr>
<td>Western Australia</td>
<td>Male</td>
<td>Female</td>
<td>2012</td>
<td>Supreme Court</td>
<td>Arson</td>
<td>Arson: damage to property &amp; set fire to medical equipment in the course of the crime</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>(?)</td>
<td>(?)</td>
<td>3 years</td>
<td>ADHD, depression &amp; severe</td>
</tr>
<tr>
<td>Tasmania</td>
<td>Male</td>
<td>Female</td>
<td>2012</td>
<td>Supreme Court</td>
<td>Arson</td>
<td>Arson: damage to property &amp; set fire to medical equipment in the course of the crime</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>(?)</td>
<td>(?)</td>
<td>3 years</td>
<td>ADHD, depression &amp; severe</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>Male</td>
<td>Female</td>
<td>2012</td>
<td>Supreme Court</td>
<td>Arson</td>
<td>Arson: damage to property &amp; set fire to medical equipment in the course of the crime</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>(?)</td>
<td>(?)</td>
<td>3 years</td>
<td>ADHD, depression &amp; severe</td>
</tr>
<tr>
<td>Australian Capital Territory</td>
<td>Male</td>
<td>Female</td>
<td>2012</td>
<td>Supreme Court</td>
<td>Arson</td>
<td>Arson: damage to property &amp; set fire to medical equipment in the course of the crime</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>Major</td>
<td>(?)</td>
<td>(?)</td>
<td>(?)</td>
<td>3 years</td>
<td>ADHD, depression &amp; severe</td>
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<tr>
<td>Imprisonment</td>
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<td>No</td>
<td>No</td>
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<td></td>
<td></td>
<td></td>
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A bus driver was found guilty of causing death by dangerous driving resulting in 10 deaths. The bus had been involved in an accident with a car on the same day.

**Case Details**

- **Defendant:** A male driver from Victoria
- **Offense:** Causing death by dangerous driving
- **Date:** 27 April 2012
- **Sentence:** 4 years of imprisonment
- **Penalties:** $24,000 fine

**Other Offenses:**

- **Other Offenses:** None reported.
- **Plea:** Guilty
- **Description of Crime:** Causing death by dangerous driving
- **Age:** 48
- **Charge:** Dangerous driving
- **Gender:** Male
- **State:** Victoria

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<table>
<thead>
<tr>
<th>Crime</th>
<th>Name of case</th>
<th>Date of case</th>
<th>Age</th>
<th>Gender</th>
<th>Charge</th>
<th>Description of charge</th>
<th>Competency to stand trial</th>
<th>Other offences</th>
<th>Sentence</th>
<th>Verdict</th>
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<tr>
<td>Arson</td>
<td>Watson</td>
<td>24 June 2009</td>
<td>40</td>
<td>Male</td>
<td>Murder</td>
<td>Watson set a fire</td>
<td>To his house</td>
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<tr>
<td>8 bus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not guilty</td>
<td></td>
</tr>
<tr>
<td>was inside, car</td>
<td></td>
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</table>

- Insomnien for the house, 1 year
- Insomnien for the house, 2 years
- Depression
- (None)

- Sentence: Guilty by jury, 3
- Verdict: 8
- Plea: Not guilty
- (Prior Offences)
- Mental Illness: Depressed
- Comorbid: Depression

- Supreme Court
Qualitative Analysis of Sentencing Remarks

The identified themes represented the major issues and considerations of the judiciary when sentencing the six identified persons with ID who had been charged with arson. These were: the general deterrence of others from committing the offence; the severity of the crime and its subsequent impact on the community; the persons prospects for rehabilitation; the sentencing options available within that jurisdiction; the assessed moral culpability of the person; the court’s responsibility to protect the community; and the court’s duty to punish offenders. A description of each of these themes, and the evidence supporting them, are presented below.

General deterrence.

General deterrence was a common theme throughout the sentencing remarks, being mentioned across all six cases. One judge noted:

I have had regard to your reduced moral culpability and I have moderated general deterrence. The provisions do, however, mean that personal deterrence looms somewhat larger for you than it might for others (R v Sokaluk, 2012; paragraph 66).

And another stated:

It is not difficult to understand that the element of general deterrence can readily be given considerably less weight in the case of an offender suffering from a significant mental disorder who commits a minor crime, particularly if a causal relationship exists between the mental disorder and the commission of such an offence. In some circumstances, however, the mental disorder may not be serious or causally related to the commission of the crime, and the circumstances of the crime so grave that very little weight in mitigation can be given to the existence of the mental disorder and full weight must be afforded to the element of general deterrence. In between those extremes, an infinite variety of circumstances will arise in which competing considerations must be balanced (R v Hallett, 2012; paragraph 61).
Seriousness of arson.
Four judges discussed the seriousness of the offence of arson, with one specifically commenting:

Arson, in all its forms, is an extremely serious and dangerous crime, and the element of general deterrence must be given proper weight, in order to reflect the Court’s condemnation of the crime, especially where it is committed with an appreciation of what is being done and there is a calculated act of vengeance (R v Hallett, 2012; paragraph 50).

Rehabilitation.
The person’s need and prospects for rehabilitation were frequently mentioned by judges. One judge noted:

The reports indicate that you will need a good deal of assistance in the future to help you stay out of trouble. I would regard your prospects of rehabilitation as guarded. Without considerable help and support, I would see a real risk of you re-offending (DPP v Denholm, 2012; paragraph 16).

And also:

I was also supplied with documents which were certificates showing that during your time in custody you have taken the opportunity of engaging in courses that have been provided for you and it is to your credit that you have made good use of your time in that regard and that bodes well for your prospects of rehabilitation (DPP v Denholm, 2012; paragraph 12).

Sentencing options.
Sentencing options, such as the sentence to be served in community or custodial settings, and the length of time to be served, were also commonly discussed:

The question was whether her age, her disabilities and her deprived youth were good reasons to spare her imprisonment and to pursue instead a community based rehabilitative sentence (R v Hallett, 2012; paragraph 3).

And another said:
Absent the mental impairments, I would have regarded a sentence of that range or perhaps higher, maybe up to seven years or so as being appropriate for an offence as grave as this with the risks that it carried and the degree of appreciation which I think you have had of those risks. However, it seems to me that the proper application of the *Verdins* principles requires me to moderate that sentence significantly and I propose to do that notwithstanding what I’ve said about the need to include within the sentencing consideration with regard to the need for the protection of the community (*DPP v Denholm, 2012; paragraph 21*).

**Moral culpability.**

Moral culpability was discussed several times, and in particular whether this was decreased due to the person having an ID. One judge stated:

> Such a question is less likely to arise in sentencing a mentally retarded offender because the lack of capacity to reason, as an ordinary person might, as to the wrongfulness of the conduct will, in most cases, substantially lessen the offender’s moral culpability for the offence (*R v Hallett, 2012; paragraph 100*).

And another stating:

> If the specific intent or knowledge is present, it is no answer for it to appear that that specific intent or knowledge was the consequence of mental impairment. However, the mental impairment will be relevant to the question whether that intent or knowledge was in fact present (*R v McLaughlan, 2008; paragraph 95*).

**Protection of the community.**

Community protection, as a priority in sentencing, was mentioned consistently by judges. One judge claimed:

> Because of those provisions in sentencing, I must regard the protection of the community from the offender as the principal purpose for which the sentence is imposed (*R v Sokaluk, 2012; paragraph 60*).

And:
If protection of the community is to be the principal purpose of the sentence, less regard must be given to your personal circumstances, including your impaired mental functioning, but I have given weight to them (R v Sokaluk, 2012; paragraph 66).

Punishment.

Punishment was also considered by the judges, but typically in the context of taking into account other principles. One judge stated:

Those principles operate so as to enable the court to treat your culpability for your offending as reduced and to regard principles of denunciation, punishment, retribution and general deterrence in particular as being significantly reduced (DPP v Denholm, 2012; paragraph 14).

Discussion

This investigation utilised publicly available case law to identify the characteristics of persons with ID who had been charged with arson in Australia. In addition, case law was used to analyse judges’ sentencing remarks in order to understand the way the criminal justice system responds to these persons, and to identify strengths and deficiencies in the current legislative frameworks guiding sentencing, together with the associated options available to the courts for this population.

The persons with ID who were charged with arson were predominantly male and fire setting typically formed part of a wider pattern of offending, including other serious crimes (e.g., murder, rape and motor vehicle offences). However, the number of fire setting cases reported to police is much higher than these case law statistics suggest. This may reflect a lack of evidence for police to pursue charges in many cases, or diversion from the court system, perhaps due to the fire setting being minor or because of its association with mental disorder or ID. The paucity and quality of current data prevent further investigation.

Thomas (2010) discusses a type of diversionary intervention known as ‘pre-arrest intervention’, which is practiced throughout Australia. This allows police to exercise discretion in cases involving people with a mental disorder, or similar
concerns such as ID, by providing them with a warning or caution. It also allows police to undertake a systematised mental health screening and assessment to determine whether to proceed with prosecution or to refer to appropriate treatment and support, both within and outside of the criminal justice system. To better understand how often pre-arrest intervention is utilised, people with ID need to be identified in statistics related to police reports.

In those circumstances in which a successful prosecution is pursued by police, there is an apparent discrepancy between the average sentence length handed down for persons charged with arson generally and those specifically with ID. The average length of imprisonment for all persons charged with arson (including those with ID) was 5.23 years. For those without ID the average sentence length was 4.57 years, whereas for those with ID it was 7.3 years. While non-parametric testing revealed no significant difference between groups, the sample size was relatively small and potentially masked the significance of this trend. It may be that fires set by people with ID are more serious and cause more damage, or that they are simply seen as more ‘dangerous’ or ‘high-risk’ and less likely to respond to sentences based on individual deterrence. In addition, those charged with arson generally presented with a number of prior offences, arguably increasing the level of risk they present to the community. Further investigation into the specifics of these cases appears warranted; in particular, how the judiciary adjudicate on appropriate sentencing when balancing the seriousness of the offence with any mitigating circumstances related to the persons ID, their prior offences, and their prospects for rehabilitation.

Four of the six persons with ID identified in the case law had been either charged with a separate offence at the time of the arson offence or had prior offences. This has implications for the development of treatment programmes, such that there would appear to be scope to address the risk of fire setting within other types of treatment. This might be particularly the case given a high level of shared offending-related needs across fire setting risk and the risk of other offending behaviour as evidenced by the variety of crimes committed by the persons charged with arson in this review.
Further, five out of the six of persons with ID also had a comorbid mental disorder, a figure which is much higher than the 20% to 40% reported in community samples for people with ID (Cooper, Smiley, Morrison, Williamson, & Allan, 2007; Deb, Thomas, & Bright, 2001; Einfeld & Tonge, 1996). This has implications for both service provision and treatment development for this subset of the population.

Although there were only six cases on which to base these analyses, seven important themes emerged from the qualitative analysis. Judges commonly discussed the extent to which the act of sentencing might be used as a punishment and deterrence to the person’s future offending (and that of others in the community), the moral culpability of the person with ID, the need to consider the protection of the community, the importance of alternative sentencing options, the seriousness of arson, together with the persons need for, and prospects for rehabilitation. These are consistent with the sentencing legislation from each of the states (as applied to persons without a disability) and are also in line with the Tsiaras principles, which outline those particular issues that should be taken into account in sentencing a mentally impaired offender. The current study highlights both consistency and inconsistency in how these principles are applied.

Deterrence, or rather the lack of weight that should be placed upon this principle, was commonly discussed by judges. One judge explicitly noted concern for the inappropriate use of a person with ID as a model for deterrence (R v Hallett, 2012). This is not surprising, as in Australia it is widely accepted that offenders with mental disorder are not appropriate persons of whom to make an example to others (Traynor, 2002). The analysis suggested that it was evident that judges acted in ways that were consistent with this, in that they gave consideration to issues of general deterrence only in the context of greater weight being given to other considerations. The consideration of specific deterrence, as it might apply to the individual before the court, was apparent in some cases (e.g., R v Sokaluk, 2012). Generally though, they tended to focus more on the seriousness of the crime, and the issue of community protection.

Importantly, a different application of the sentencing guidelines was observed in regard to the issue of moral culpability. This was often raised as a
concern by judges, but did not necessarily affect the sentence received. On one occasion the judge specifically noted that the crime of arson was too serious and the risk to the community was too high to reduce the sentence based on reduced culpability alone. The judge noted that protection of the community must be the primary principle in sentencing, and therefore concerns with reduced culpability must carry less importance. This is consistent with previous cases in which judges have indicated that due to the serious nature of the offence, the person’s culpability should only be considered to a small extent, even if the impairment is severe (Walvisch, 2010; see R v Barrett, 2008; R v Dupuy, 2008). Here, research is required to investigate the judiciary’s understanding of what constitutes moral culpability. Furthermore, research is required to investigate the extent to which the courts have available sufficient information (e.g., reports of psychological assessment) on which to appraise moral culpability, fitness to plead, and mitigation at the point of sentencing.

Rehabilitation is a primary aim for sentencing in Australian courts (Traynor, 2002), and it was taken into consideration by many of the judges in the current study, although it has been argued that there is no doubt that rehabilitation is affected by mental conditions (Walvisch, 2010). In the case of R v Oznek (2007) the judge noted that if an illness is viewed as treatable, the person is assumed to have good prospects for rehabilitation. This may imply that those with what might be argued in court as an ‘untreatable illness’, such as an ID, are assumed to have poor prospects for rehabilitation which may result in longer sentences of imprisonment. Further, in the case of R v Curtain (2007) the existence of a treatment programme for the behaviour is argued to affect the sentencing. In the case of fire setting among persons with ID, the lack of specialist treatment programmes for this group is of concern, for both clinical and legal reasons.

Although there are several principles that should be taken into account when sentencing persons with ID charged with arson, judges in the current study placed the most focus on the seriousness of the crime and protection of the community. Less focus was placed on the issue of moral culpability in these cases. These findings are in contrast to cases in which the mental health of the person is identified as the main concern. Judges seem to be acknowledging the person’s ID,
and the impact that this may have had on the commission of their offence, as can be observed in some cases where judges have noted they handed down a reduced sentence to such offenders because of their ID.

An important issue is the use of diversion programmes for fire setters with ID. It is likely (though exact figures remain unknown) that many people with ID, especially when the disability is severe, do not reach the court system and alternatively participate in a diversion programme. This may result in them being placed in a mental health facility until a time at which they are regarded as rehabilitated. It may relate to the view that ‘prison will do the person more harm than good’, and that the person will not receive appropriate treatment in prison.

One limitation of the current study is that case law is generally only publicly available for cases that make a new contribution to the law, and as such the cases in this study might not necessarily be considered representative of all cases that reach the criminal justice system. Further, there was difficulty gaining access to the records of all courts across Australia, resulting in potential cases not being available for inclusion. Furthermore, an inability to retrieve police statistics from the Northern Territory will have reduced the number of cases located - though this jurisdiction represents only a very small proportion (approximately 1%) of the Australian population (Australian Bureau of Statistics, 2012), and thus it is likely that only a small number of cases were missed. The review also relied on the court formally recognising or acknowledging the person as having an ID. The extent to which the court system consistently does this is unclear, particularly for those persons with a borderline ID, and those who are not already known to state disability services (Hayes, 1993, 1996). Lastly, as co-morbid mental disorder was prevalent in most of the cases included in this study, consideration needs to be given to the ability to attribute judges’ comments and sentencing considerations solely to the persons ID, and not to the other significant problems they may have experienced, or are currently experiencing. As aforementioned, ID does not tend to occur in isolation, and as such finding a sample containing persons with an ID who are not experiencing other problems in their life would be difficult.

This study does provide important insights into the judiciary’s sentencing considerations for persons with an ID who have been charged with arson. It
highlights the importance of judicial discretion at the point of sentencing, together with the need to develop specific guidelines for sentencing persons with ID.

Australia has seen a proliferation of programmes that enable those with a mental disorder or an ID to be diverted from the usual court processes (e.g., in South Australia, the Magistrates’ Court Diversion Programme; in NSW, Section 32 of the Mental Health Act 1990; and in Tasmania, the Magistrates Court Mental Health Diversion List). The intent behind these initiatives is to ensure the defendant is receiving the appropriate legal considerations, and has access to rehabilitation. In South Australia, for example, the Magistrates’ Court Diversion Programme enables the person to receive the appropriate treatment for a period of six months, after which point the Magistrate can either dismiss the matter or convict the person without penalty (Thomas, 2010). Further, police diversion (as discussed previously) may have also taken place before the person reached the court system. It is not clear whether such provisions are being utilised in the case of offenders with ID charged with arson, though it is likely that because of both formal and informal diversionary procedures, the cases in the current review are not necessarily representative of all fire setters with ID.

Diversionary procedures tend to align with the principles of therapeutic jurisprudence, which requires all those involved in the court processes to consider the therapeutic (or anti-therapeutic) effects of the criminal justice system on the accused (Wexler & Winnick, 1996). In the case of persons with ID, this might involve recognising the person’s disability at their entry into the criminal justice system and securing access to diversion, when appropriate. When these persons reach the court system, they should then receive appropriate treatment and assistance throughout the legal process.

In conclusion, this chapter describes some characteristics and judicial sentencing experiences of persons with ID who have been charged with arson. Although these cases are not necessarily representative of the general fire setting and arsonist population, and are likely better described as example of the most serious offences, they highlight the need to consider the specific needs of persons with both mental disorder and cognitive impairment to ensure that well researched treatment programmes are available. The cases presented in this chapter also
demonstrate that whilst there was no significant difference between the average length of sentences given, judges reported that they were providing reduced sentences to persons with ID due to them not being suitable for the principle of deterrence, and because of their low levels of moral culpability. Concurrently, judges appear to be placing emphasis on the sentencing process as a means to protect the community and rehabilitate offenders; highlighting the expectation of the courts that comprehensive programmes of treatment and support, both in custodial and community settings, are available. The extent to which such programmes are available and effective is addressed in Chapter 6.

The cases included within this study represent only a small subset of fire setters in Australia. They highlight the systemic barriers that exist to attaining data about fire setting generally in Australia, and more specifically, about fire setters with ID. Without good quality data, it is not possible to further develop our understanding of fire setters with ID, and consequently to determine where and how resources should be allocated to appropriately prevent such offences from occurring, and to provide effective, evidence-based rehabilitation. Specifically, the identification of persons with ID in their interactions with justice system need to be better documented by both the police and the courts, and made available for statistical surveillance and research.
Chapter Five: Community and Professional Attitudes Toward the Rehabilitation of Fire Setters with ID

Following the investigation of the response by the criminal justice system to persons with ID who have been charged with arson, and the views expressed by the judiciary concerning their treatment and rehabilitation needs, this chapter presents a series of studies investigating both community and professional attitudes toward the rehabilitation of fire setters with ID. The focus of this chapter is on developing and increasing awareness of fire setters with ID, given the lack of available data preventing any further analyses of their characteristics and needs. Rather than await further data to be collected, which is unlikely to happen in the near future, the thesis will now focus on determining the level of awareness that both the community and professionals have of fire setters with ID, through investigating their attitudes toward their rehabilitation. Increasing awareness is essential to begin the process of political change in this area, which is needed to ensure accurate and appropriate data collection and resource expenditure.

In addition, this chapter will report and analyse views and recommendations of professionals concerning the essential components of rehabilitation for fire setters with ID, and will review what adaptations could be made to current programmes/services, to make them more applicable to fire setters with ID.

Introduction

It is well established that community attitudes have a strong influence on public policy and the allocation of resources, including the funding of specialised programmes for minority groups (e.g. Latimer, Harwood, Newcomb, & Wagenaar, 2003). Understanding community attitudes toward persons with ID is of particular interest, given that negative attitudes towards people with disability are not only common (Enhance Management, 1999; Posner, 1968; Tak-fai Lau & Cheung, 1999; Yazbeck, McVilly, & Parmenter, 2004), but can detrimentally impact on their inclusion into the wider community (Gilmore, Campbell, & Cuskelley, 2003). In addition, community attitudes towards offenders are often negative, particularly in relation to offences that cause high levels of harm, such as sexual offences (see Shackley, Weiner, Day, & Willis, 2014).
One study conducted in the United States by Hirschfield and Piquero (2010) analysed the attitudes of 2,282 individuals toward ex-offenders. They noted that the many people within their sample endorse the ‘dangerous’ and ‘dishonest’ stereotypes of ex-offenders. Only a small minority of their participants indicated that they would be willing to associate with a person who had been recently incarcerated. Such stereotypes can negatively influence attitudes towards offenders (Kjelsberg & Loos, 2008), and in turn their rehabilitative prospects. Other international studies have indicated that the public are broadly supportive of a range of punitive responses to crime; including long sentences, mandatory minimum sentences, and three strikes laws (Cullen, Fisher, & Applegate, 2000; Maruna, Matrvers, & King, 2004; Tyler & Boeckmann, 1997). Further, a study by Brown (1999) in Cardiff, Wales, reported that 51% of the 312 participants felt that rehabilitation for sex offenders was a good idea, but the same proportion reported that such rehabilitation should be delivered in prison. In short, there would appear to be considerable support for the punishment of offenders, even where support exists for offender rehabilitation. However, there have been no previous studies of attitudes towards fire setters in particular. This is despite evidence that public attitudes play a very important role in influencing policies and resource allocation within the criminal justice system (Maruna et al., 2004).

Fire setters with ID are a group of particular interest given suggestions that, compared to persons without ID, arson has been identified to be a relatively common crime committed by persons with ID (Ducat, McEwan, et al., 2013; Hogue et al., 2006; Lindsay et al., 2010; Rose et al., 2008) and the relatively high risk of re-offending (Devapriam et al., 2007). In Australia, the involvement of persons identified by professionals as having an ID in fire setting behaviour was highlighted on two separate occasions when persons with ID were implicated in the ‘Black Saturday’ Australian bushfires (see R v Sokaluk, 2012; Australian Broadcasting Corporation [ABC], 2011). These bushfires received particularly negative media coverage, which may have promoted negative stereotypes, and in turn more punitive community attitudes towards offenders, and especially those with ID (see Rogers, Hirst, & Davies, 2011). In addition, offenders with ID may present a particular set of challenges for rehabilitation, including limited social skills,
impulsivity, an inability to understand consequences of their actions, and an inability to resist temptation (Johnson, 2004). Awareness of any combination of these factors by the public may result in a lack of confidence in the effectiveness of rehabilitation for these offenders and reduced support for resources being allocated to rehabilitative activities.

Professional attitudes, such as those of psychologists, psychiatrists, social workers and others working with offenders, and particularly those with ID, are also important, given they influence service development and delivery (Lyall, Holland, & Collins, 1995). Importantly, a good therapeutic relationship (therapeutic alliance) between the professional and the offender is essential (Bordin, 1979). To these ends, Bordin (1979) identifies that a successful working alliance relies on three factors: the bond between the client and the professional; the degree to which the client and professional agree on the goals of counselling; and the degree to which the client and professional agree on the tasks used to reach those goals. Consistent with this proposition, Saunders (1999) noted that client’s valued treatment more, and engaged further, when the therapist was more emotionally engaged, had more positive feelings toward them, and had confidence in them. If the professional holds attitudes that are not supportive of rehabilitation effectiveness, and the eventual reintegration into the community of fire setters with ID, then this may undermine the success of rehabilitation. As such, it is important that professionals’ attitudes are better understood.

Furthermore, as the literature is sparse regarding the needs of fire setters with ID, understanding professionals’ views on the need for treatment, and what treatment should be comprised of are also important aspects in rehabilitation development and provision. Some research has indicated important considerations for adapting treatment for persons with ID, such as simplifying language, setting an agenda, guided discovery, and monitoring thoughts and feelings (Lindsay, Jahoda, Willner, & Taylor, 2013). However, these have not been investigated in the specific context of treatment for fire setting.

Consequently, the aims of the current investigation were five-fold. First, to develop a measure which could assess attitudes towards persons with ID who engage in fire setting. Secondly, to assess community attitudes towards fire setters
with ID. Thirdly, to assess the attitudes of professionals working with this subset of the population towards their clients, and their clients’ rehabilitation prospects. Fourthly, to investigate any possible differences between community attitudes and those of professionals working with fire setters with ID. Fifthly, to determine whether professionals think there is a need for a specialist rehabilitation programme for fire setters with ID, and if so whether they think a manual would be useful, as well as determining the components they think would be important in developing such a programme.

It was therefore proposed to adapt an existing tool, the Attitudes Toward the Treatment of Sex Offenders Scale (ATTSO; Wnuk, Chapman, & Jeglic, 2006), to focus on fire setters with ID. Furthermore, based on the literature relating to attitudes towards both people with ID and offenders, it was hypothesised that community attitudes would not only be generally negative, but that support for rehabilitation would be low. It was further hypothesised, based on the literature documenting the positive effects of being in regular contact with people with disability that, in contrast to the views of the wider community, professionals’ attitudes towards fire setters with ID and their prospects for rehabilitation would be relatively more positive.

**Part One: Development of the Attitudes Scale and Measurement of Community Attitudes**

**Method**

**Ethics Approval**

The proposal for the following study was reviewed and approved by the Deakin University Human Research Ethics Committee; 2012-128 (see Appendix D).

**Materials**

Attitudes Toward the Rehabilitation of Intellectually Disabled Arsonists scale (ATRIDA).

To create the *Attitudes Toward the Rehabilitation of Intellectually Disabled Arsonists Scale* (ATRIDA), minor modifications were made to the original *Attitudes Toward the Treatment of Sex Offenders Scale* (ATTSO; Wnuk, Chapman, & Jeglic, 2006). The Attitudes Toward the Treatment of Sex Offenders (ATTSO) scale was designed to elicit the public’s views towards the treatment of sex offenders in a standardised, psychometrically sound way. Wnuk et al. (2006) used 170
undergraduate students from a New York university, who were enrolled in an introductory psychology course. The mean age was 19.8 years (range 18-47 years), and 68% were female. The authors initially developed 35 items based on statements commonly encountered regarding the sex offender population, as well as modifications of items from other attitudinal scales. Responses were measured on a 5-point Likert scale; ranging from 1 (strongly disagree) to 5 (strongly agree). A factor analysis was conducted, and of the initial 35 items, 15 were found to perform well, falling into three factors: incapacitation, treatment ineffectiveness and mandated treatment. Subsequently, it was reported that: those who score high on incapacitation believe offenders should be punished, not treated; those who score high on treatment ineffectiveness believe that treatment doesn’t work; and finally, those who score high on mandatory treatment believe mandatory treatment is necessary (Church, Sun, & Li, 2011). The scale and each of its factors were found internally consistent (Cronbach’s alphas of 0.86, 0.88, 0.81, 0.78, respectively).

For the current adaptation, the phrase ‘sex offender’ from the original ATTSSO was replaced with the phrase ‘offenders with intellectual disability who have an offence of arson or fire setting’. In addition, for question one, the word treated was changed to rehabilitated to ensure there was no confusion about what was meant by ‘treated’ in the context of that particular question. All other questions using the word ‘treatment’ were considered to be clear to participants.

Subsequently, the ATRIDA was a 15 item questionnaire that asks participants to rate their level of agreement on a 5-point Likert scale; where 1 was strongly disagree and 5 was strongly agree. An example of an item from this scale is ‘Regardless of treatment, all offenders with intellectual disability who have an offence of arson or fire setting will eventually reoffend’.

The Social Desirability Scale 17 (SDS-17).
As part of the study, the Social Desirability Scale 17 (SDS-17; Stober, 2001) was utilised to assess if participants’ responses might have been biased in a socially desirable way. This was an important consideration given the socially controversial nature of the questions, and the need to be aware of any such bias in the subsequent analysis.
The SDS-17 consists of 16 true or false questions (item four was deleted from the original scale after a further validation study by the author). An example of an item from this scale is ‘I occasionally speak badly of others behind their back’. The SDS-17 scale has been found to be internally consistent (alpha=0.80), and valid on adult populations between the ages of 18 and 80 (Stober, 2001).

Procedure
Participants for the community sample were recruited via a link advertised on the social networking site Facebook. Participants were provided with a short description of the study, and if they agreed to undertake the survey were provided with the Plain Language Statement (see Appendix E). Consent was assumed upon completion of the questionnaire by the respondent. The survey for community members was estimated to take approximately 10 minutes to complete (see Appendix G for survey items).

Data Analysis
Data analysis was conducted using SPSS-21. An exploratory factor analysis was undertaken to determine whether the original ATTSO scale could be successfully modified to be useful for identifying attitudes toward rehabilitation of offenders with ID who set fires. Exploratory factor analysis was selected as it was anticipated there might be differences in the factor structure from the original ATTSO scale, due to a combination of the change in wording and the new topic of focus.

For the purpose of the current study, and to remain consistent with the initial scale development, the factor analysis utilised items in their original direction of scoring. Principal Components Analysis (PCA) was utilised as the extraction method, and a direct oblimin rotation was applied to the extraction to allow for the components to be related (Field, 2005), based on the correlation observed between two of the three factors from the original ATTSO scale.

The internal consistency of the scale was assessed, using Cronbach’s alpha. Furthermore, reliability was assessed by means of a split-half reliability analysis.
Results

Participants
There were 149 participants. The mean age of the participants was 28.54 years ($SD=9.32$), ranging from 18 to 63 years. They comprised 72.3% females. Ninety one (61%) had a tertiary degree, 18 (12%) had completed a TAFE course and 40 (27%) reported high school as their highest level of education. The majority (97.3%) stated their country of residence was Australia, with one participant from each of Canada, Germany, Singapore and the UK. Participants from outside of Australia were retained for data analysis purposes as they did not contribute any outliers to the data, and as the questions were not directly measuring Australian attitudes their results were not considered to contaminate the findings.

A total of 113 (76.9%) of the participants reported knowing someone with ID. Of these 40 (42.5%) had a family member with ID, 50 (44.2%) had a friend with ID, 27 (23.9%) had a client with ID, and 16 (14.1%) knew a person with ID from elsewhere, such as being a student of theirs (seven participants). Of those who had experienced some form of fire setting, none had experienced fire setting to their home, seven (15.9%) had experienced fire setting to their property other than their home, six (13.6%) to their land and 37 (84.1%) had been affected by a bushfire.

Participants’ ratings on the SDS-17 (Stober, 2001) indicated a mean social desirability rating of 8.62 ($SD=1.81$). As Stober (2001) does not present cut-offs, the findings from the current study were compared to a more recent study using the scale. Tran, Steiger, and Voracek (2012) investigated the SDS-17 using five subgroups; a community sample comprising 1612 persons (48.9% female) with a mean age of 30 years ($SD=10.9$), 351 medical undergraduates (56.4% female) with a mean age of 26.1 years ($SD=3.4$), 60 gay men and lesbian women (50% female) with a mean age of 31.2 ($SD=8.3$), 404 psychology undergraduates (73% female) with a mean age of 21.8 years ($SD=5$), and a combined sample of 390 medical undergraduates, psychology undergraduates, and the general population (74.6% female) with a mean age of 27.2 ($SD=10.1$). The gender splits of the subgroups, along with their average ages, meant that comparison to the current sample in regard to cut-offs would be useful. Tran, Steiger, and Voracek (2012) found that across differing subgroups an average SDS-17 score of 7.84 ($SD=3.28$) was reported,
which is very similar to the current study. To further investigate if there was any relationship between the ATRIDA scores and participants’ tendency towards social desirability, correlations between the total SDS-17 score and the subscales of the ATRIDA were conducted. All correlations were non-significant. As such, the results of the study are unlikely to be influenced by the phenomena of social desirability.

The distribution of participant responses on the ATRIDA are given in Table 13. For all of the questions there was general agreement amongst respondents on the ATRIDA statements. The neutral response was the most common choice for only one question, which was item number two. A large majority of participants strongly disagreed that fire setters with ID should be executed (91.9%), and over three quarters disagreed that these offenders should not be released back into the community. Instead, 87.9% felt that it was important for fire setters with ID to receive treatment if they are to be released, and over 75% felt we need to urge our politicians to make treatment programmes for fire setters with ID mandatory. Further, 68.4% believed these offenders could be rehabilitated.

**Factor Analysis of the ATTSO**

The sample size (N=149) was considered sufficient for exploratory factor analysis, based on MacCallum, Widaman, Zhang, and Hong (1999) who suggest that for communalities ranging from 0.5 upwards, a sample size between 100 and 200 would be adequate to ensure the impact of sampling error is low. Item communalities are reported in Table 15. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.86, indicating there was a strong correlation between variables, rendering the data suitable for factor analysis. Furthermore, Bartlett’s test of Sphericity was significant, $\chi^2(105) = 795.03$, $p<0.001$, which indicated that the model varied significantly from that of an identity matrix; i.e., the variables do relate to one another sufficiently for a meaningful factor analysis to be run.

The criterion used for number of factors to be extracted was the Kaiser-Guttman rule, which involved extracting factors with eigenvalues greater than or equal to one. This revealed four factors (See Table 14). This was consistent with visual examination of the Scree Plot. The 15 items accounted for 62.46% of the scale variance. All items loaded on to the expected factors based on the original ATTSO scale, however the factor that was labelled ‘treatment ineffectiveness’ has
been relabelled ‘treatment effectiveness’ due to the factor loadings that resulted from the analysis. Further, inconsistent with the original ATTSO factor analysis, one item loaded onto a fourth factor.

An exploratory factor analyses revealed the factor structure of the ATRIDA was similar to that of the ATTSO, though one item (item 4) was removed from the final ATRIDA scale due to multiple factor loadings. After removing item four, the ATRIDA exhibited high levels of internal consistency (Cronbach’s alpha $\alpha = 0.80$). Furthermore, it demonstrated relatively strong split-half reliability (Spearman-Brown coefficient $\rho = 0.75$).

The emergent fourth factor comprised of only one item that strongly loaded onto the factor (0.87). The item identified attitudes toward execution of these offenders, and as such the factor was labelled ‘extreme punishment’. Consistent with Wnuk et al. (2006), Factors I (incapacitation) and II (mandatory treatment), and II and III (treatment effectiveness) were not correlated, though incapacitation was negatively correlated with treatment effectiveness, though this was only in the mild range ($r = -0.33$). This was to be expected as the incapacitation subscale suggests that treating offenders will not be successful. Three items loaded onto both incapacitation and treatment effectiveness (e.g. item numbers 1, 5, 6). Although this was to be expected based on the correlation between the factors, it highlights the finding that those who support incapacitation do not believe that treatment will be effective.
<table>
<thead>
<tr>
<th>Question</th>
<th>Community Responses to the 4-TIDA scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I believe that offenders with intellectual disability who have an offence of arson or fire setting can be rehabilitated.</td>
<td>65.8% 24.2% 7.4% 3% 1.3%</td>
</tr>
<tr>
<td>2. Treatment programs for offenders with intellectual disability who have an offence of arson or fire setting are effective.</td>
<td>87% 1.3% 7.1% 26.8% 51.0%</td>
</tr>
<tr>
<td>3. Psychologists will not work with offenders with intellectual disability who have an offence of arson or fire setting.</td>
<td>0.7% 18.1% 71.1% 21.5% 47.7%</td>
</tr>
<tr>
<td>4. People who want to work with offenders with intellectual disability who have an offence of arson or fire setting are crazy.</td>
<td>0.7% 7.4% 23.5% 57% 11.4%</td>
</tr>
<tr>
<td>5. Regardless of treatment, all offenders with intellectual disability who have an offence of arson or fire setting will eventually reoffend.</td>
<td>7.4% 24.2% 7.4% 3% 1.3%</td>
</tr>
<tr>
<td>6. Offenders with intellectual disability who have an offence of arson or fire setting can be helped using proper techniques.</td>
<td>65.8% 24.2% 7.4% 3% 1.3%</td>
</tr>
<tr>
<td>7. Treatment doesn't work, offenders with intellectual disability who have an offence.</td>
<td>7.4% 24.2% 7.4% 3% 1.3%</td>
</tr>
<tr>
<td>OL</td>
<td>FL</td>
</tr>
<tr>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>69.8</td>
<td>20.8</td>
</tr>
<tr>
<td>91.9</td>
<td>6.0</td>
</tr>
<tr>
<td>53.0</td>
<td>4.0</td>
</tr>
<tr>
<td>45.6</td>
<td>7.4</td>
</tr>
<tr>
<td>24.2</td>
<td>52.5</td>
</tr>
<tr>
<td>6.0</td>
<td>15.4</td>
</tr>
<tr>
<td>16.8</td>
<td>49.7</td>
</tr>
</tbody>
</table>

1. Offenders with intellectual disability who have an offense of arson or the setting should never be released should be executed.

2. Offenders with intellectual disability who have an offense of arson or the setting don't need treatment since they choose to commit the crime.

3. Offenders with intellectual disability who have an offense of arson or the setting don't deserve another chance.

4. Arson of the setting being released receive treatment.

5. It is important that all offenders with intellectual disability who have an offense of arson or the setting should not be released back into the community.

6. Offenders with intellectual disability who have an offense of arson or the setting should go for treatment even if they don't want to.

7. All offenders with intellectual disability who have an offense of arson or the setting 8. We need to urge our politicians to make treatment programs for offenders with intellectual disorder.

9. Offenders with intellectual disability who have an offense of arson or the setting mandatory.
This study only presents the first step in validating this tool, and further analyses such as construct validity, criterion validity, and test-retest reliability, still need to be established. In addition, there are limitations that need to be taken into consideration when interpreting the results. The sample size was relatively small and comprised mainly of females. Almost three quarters of the sample were female, which may have altered the results as previous research has found that females are more supportive of offender treatment and less supportive of punishment than men (Applegate, Cullen, & Fisher, 2002; Roberts & Indermaur, 2007). An additional limitation is the differences in the sample size for those who knew someone with an ID and who had experienced fire setting, and those who did not know someone with ID and who had not experienced either of these. The over-representation of people who knew someone with ID may have resulted in less punitive results, particularly if the person known with ID was a family member, and the high number of persons who had experienced bushfires may have resulted in more punitive attitudes. Furthermore, over half of the sample had a tertiary education, which is not representative of the general population. Previous research indicates that those with higher education levels tend to hold less punitive attitudes (Dowler, 2002; Payne, Gainey, Triplett, & Danner, 2004; Roberts & Indermaur, 2007; Rossi & Berk, 1997; White & Knowles, 2013). As a result of the limitations of the sample, the findings cannot be considered representative, for the purposes of establishing norms for the wider population, and further testing would need to be undertaken using a representative sample.
<table>
<thead>
<tr>
<th>Item</th>
<th>1. Incarceration</th>
<th>2. Manditory</th>
<th>3. Treatment</th>
<th>4. Treatment</th>
<th>Effectiveness</th>
<th>Punishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.64</td>
<td>Offenders with intellectual disability who have an offence of arson or fire setting should come back into the community.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.77</td>
<td>Offenders with intellectual disability who have an offence of arson or fire setting should be incarcerated for life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.76</td>
<td>Treatment doesn't work, offenders with intellectual disability who have an offence of arson or fire setting don't deserve another chance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.79</td>
<td>Offenders with intellectual disability who have an offence of arson or fire setting should never be released.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.85</td>
<td>Offenders with intellectual disability who have an offence of arson or fire setting should never be released.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale Rotated Factor Pattern Matrix

Table 1.4
It is important that all offenders with intellectual disability who have an offense of arson or fire setting are effectively treated.

2. Treatment programs for offenders with intellectual disabilities

6. Offenders with intellectual disability who have an offense of arson or the setting can be rehabilitated.

0.72

4. I believe that offenders with intellectual disabilities who have an offense of arson or fire setting can be helped using proper techniques.

0.64

5. Regardless of treatment, all offenders with intellectual disabilities who have an offense of arson or fire setting will eventually reoffend.

0.36

3. Psychotherapy will not work with offenders with arson or fire setting should be executed.

0.81

0.87

0.38

0.42
9. All offenders with intellectual disability who have an offence of arson or fire setting should go for treatment even if they don’t want to.

8. We need to urge our politicians to make treatment programmes for offenders with intellectual disability who have an offence of arson or fire setting mandatory.
1. I believe that offenders with intellectual disability who have an offence of arson or fire setting can be rehabilitated.

2. Treatment programs for offenders with intellectual disability who have an offender of arson or fire setting are effective.

3. Psychotherapy will not work with offenders with intellectual disability who have an offence of arson or fire setting.

4. Regardless of treatment, all offenders with intellectual disability who have an offence of arson or fire setting will eventually require treatment.

5. We need to urge our politicians to make treatment programs for offenders with intellectual disability who have an offence of arson or fire setting mandatory.

6. Offenders with intellectual disability who have an offence of arson or fire setting can be helped using proper techniques.

7. Treatment doesn’t work, offenders with intellectual disability who have an offence of arson or fire setting should be incarcerated for life.

8. All offenders with intellectual disability who have an offence of arson or fire setting should go for treatment even if they don’t want to.

9. Offenders with intellectual disability who have an offence of arson or fire setting should not be released back into the community.

<table>
<thead>
<tr>
<th>Item</th>
<th>Communalties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 15</td>
<td>Communalties</td>
</tr>
</tbody>
</table>
0.72

15. Offenders with intellectual disabilities who have an offence of arson or fire setting should never be released.

0.82

14. Offenders with intellectual disabilities who have an offence of arson or fire setting should be executed to commit the crime.

0.51

13. Offenders with intellectual disabilities who have an offence of arson or fire setting don’t need treatment since they chose to receive treatment.

0.70

12. Offenders with intellectual disabilities who have an offence of arson or fire setting don’t deserve another chance.

0.64

11. It is important that all offenders with intellectual disabilities who have an offence of arson or fire setting being released.
Part Two: Professional Attitudes

As the scale performed well psychometrically in initial testing, it was utilised to measure attitudes toward the rehabilitation of fire setters with ID in a sample of professionals.

Method

Ethics Approval
The proposal for the following study was reviewed and approved by the Deakin University Human Research Ethics Committee; 2012-128 (see Appendix D).

Materials
Attitudes Toward the Rehabilitation of Intellectually Disabled Arsonists scale (ATRIDA).
The second component of the study utilised the ATRIDA, the final 14 item scale developed in Part One of the current series of studies.

The Social Desirability Scale 17 (SDS-17).
The SDS-17 (Stober, 2001) was also utilised in the second study to assess whether professionals’ responses might have been biased in a socially desirable way.

Procedure
Participants in this study were all professionals, working with offenders with ID. They were recruited via a snowballing method in which emails were sent to persons known to the researchers who might be interested, as well as organisations who may have an interest. The email asked those recipients to forward the email to others who may also be interested. Participants were provided with a short description of the study, and if they agreed to undertake the survey were provided with the Plain Language Statement (see Appendix F). Consent was assumed upon completion of the questionnaire by the respondent. The professionals’ survey was estimated to take approximately thirty minutes to complete (see Appendix H for survey items).

Data Analysis
Descriptive analyses were undertaken on the data to determine professionals’ responses on the ATRIDA scale.
Results

There were 17 participants in the professionals’ sample. The average age was 37.71 years (SD=10.40), which was significantly higher than the age of the community sample (t=-3.48, p<.01), and 11 (64%) were female, a lower proportion than the 75% of females in the community sample. Four people from the sample worked as a social worker/case manager/welfare worker, nine as psychologists, two as psychiatrists, one as a behaviour support practitioner, and one as a social educator. Eleven participants worked in the government sector, with the remaining working in the community sector. Just under a third of participants had experience working in both corrections and disability settings, two had corrections experience only, and nine had only worked in disability settings, rather than correctional facilities. On average, those with corrections experience had 5.62 years (SD=1.94) of experience, those who had only worked in disability settings had an average of 8.55 years (SD=6.04) of experience, and those who had experience with both had an average of 6.90 years (SD=5.39) of experience.

The mean score for the SDS-17 was 10.18 (SD=3.54). This was observed to be slightly higher than previous studies (e.g. Tran, Stieger, & Voracek, 2012). To further investigate if there was any relationship between the ATRIDA scores and participants’ tendency towards social desirability, correlations between the total SDS-17 score and the subscales of the ATRIDA were conducted. All correlations were non-significant. As such, the professionals’ results were deemed unlikely to have been influenced by social desirability.

The distribution of the professional responses by experience type are presented in Table 16 as frequencies rather than percentages, due to the small sample size. Over three quarters of the sample agreed that fire setters with ID can be rehabilitated, with the remaining respondents responding in the neutral response category. More than half of the sample, however, responded that they were unsure as to whether treatment programmes for these offenders were effective. While fifteen professionals disagreed that regardless of treatment all fire setters with ID would reoffend, 16 believed these offenders could be helped using proper techniques. All professionals disagreed with the statements that fire setters with ID don’t deserve another chance; that they don’t need treatment since they
chose to commit the crime; that they should be executed; and that they should never be released.

It could therefore be concluded that professionals acknowledge the rehabilitative potential of fire setters with ID, but have concerns about the effectiveness of existing programmes. Professionals generally believed that fire setters with ID could be released into the community, and that they could be helped using the appropriate techniques.
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<td>4</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<td>3</td>
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<td>2</td>
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<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

**Table 16**

Frequency of responses to each item by professionals on the ATLDA scale.
Part Three: Comparing Community and Professional Attitudes

Method

This component of the study utilised both samples as described above, and compared their responses on the ATRIDA.

Data Analysis

A series of independent sample t tests were conducted to compare the community sample with the professional sample on attitude measures.

Results

Participant Group Cohesion

Prior to comparing the community group with the professional group, a number of within group characteristics were explored to appraise group cohesion. First, the professional group was considered in the context of their experience of people with disability and their experience of the corrections system (see Table 17). For these purposes, an independent sample t test was conducted. No significant differences were found between the professionals on the subscales. Thus it was concluded that they could be grouped together as an overarching “Professionals” group.

The same process was undertaken for the community sample to ensure there were no differences between those who knew someone with ID and those who did not, those who had experienced fire setting and those who had not, and those who both knew someone with ID and who had experienced fire setting. Mean scores are provided in Table 18. As no significant differences arose between these subgroups of the community sample, it was concluded that they could be grouped together as an overarching “Community” group.

Community versus Professional Attitudes

To compare the differences between professionals and community members on attitudes toward the rehabilitation of fire setters with ID, further independent sample t tests were utilised where the Levene’s Test for Equality of Variances revealed equal variances between the samples, and Welch’s t tests were conducted where the variance was unequal. The results are presented in Table 19.
An independent sample t test revealed that the members of the community scored significantly higher on incapacitation ($t=-5.81$, $p<0.001$), Mandatory Treatment ($t=-2.39$, $p<0.05$), and Extreme Punishment ($t=-3.04$, $p<0.01$) than professionals with experience in either disability, corrections, or both. The community sample scored lower on treatment effectiveness than professionals ($t=2.00$, $p<0.05$).

Table 17

_Mean scores on the ATRIDA subscales of those with disability only, corrections only, and both corrections and disability experience_

<table>
<thead>
<tr>
<th>Experience</th>
<th>N</th>
<th>Incapacitation $M (SD)$</th>
<th>Mandatory Treatment $M (SD)$</th>
<th>Treatment Effectiveness $M (SD)$</th>
<th>Extreme Punishment $M (SD)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability only</td>
<td>Yes</td>
<td>9</td>
<td>7.55 (1.51)</td>
<td>11.22 (2.11)</td>
<td>13.89 (1.83)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>8</td>
<td>7.50 (1.77)</td>
<td>10.75 (1.67)</td>
<td>13.87 (1.46)</td>
</tr>
<tr>
<td>Corrections only</td>
<td>Yes</td>
<td>2</td>
<td>6.50 (0.71)</td>
<td>10.00 (2.83)</td>
<td>13.50 (0.71)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>15</td>
<td>7.67 (1.63)</td>
<td>11.13 (1.81)</td>
<td>13.93 (1.71)</td>
</tr>
<tr>
<td>Disability &amp; Corrections</td>
<td>Yes</td>
<td>5</td>
<td>8.00 (2.12)</td>
<td>11.00 (1.58)</td>
<td>14.40 (1.52)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>12</td>
<td>7.33 (1.37)</td>
<td>11.00 (2.04)</td>
<td>13.67 (1.67)</td>
</tr>
</tbody>
</table>

Overall, both the professionals and those in the community sample scored relatively low on incapacitation. The possible range of scores for incapacitation is 6-30, and the professional sample scored 7.53 and the community sample only slightly higher at 10.33. In addition, all professionals and the majority of community respondents scored the lowest possible score for extreme punishment (range 1-5).
In contrast, professionals and community members scored much higher for mandatory treatment, 11 and 12.17 respectively, which has a possible range of 3-15. Treatment effectiveness was also quite high for both samples, with a possible range of 4-20, and both groups scoring around 13.

Table 18

*Mean scores on the ATRIDA subscales for those who know someone with ID only, who have experienced fire setting only, and who both know someone with ID and have experienced fire setting*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Incapacitation M (SD)</th>
<th>Mandatory Treatment M (SD)</th>
<th>Treatment Effectiveness M (SD)</th>
<th>Extreme Punishment M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know someone with ID only</td>
<td>Yes</td>
<td>81</td>
<td>10.68 (4.06)</td>
<td>12.23 (1.86)</td>
<td>13.05 (1.48)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>68</td>
<td>9.93 (2.82)</td>
<td>12.09 (1.98)</td>
<td>13.23 (1.39)</td>
</tr>
<tr>
<td>Experienced fire setting only</td>
<td>Yes</td>
<td>7</td>
<td>11.29 (3.40)</td>
<td>12.43 (1.90)</td>
<td>13.29 (1.11)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>142</td>
<td>10.29 (3.57)</td>
<td>12.15 (1.92)</td>
<td>13.13 (1.46)</td>
</tr>
<tr>
<td>Know someone with ID, &amp;</td>
<td>Yes</td>
<td>37</td>
<td>10.49 (3.63)</td>
<td>11.70 (2.33)</td>
<td>13.30 (1.45)</td>
</tr>
<tr>
<td>experienced fire setting</td>
<td>No</td>
<td>112</td>
<td>10.28 (3.54)</td>
<td>12.32 (1.74)</td>
<td>13.08 (1.44)</td>
</tr>
</tbody>
</table>

These results indicate that, in comparison to the professionals, the community are more likely to think these offenders should be punished and placed in prison. Furthermore, it would appear that people in the wider community would support people being mandated to attend treatment, are less likely to believe treatment will work, and are slightly more favourable to extreme punishment than professionals.
Table 19

Means of the professional and community sample on the subscales of the ATRIDA

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Incapacitation M (SD)</th>
<th>Mandatory Treatment M (SD)</th>
<th>Treatment Effectiveness M (SD)</th>
<th>Extreme Punishment M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Sample</td>
<td>17</td>
<td>7.53 (1.58)</td>
<td>11.00 (1.87)</td>
<td>13.88 (1.61)</td>
<td>1 (0)</td>
</tr>
<tr>
<td>Community Sample</td>
<td>149</td>
<td>10.33 (3.55)***^</td>
<td>12.17 (1.91)*</td>
<td>13.13 (1.44)*</td>
<td>1.11 (0.46)**^</td>
</tr>
</tbody>
</table>

Note: *p<0.05, **p<0.01, ***p<0.001 ^Welch’s t test conducted due to unequal sample sizes.

To determine whether professionals who had worked in only disability settings, and community members who knew someone with ID held similar attitudes which may have reduced the likelihood of finding differences between the two samples, a further independent samples t test was conducted (see table 20).

Table 20

Means of professionals who had disability only experience and community members who knew someone with ID on the subscales of the ATRIA

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Incapacitation M (SD)</th>
<th>Mandatory Treatment M (SD)</th>
<th>Treatment Effectiveness M (SD)</th>
<th>Extreme Punishment M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionals who worked in disability</td>
<td>10</td>
<td>7.50 (1.43)</td>
<td>11.20 (1.99)</td>
<td>13.70 (1.83)</td>
<td>1.0 (0)</td>
</tr>
<tr>
<td>Community members who knew someone with ID</td>
<td>113</td>
<td>10.42 (3.79)***^</td>
<td>12.11 (1.99)</td>
<td>13.14 (1.48)</td>
<td>1.12 (0.48)</td>
</tr>
</tbody>
</table>

Note: ***p<0.001 ^Welch’s t test conducted due to unequal sample sizes.

Community members who knew someone with ID scored significantly higher on incapacitation, indicating they are more likely to support sending fire setters with ID to prison than professionals who work in disability settings. There were no other significant differences between the two groups, though community members...
scored slightly higher than professionals on mandatory treatment and extreme punishment. A closer inspection of individual questions demonstrates that the members of the community sample who knew someone with ID scored significantly higher on the following items:

- All offenders with ID who have an offence of arson or fire setting should go to treatment, even if they don’t want to ($M=3.90 \text{ v } M=3.20$)
- Offenders with ID who have an offence of arson or fire setting should not be released back into the community ($M=2.01 \text{ v } M=1.40$)
- Offenders with ID who have an offence of arson or fire setting don’t deserve another chance ($M=1.72 \text{ v } M=1.0$)
- Offenders with ID who have an offence of arson or fire setting don’t need treatment since they chose to commit the crime ($M=1.61 \text{ v } M=1.10$)
- Offenders with ID who have an offence of arson or fire setting should never be released ($M=1.41 \text{ v } M=1.00$)

Here though, it is important to remember that these items where rated on a 5-point Likert scale where 1=strongly disagree, and 5= strongly agree. As such, whilst there are significant differences, these ratings generally remain at the extreme ends of the scale.
Part Four: Professionals’ Views on Treatment and Rehabilitation Programmes

As both the community sample and the professional sample felt that fire setters with ID should be attending treatment, and that current treatment was considered to be relatively effective, the rehabilitation aspect was investigated further. For these purposes, the next aim of the study was to determine professionals’ views on the need for treatment, including the perceived usefulness and appropriateness of current services being provided to fire setters with ID. Further, professionals were asked to comment on what they thought would be the important aspects of treatment for fire setters with ID.

Method
This component of the study utilised quantitative and qualitative responses made by the professionals when completing the larger survey. The quantitative responses are reported as descriptive statistics. The qualitative data were analysed using inductive thematic analysis, which involved grouping together quotes based on themes, and then determining where there was any common content and reporting this in a grouped form rather than presenting each quote separately. Quotes of interest are reported throughout the qualitative section. Further explanation of this approach is to be found in Chapter 2. Prior to the qualitative analysis, a quantitative appraisal was made of the professionals’ views with respect to various aspects of treatment.

Results
Professionals’ Ratings of Need for Treatment
As part of the survey, professionals were asked to rate (out of 10) whether they thought there was a need for a programmes for fire setters with ID, how effective and appropriate current programmes were, the importance of a specialised fire setting programme for persons with ID, and how useful such a programme would be. These results are presented in Table 21. Respondents were also asked to provide comments where possible. Quotes are included below from all those participants who provided responses to the open-ended questions. Participants are labelled by number and by their type of experience.
Table 21

Mean scores for need, effectiveness, and appropriateness of current programmes, and importance and usefulness of developing specialised programmes.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M (SD)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for a programme</td>
<td>16</td>
<td>6.81 (3.25)</td>
<td>1-10</td>
</tr>
<tr>
<td>Effectiveness of current programmes</td>
<td>15</td>
<td>4.27 (1.83)</td>
<td>1-7</td>
</tr>
<tr>
<td>Appropriateness of current programmes</td>
<td>13</td>
<td>4.62 (1.39)</td>
<td>2-7</td>
</tr>
<tr>
<td>Importance of a manualised programme</td>
<td>15</td>
<td>7.60 (2.69)</td>
<td>2-10</td>
</tr>
<tr>
<td>Usefulness of a manualised programme</td>
<td>14</td>
<td>8.29 (2.33)</td>
<td>4-10</td>
</tr>
</tbody>
</table>

Need

Professionals rated the need for a specialised programme for fire setters with ID as relatively high, and they provided qualitative data to support this:

P11 (corrections & disability): “the need for more offender programmes for ID clients in QLD Corrective Centres is quite urgent and high”.

Another two professionals note the lack of guidance around rehabilitation of fire setters with ID:

P15 (disability): “No guidance is provided, all assistance is guesses by disability management with no formal training in this”.

And:

P3 (disability): “Very complex field. Seems no one universally accepted risk tool or assessment tool for professionals to use prior to referral to fire light services, rather we just refer as soon as we can. Lack of tools or training opportunities to gain these skills as practitioner i.e. is it just experimentation and would education assist or is it more complex and maybe meets a sexualised need”.

A further two professionals discussed the importance of specialist information to assist with rehabilitating these fire setters:
P9 (disability): “Each person is unique and has unique circumstances, hence query a general specialist programme. However, it would be useful to have access to a specialist information if/when this situation arises”.

And:

P2 (corrections & disability): “This is an important area to investigate further, however, given the risks associated with other offences that are far more likely to occur, it is not likely there would be additional resources allocated to a small proportion of offenders. Regardless, I believe all individuals who offend required a tailored and responsive approach to their treatment needs and this includes fire setting”.

Current programme effectiveness
The responses from participants indicated that they consider current programmes to be ineffective. Comments to this effect included:

P9 (disability): “In my limited experience, not very successful. Main success came from limiting opportunities”.

And:

P13 (corrections & disability): “Service provided is one of containment without treating cause”.

And:

P17 (disability): “lack of evidence of the outcomes of treatment for arsonist(s) especially for those with an ID”.

Some professionals noted a lack of existence of any current programmes:

P1 (corrections & disability): “There is no specific programme that address fire lighting behaviour”;  
P4 (disability): “I am unaware of the effectiveness of current programmes”;  
P7 (corrections): “There isn’t any in this state”; and
P4 (disability): “My concern relates to not being aware of current programmes despite working in the field of disability and challenging behaviour”.

A further professional highlighted the importance of post-programme support:

P3 (disability): “I think there needs to be more support post programme with services in place around the client i.e. case managers etc. often aren’t aware of how to continue to support post treatment”.

**Current programme appropriateness**

In addition to rating current programmes as ineffective, professionals also noted that such programmes were not appropriate. For example, one professional noted:

P1 (corrections & disability): “Given the lack of specific programmes the programmes that exist are not overly effective”.

And a second professional stated:

P3 (disability): “Not enough service options if an adult. At least there are some for juveniles. I would like to see DFATS focus more on fire lighting as a statewide service. Very difficult to get DFAST engaged unless sexualised behaviour involved”.

And:

P13 (corrections & disability): “Hierarchy of needs is required however having appropriate accommodation, work/training/activity opportunities provided as well as good staff only partially addresses offending behaviour”.

**Importance of a specialised programme**

Importance was given the second highest rating by participants. One professional in particular demonstrated the importance of expert advice in the area:
P3 (disability): “[a manualised programme is] extremely important. [This is a] very high risk area and very specialised area. [We] need experts to work with this cohort”.

Some professionals noted the consequences of fire setting as increasing the importance of a programme:

P1 (corrections & disability): “Fire lighting is a very serious behaviour with significant consequences for society. Hence, it needs to be addressed appropriately”.

And:

P4 (disability): “The outcomes of fire setting behaviour have enormous implications for the local community (loss of life, property, business etc.) and the offender (incarceration, alienation from community etc.)”.

And:

P17 (disability): “arson is very different to other criminal acts, with very severe consequences”.

The professionals recognised the importance of such a programme being a part of a multi-component approach, and note the usefulness of having access to information and support.

**Usefulness of a specialised programme**

The usefulness of a specialised programme for fire setters with ID received the highest rating by professionals. One particular professional noted:

P1 (corrections and disability): “A manualised treatment programme would be adopted by many services, given the significance of this behaviour”.

Other professionals acknowledged the need for appropriate training, and consultation with persons with specialised knowledge in the area. Further, having a universal, standardised method of delivering programmes was seen as essential. One professional stated:

P7 (corrections): “Manuals are very useful for standard delivery of programmes and the subsequent evaluation to ascertain its validity and
usefulness, however some flexibility is important in terms of process variables”.

And another noted:

P6 (disability): “A standardised evidence-based treatment programme would be a fantastic way to ensure clients are receiving consistent training. It would also allow the facilitator to mould the treatment programme to the needs of the client”.

The professionals raised the issue of the relatively small numbers of fire setters in any one setting, making problematic the establishment of specialist programmes. This was weighed against the significance of the crime of arson for the community, and for the fire setter. One professional asked:

P17 (disability): “why wouldn’t we want a manual... this is an ongoing problem for arsonists... ID is a specialised field and needs to be approached differently to mainstream”.

Some other concerns about fire setters with ID that were raised by the professionals were that:

P3 (disability): “The court context makes it very daunting for any professional to work with fire lighters. Rather this in part, aside from the high risk, makes professionals reluctant to work with them”.

And:

P13 (corrections and disability): “Lack of understanding of the target group. Prevailing attitude that people with ID who engage in this type of offending do it to see the fire engines turn up!”

**Professionals’ Views on Key Components of Treatment for Fire Setters with ID**

Professionals were also asked to provide suggestions of what they thought the key components of a rehabilitation programme for fire setters with ID would look like. They were further asked to comment on what they thought would be some adaptations that may need to be undertaken on any existing programmes for fire setters with ID.
Common components that were mentioned by professionals included a focus on education particularly around consequences of fire setting and fire safe behaviours, as well as focussing on teaching the fire setters appropriate communication skills, and presenting the content in a language that is understandable to persons with all levels of ID.

Development of insight into the fire setting behaviour, and appropriate problem solving skills were mentioned. Further, developing life plans, building self-esteem, coping skills, and empathy were seen as vital components of any such programme for fire setting in persons with ID.

Professionals also noted the importance of individualised programmes, and ensuring the persons offence history/pathway is appropriately understood. Assisting the person to understand the arousal/emotion component of fire setting was noted to be essential, as well as helping the client with emotional regulation and management.

Professionals raised the issue of a need for the client to understand the function of their own fire setting behaviour, and how persons with ID might meet those needs more appropriately, which also related back to issues with communication. In line with this, an understanding of the triggers for fire setting, such as frustration, substance use, relationship problems, depression, stress, boredom, impulsivity, anger, or a history of trauma were considered important aspects of fire setting behaviour needing to be understood. From a social learning theory perspective (see commentary in Chapter 1), professionals noted focussing on reinforcement patterns associated with the fire setting behaviour, in addition to the influence of peer groups.

When asked what adaptations they would make to existing programmes, professionals reported a variety of important aspects. Firstly, professionals noted that it is important to ensure the level of understanding is applicable to persons with ID to facilitate learning. Examples of this would be to make the content concrete and specific to the clients understanding of the world, to use small steps over time, to focus on visual aspects, and to utilise a range of different educational tools.
A further consideration mentioned by professionals was to avoid cognitive aspects of treatment, and to focus on skills building and ensuring these skills could be generalised outside of the rehabilitation session. On multiple occasions, individualised treatment was mentioned by professionals, noting that rehabilitation would need to be specific to the particular person and their needs due to differences in cognitive ability, skills, and understanding of their offending behaviour.

The professionals reiterated the importance of ensuring the person understands the impact their behaviour has on others, as well as the function of their fire setting behaviour. It is noted that the link between cause and effect should be made explicit to fire setters with ID. Other important adaptations include an emphasis on session repetition, ensuring there are clear guidelines for interaction within treatment, and being wary of group dynamics.

**Discussion**

These studies were conducted in an attempt to determine the level of awareness of fire setters with ID that both the community and professionals have, as well to increase awareness of the concerns associated with the rehabilitation of these members of the community. The first aim of the current study was to develop and begin to examine the psychometric properties of a new scale to measure attitudes towards the rehabilitation of fire setters with ID. It was proposed that such a scale could be used to gauge community and professional attitudes towards this population, and in turn provide the data needed to both inform public policy initiatives with respect to treatment programmes for fire setters with ID, and community education to foster the reintegration of these persons into the community. It was also proposed that such a measure might have application in the recruitment of personnel to provide treatment and support services for fire setters with ID.

The ATRIDA scale was found to be a reliable and useful adaptation of the ATTSO, though this was only an initial step in validation of the scale. It requires further validity and reliability testing, and the findings need to be replicated in a larger, and more representative sample of the community with a broader range of
demographics. It is also important to acknowledge that as the sample utilised in the current study could have held undetected biases, these initial findings in regard to attitudes must be interpreted with caution. This is particularly important as attitudes are not necessarily predictive of behaviour, as evidenced by Wallace, Paulson, Lord, and Bond Jr (2005) who reported attitude-behaviour correlations to be around .40, demonstrating only a moderate effect (Cohen, 1988).

It is useful here to consider the Theory of Planned Behaviour (TPB; Ajzen, 1985), which proposes that attitudes towards behaviour, subjective norms, and perceived behavioural control are all predictive of an intention to act, which in turn can predict behaviour. For example, positive attitudes towards a particular behaviour (e.g., rehabilitation of fire setters with ID) combined with positive perceptions of the social acceptance of these attitudes by significant others (e.g., friends and work colleagues), and a belief in the ability to act on these attitudes (e.g., to be able to rehabilitate fire setters with ID) all combine to lead to higher behavioural intention, and hence a higher likelihood of the behaviour being performed.

The attitudes identified in the current series of studies, on their own, may not solely determine how people behave. Furthermore, consistent with the TPB, attitudes towards a particular behaviour represent only one component of a much more complex psychosocial system influencing behaviour. As a result of this, further research into the utility of the TPB in regard to attitudes toward fire setter rehabilitation is warranted.

Even at this early phase of its development, the ATRIDA has many potential uses, including assisting in the development of public policy in this area (Wnuk et al., 2006). If this scale can be utilised to identify community attitudes toward treatment of fire setters with ID that are favourable, this may influence policy, such that resources are allocated to providing such treatment. As Wnuk et al. (2006) argue, there has been evidence of public attitudes influencing public policy (Latimer et al., 2003), and in particular criminal justice policy (Maruna et al., 2004), and it is important to further investigate the differences in community attitudes and legislation to see if the law is reflective of the perspectives of the community. Conversely, the ATRIDA could be used to identify where community attitudes were
not favourable toward fire setters with ID, and subsequently where community education was needed to support community-based rehabilitation and the social integration of these persons into the mainstream of society, consistent with contemporary trends in both disability and criminal justice policies (Kleban & Jeglic, 2012).

Further, the ATRIDA has the potential to be utilised as a screening tool for those seeking employment with fire setters with ID. Utilising the ATRIDA as a prerequisite for employment could enable employers to determine whether they are hiring those individuals who hold attitudes favouring the rehabilitation of fire setters with ID, which could improve the therapeutic alliance, and in turn improve service delivery (Church, Wakeman, Miller, Clements, & Sun, 2007). As the current study only utilised a small sample of community members, it is essential that further validation take place user a larger, more representative sample before any conclusions about its usefulness for employee screening can be made.

The second aim of the current study was to investigate community attitudes towards people with ID who set fires. Respondents to an online survey using the ATRIDA expressed attitudes that were generally favourable toward rehabilitation of fire setters with ID. Approximately 68% of the sample agreed that these offenders can be rehabilitated, and more than 75% believe that such rehabilitation programmes should be mandatory. However, a large percentage of participants (71.1%) neither agreed nor disagreed with current rehabilitation programmes being effective for these offenders. This likely reflects the lack of education the community has about the availability/effectiveness of such programmes.

Over 90% of the participants in the community sample felt that these offenders ‘deserve a second chance’, and 88% agreed that it is important that these offenders receive rehabilitation before they are released back into the community. These attitudes, although preliminary based on a relatively small sample size, indicate that some in the community believe that fire setters with ID have the ability to be rehabilitated and they need to be given this opportunity. Although not directly measured, it seems as though the community see punishment as relevant, but are aware that rehabilitation is a necessary step in ensuring offenders will not reoffend. These findings provide some initial evidence to suggest that the general public believe that treatment for fire setters with ID is needed and is likely to be
effective, and that these offenders should receive such treatment. Once again, it is important to reiterate the possible, unidentified biases within the sample, and the potential that such attitudes may not be representative of the general population.

The third aim of the current study was to investigate professionals’ attitudes towards people with ID who are involved in fire setting. In regard to participants in the professional’s sample, there was general agreement on most questions. The majority of professionals agreed that fire setters with ID can be rehabilitated, and that they should receive treatment, however they had concerns regarding the effectiveness of existing treatment options. They mostly felt that using proper techniques for treating these offenders would be effective, and may reduce their likelihood of reoffending. The one question, which received the most varied response, was whether fire setters with ID should attend treatment if they do not want to. Six agreed, six disagreed, and five were unsure. This may reflect the knowledge of professionals that mandating clients to treatment is not as effective at achieving good treatment outcomes as if clients chose to voluntarily attend (Parhar, Wormith, Derkzen, & Beauregard, 2008). The patterns of responding by both the professional sample and the community members did not appear to be unduly influenced by any bias towards socially desirable responding, taking into account the participants’ responses on the SDS-17.

The fourth aim of the current study was to determine any differences between community and professional attitudes toward the rehabilitation of fire setters with ID. The community sample scored higher on incapacitation indicating they felt these offenders should be punished, though these scores were very low relative to the range of potential scores. Community members also scored higher on mandatory treatment, indicating they are more supportive of mandating offenders with ID who have an offence of arson to treatment than professionals, and they scored higher on extreme punishment, however this was very minimal. The professional sample scored higher on the treatment effectiveness scale, indicating they are more likely to view rehabilitation for fire setters with ID to be effective than members of the community.

Both the community sample and the professional sample scored relatively low on the incapacitation subscale, and relatively high on mandatory treatment,
indicating they both see the importance of punishment, but that treatment needs to be provided in these situations. This is an important consideration for policy makers, as if these two samples hold similar views then developing legislation around ensuring rehabilitation needs of offenders are met is an issue of national safety and security. This is particularly important given the current lack of rehabilitation options for fire setters with ID, and the view that they are largely ineffective (to be discussed in Chapter 6).

The fifth and final aim of this study was to gain an understanding of professionals’ views about the need for, and potential usefulness of a specialised programme for fire setters with ID, as well as how appropriate and useful they feel current services are. Professionals reported that it would be useful to have a manualised rehabilitation programme for fire setters with ID, that it is important, and that there is a need for such a programme. They also reported feeling that current services being provided to fire setters with ID were not appropriate, and that current programmes were not effective. Some professionals noted that they have no programmes that are appropriate for this specialised group.

Professionals suggested important components for treatment that were in line with best practice literature around rehabilitation programmes for persons with ID. For example, when adapting rehabilitation programmes for persons with ID, it has been suggested that using straightforward language, as well as gesture and pictorial methods allows clients with ID to engage in the process (Lindsay et al., 2013). Lindsay et al. (2013) also identify managing emotions as an important aspect of rehabilitation for offenders with ID. In addition, suggestions by professionals were consistent with what has been considered best-practice for fire setting treatment, including understanding the sequence of events that lead to the fire setting, as well focusing on problems with communication (Fritzon et al., 2013). The suggestions made by the professionals appear to be useful considerations that should be taken into account when developing any programme that addresses fire setters with ID.

The current chapter presented an initial validation of the ATRIDA, a scale that was modified based on the ATTSO. The scale revealed a factor structure largely consistent with the initial scale, though one item was deleted due to multiple factor
loadings, and one new factor emerged (*Extreme Punishment*). The scale was reliable, both in regards to internal consistency and split-half reliability, though it requires further validity and reliability testing using a sample more representative of the community. Further, consideration could be given to the distinction between fire setting and arson, as it is likely that these may invoke different meanings for different people, particularly given arson (the crime) cannot occur without fire setting (the behaviour). As such, using them interchangeably in the community and professional surveys within this series of studies may have created confusion for the participants and in turn resulted in different responses depending on whether the respondent focussed on fire setting (the behaviour), or arson (the crime), whereby those who focussed on arson (the crime) might have been more punitive in their responses. In addition, some of the items that form the ATRIDA may not be pitched at an appropriate level for members of the community. For example, some members of the community may not be familiar with the term ‘psychotherapy’ in item three. Further, the terms ‘treatment’ and ‘rehabilitation’ are used in many of the items, yet there is no explanation of what type of treatment or rehabilitation is being referred to, which may have resulted in confusion for both community members and professionals. Another problem here was the lack of definition provided for an ID or the level of ID being referred to, meaning participants may have either under or over-represented the level of ID the person had. One potential solution to these concerns would have been to utilise standardised vignettes in the study to ensure that each person within the study was thinking along the same lines in regards to the level of ID the person has been diagnosed with, as well as the type of treatment/rehabilitation being referred to. Vignettes do not require the person to have an existing knowledge of the area (Liker, 1982), and are useful for sensitive areas of research (Link et al., 1999). This is an important consideration when investigating attitudes toward fire setters with ID and their treatment given that both ID and crime might be considered sensitive areas, and that persons in the community sample may know very little about both ID and fire setting behaviour. However, vignettes in themselves can be problematic as they may produce results that are limited to the particular scenario provided and as such cannot be generalised to real life processes (Hughes & Huby, 2002).
The ATRIDA was then utilised in both a sample of community members, and a sample of professionals to determine their attitudes toward the rehabilitation of fire setters with ID. The results indicated that although professionals scored slightly higher in regard to rehabilitation, both samples scored relatively low on incapacitation, indicating they do not believe fire setters with ID should be punished without receiving treatment. Further, both samples scored on the relatively high end of mandatory treatment, and in the high range of treatment effectiveness, indicating support for providing treatment to fire setters with ID. For both samples, the importance of punishment combined with treatment seemed evident, with a stronger emphasis on treatment.

Professionals highlighted the importance of, and need for a treatment programme for fire setters with ID. They suggested a variety of components and considerations for developing or adapting a programme for this population. This study has demonstrated that both the community and professionals are aware of the concerns associated with rehabilitating fire setters with ID. As such this study has highlighted the importance of collecting appropriate data on this subset of the community to allow for risk factors to be understood and address in any treatment and prevention programmes developed. Given the importance placed on rehabilitation in the current study, the next logical step in this thesis is to investigate whether there are any existing treatment programmes that are effective for fire setters with ID.
Chapter Six: Availability and Effectiveness of Rehabilitation Programmes for Fire Setters with ID

In light of the relatively positive attitudes expressed towards the rehabilitation of fire setters with ID, and the call by professionals for treatment programmes for this group (see Chapter 5), this chapter investigates whether there are any available rehabilitation programmes for fire setters with ID, and whether such programmes have been established as effective. A systematic review of the peer-reviewed literature is conducted, which incorporates both the literature on rehabilitation of fire setters with ID, and those without. The review concludes that there are a paucity of programmes available for fire setters with ID, however there are interventions that have shown some promise. Here though, the evaluation of these programmes do exhibit some limitations, and as such further research into their effectiveness is needed.

Introduction

In most western criminal justice settings rehabilitation programmes are typically conceptualised in relation to what has been described as the “what works” approach to offender rehabilitation (Andrews & Bonta, 2010b). This approach is based on applying the aggregated results of a large number of offender programme evaluations that have led to the identification of a series of practice principles. These have subsequently been widely endorsed by correctional services around the western world (Ogloff & Davis, 2004; Wormith et al. 2007), and include the frequently cited principles of risk-need-responsivity (RNR; the “big three” or major assumptions), as well as those of professional discretion and programme integrity (Andrews & Bonta, 2010a). These principles have been well documented elsewhere but, in brief, the risk principle suggests that higher risk offenders stand to benefit more from rehabilitation programmes than low-risk offenders; the needs principle suggests that programmes should target individual treatment needs, or those dynamic risk factors that are directly related to offending behaviour; and the responsivity principle refers to those internal and external factors that may impede an individual’s response to interventions, such as weak motivation or programme content and delivery, and which require adaptation for the individual.
Chapter 3 presented an analysis of characteristics and needs of fire setters with ID; demonstrating that rehabilitation should consider inclusion of empathy development, anger regulation, and cognitive restructuring processes to address maladaptive cognitions within any treatment programme. This analysis, however, did not reveal characteristics that may be directly related to the person’s ID, such as discrepancies between their chronological age and their assessed stage of psychosocial and moral development. In considering the definition of ID from the DSM-V (American Psychiatric Association, 2013), it seems apparent that fire setters with an ID may have distinctive needs associated with their ID that may require specialist rehabilitation responses (consistent with the RNR principles). For example, their understanding of the extent and severity of the consequences of their actions for both themselves and others could be different from those without an ID. Delayed (impaired) development of their moral reasoning may also affect the extent to which they take into account (or are concerned with) the needs of others (see Kohlberg, 1984), which is evidenced in the low levels of empathy seen in the fire setters with ID from Chapter 3. Langdon, Clare, and Murphy (2011) suggest that perhaps due to their lower cognitive ability, and in turn lower level of moral reasoning, persons with ID may be less likely to engage in crime. In contrast, those persons with borderline ID, who have greater cognitive abilities than persons with ID and as such would be in a higher stage of moral development, might be more likely to engage in crime. The authors explain this in terms of Gibbs’ Sociomoral Stage theory, which states that Stage one of moral development involves obeying rules and as such results in little illegal behaviour, whereas at Stage two the focus is on the person meeting their own needs, which in turn is more associated with disruptive behaviour and involvement in illegal activity. They argue that the relationship between moral reasoning and crime is moderated by intelligence, but also note that the research in this area is very minimal.

Persons with ID may have difficulty comprehending the circumstances associated with their offending, and their ability to identify and moderate emotional impulses that might be the precursor to offending might also be impaired. Intellectual deficits might also impede effective participation in both individual and group-based interventions, and finally, and possibly of greatest
concern, people with an ID may experience considerable difficulty generalising learning acquired in one setting (e.g., group work in a custodial facility) to another (e.g., a community setting when released).

Combined, all these issues can be expected to affect the person’s support needs and rehabilitation responsivity (see American Association on Intellectual and Developmental Disabilities, 2010; American Psychiatric Association, 2000). Consequently, ID may be considered a responsivity issue, influencing how programme material is delivered, rather than influencing the content to be delivered. This is reflected in the literature regarding fire setters with and without ID, and the lack of differences in their offending-based needs. It is not clear whether there are effective rehabilitation programmes available for fire setters, both with and without ID.

In light of the expectations of the judiciary that the persons they sentence will receive treatment and rehabilitation (see Chapter 4), and the endorsement of such programmes by both the community and professionals (see Chapter 5), the aim of the current chapter is to provide a systematic review of treatment programmes for fire setters with and without ID. The review and associated analysis will also determine the extent of the evidence available for the effectiveness of any such programmes.

**Method**

A systematic review of the peer-reviewed literature was conducted to identify relevant studies reporting on treatment of fires setters with an ID and for persons without an ID. Searches of multiple computer databases (PsycInfo, PsycArticles, Psychology and the Behavioural Sciences collection, Medline, Social Work Abstracts, SocINDEX and Academic Search Complete) were conducted using the following search terms: arson* or "fire setting" or firesetting or fire-setting AND treatment or intervention or rehab* or program*. For searches including persons with ID: "intellectual* disabilit*" or "mental retardation" or "intellectual* impair*" or "learning disabilit*" or "developmental disabilit*", or “mental handicap” or “mental deficiency” or “cognitive disabil*” or “cognitive impairment”. No date range was
utilised, given the lack of a previous literature review in the area. Reference lists of relevant articles were also read to identify further articles that could be included.

Titles and abstracts were reviewed manually to determine if they met the inclusion criteria for the review that: (a) the paper was in a relevant field (related to the treatment of fire setting behaviour); (b) the paper was not a duplicate of a previous paper; and (c) the paper had been peer reviewed. The exclusion criteria included the removal of articles pertaining to general treatment programmes (i.e., not related fire setting behaviour), and those that did not evaluate the effectiveness of the treatment. Although literature in all languages was initially included in the search, there were no relevant articles located that were written in any language other than English. Programmes not systematically evaluated and published in the peer-reviewed literature were not included in the current review, as they need not have met the standards expected to establish their scientific integrity.

The quality of the evaluation design for short-listed articles was then rated according to the Maryland Scale for Scientific Rigor (Sherman et al., 1998). The Maryland Scale is a measure of the overall internal validity of scientific methods, and is rated from one to five, with a score of one representing the weakest design. Five key criteria define the levels of the scale, as shown in Table 22.

**Results**

The initial search discovered 499 articles, which were then subject to further review against the inclusion criteria, as described above. After reviewing the remaining 42 articles, and removing articles not meeting the review criteria, only 26 articles were identified. Each of these were read in depth to determine if they were suitable for inclusion in the current review, specifically based on whether they reported the results of a fire setting programme evaluation. Eighteen studies were identified in this way. A PRISMA flowchart (Moher, Liberati, Tetzlaff, & Altman, 2009) of the search strategy can be seen in Figure 2.

For each article included in the current review, the quality of the evaluation design was rated according to the Maryland Scale for Scientific Rigor (Sherman et al., 1998) (see Table 22). Only one study met the Level 5 criteria for strong scientific method (Adler, Nunn, Northam, & Lebnan, 1994), and three studies reached the level 4
criteria (Kolko, 2001; Kolko, Herschell, & Scharf, 2006; Kolko, Watson, & Faust, 1991). Each article is summarised in Table 23 (Studies evaluating fire setting rehabilitation for persons without an ID) and Table 24 (Studies evaluating fire setting rehabilitation for persons with an ID) according to country of origin, the treatment population under consideration and sample size, the treatment type, the evaluation methodology employed, the outcome measures used, the follow-up time, and the overall findings.

**Study Characteristics**

Thirteen of the studies involved children as participants, with a total of 677 children taking part in the evaluations. The average age of children was 9.4 years, with the oldest reported to be 17 years (Franklin et al., 2002) and the youngest in the one to four year age range (Bennett, Gamelli, Duchene, Atkocaitis, & Plunkett, 2004).

Table 22

*Maryland Scale*

<table>
<thead>
<tr>
<th>Level</th>
<th>Key Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Correlation between a crime prevention programme and a measure of crime or crime risk factors at a single point in time.</td>
</tr>
<tr>
<td>2</td>
<td>Temporal sequence between the programme and the crime or risk outcome clearly observed, or the presence of a comparison group without demonstrated comparability to the treatment group.</td>
</tr>
<tr>
<td>3</td>
<td>A comparison between two or more comparable units of analysis, one with and one without the programme.</td>
</tr>
<tr>
<td>4</td>
<td>Comparison between multiple units with and without the programme, controlling for other factors, or using comparison units that evidence only minor differences</td>
</tr>
<tr>
<td>5</td>
<td>Random assignment and analysis of comparable units to programme and comparable groups.</td>
</tr>
</tbody>
</table>

*Note: Adapted from (Sherman et al., 1998).*
Figure 2. PRISMA flowchart of search strategy.

Ten of the studies were undertaken in the USA, four in the UK, and one each in Australia, Canada, New Zealand, and the Netherlands. In addition, five of the studies were individual case studies, eight were quasi-experimental, one study was retrospective, and one study utilised a randomised control trial design. Of those that reported treatment length, the average was 18.1 hours for all treatment programmes, with the average ranging from 40 hours for those with an ID down to 17.4 hours for those without an ID. There was considerable variation in the follow up times for participants, with some studies re-assessing progress at six, 12, and 24 month intervals, and others reporting up to four year follow-ups. Two studies did
not report the follow up period utilised (Alexander et al., 2011; Bennett et al., 2004).

Type of Intervention
Quality and effectiveness of programmes for fire setters with ID

All four studies that specifically examined the treatment outcomes for fire setters with an ID were undertaken in the UK. Three employed quasi-experimental designs and one was a case study. Two of the treatments consisted of group-based education treatments offered from a broad cognitive behavioural framework (Taylor, Robertson, Thorne, Belshaw, & Watson, 2006; Taylor, Thorne, et al., 2002). The framework focussed on the offence cycles of participants, the antecedents and consequences of their offending and cognitions, emotions and behaviours surrounding the fire setting behaviour, whilst also providing education regarding the dangers and costs involved with setting fires. The remaining two focussed on multicomponent treatment packages, including education, psychotherapy, and social skills training. Many of those who participated in the cognitive behavioural framework education programmes were reported to have experienced improvements on the Goal Attainment Scale (GAS), a measure used to monitor change in areas operationally defined for each individual participant; such as awareness of offence related targets, acceptance of guilt, acknowledgement of responsibility, and understanding victim issues (Taylor et al., 2006; Taylor, Thorne, et al., 2002). In addition, significant reductions were reported in fire interest and improvements in fire attitudes after such programmes (Taylor, Thorne, et al., 2002).

Given the relatively small numbers involved in these studies, individualised measures of treatment outcome using Goal Attainment Scaling techniques appear to be one promising approach to outcome evaluation. However, the effectiveness of the multicomponent treatments for fire setters with ID has yet to be demonstrated. Alexander et al. (2011) did report, however, that fire setters were less likely to be discharged from an inpatient service after treatment than other offenders. The Clare, Murphy, Cox, and Chaplin (1992) study only utilised a case study approach, making generalisation of the findings problematic.
<table>
<thead>
<tr>
<th>Group</th>
<th>Before</th>
<th>Level 2</th>
<th>Offending</th>
<th>Offending</th>
<th>NZ</th>
<th>T82 Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Control</td>
<td>Volunteered</td>
<td>Follow up</td>
<td>Follow up</td>
<td>Yes</td>
<td>752</td>
</tr>
<tr>
<td></td>
<td>Last Session</td>
<td>Two B5T</td>
<td>Before and After</td>
<td>After the</td>
<td>B5T; n=3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Occurred After The</td>
<td>One of Which</td>
<td>Experimental Handicapping</td>
<td>Experimental</td>
<td>30%</td>
<td>10-Year Follow-up</td>
</tr>
<tr>
<td></td>
<td>Noafferent</td>
<td>Two B5T</td>
<td>Old Boys, Two Behavior Skills Training</td>
<td>Behavior Skills Using</td>
<td>56%</td>
<td>10-Year Follow-up</td>
</tr>
<tr>
<td></td>
<td>None of the</td>
<td>Old Boys, Two Behavior Skills Training</td>
<td>Establishing Fire</td>
<td>Establishing Fire</td>
<td>75%</td>
<td>10-Year Follow-up</td>
</tr>
</tbody>
</table>

Studies evaluating fire setting rehabilitation for persons without an ID.

Table 23
<table>
<thead>
<tr>
<th>Article Name</th>
<th>Country</th>
<th>Sample</th>
<th>Methodology</th>
<th>Treatment Type</th>
<th>Outcome</th>
<th>Measure/ Follow up Period</th>
<th>Findings</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>BJC</td>
<td>USA</td>
<td>46 boys</td>
<td>Education</td>
<td>Behavioral</td>
<td>Behavior</td>
<td>Setting</td>
<td>retired</td>
<td>Level 4</td>
</tr>
<tr>
<td>548</td>
<td>KOoko</td>
<td>KOoko</td>
<td>CBT</td>
<td>Behavioral</td>
<td>Behavior</td>
<td>Setting</td>
<td>retired</td>
<td>Level 4</td>
</tr>
<tr>
<td>1989</td>
<td>KOoko</td>
<td>KOoko</td>
<td>CBT</td>
<td>Behavioral</td>
<td>Behavior</td>
<td>Setting</td>
<td>retired</td>
<td>Level 4</td>
</tr>
<tr>
<td>KOoko et al. 2006</td>
<td>KOoko</td>
<td>KOoko</td>
<td>CBT</td>
<td>Behavioral</td>
<td>Behavior</td>
<td>Setting</td>
<td>retired</td>
<td>Level 4</td>
</tr>
</tbody>
</table>

**Note:** The text appears to be a table with columns for Article Name, Country, Sample, Methodology, Treatment Type, Outcome, Measure/Follow up Period, and Findings. The scale is indicated as Level 4. The table seems to be discussing findings related to behavioral treatment and setting for KOoko and KOoko et al. 2006.
<table>
<thead>
<tr>
<th>Family Member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>and Kazdin (1991)</td>
<td>Inventory (Koko)</td>
</tr>
<tr>
<td>Child Behavior</td>
<td>Edebrock (1983)</td>
</tr>
<tr>
<td>Achievement and Checklist (CBCL)</td>
<td>Child Behavior</td>
</tr>
<tr>
<td>(1987)</td>
<td>Dobro and Cole</td>
</tr>
<tr>
<td>Social Problem</td>
<td>Social Problem</td>
</tr>
<tr>
<td>(1987)</td>
<td>Cobus and Siegel</td>
</tr>
<tr>
<td>Kazdin, Hodges</td>
<td>Hostility Inventory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kazdin (1992)</th>
<th>Treatment of Children</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Article Name</th>
<th>Sample</th>
<th>Country</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level</td>
<td>Coping Skills</td>
<td>The Symptom</td>
</tr>
<tr>
<td>-------</td>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rating Scale</td>
<td>Measure</td>
<td>Findings</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>Months post-occurred</td>
<td>Follow up</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>et al., 2001</td>
<td>Fristad, Timmerman et al.</td>
<td>Forensic observation scale Inpatient The Forensic Arrindell et al., 1984</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rating Scale</th>
<th>Findings</th>
<th>Outcome</th>
<th>Treatment Type</th>
<th>Sample</th>
<th>Country</th>
<th>Article Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 Maryland</td>
<td>Follow up Follow up</td>
<td>Follow up</td>
<td>Follow up</td>
<td>Follow up</td>
<td>Follow up</td>
<td>Follow up</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rating Scale</th>
<th>Findings</th>
<th>Outcome</th>
<th>Treatment Type</th>
<th>Sample</th>
<th>Country</th>
<th>Article Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 Maryland</td>
<td>Follow up Follow up</td>
<td>Follow up</td>
<td>Follow up</td>
<td>Follow up</td>
<td>Follow up</td>
<td>Follow up</td>
</tr>
<tr>
<td>Article Name</td>
<td>Country</td>
<td>Sample</td>
<td>Treatment Type</td>
<td>Methodology</td>
<td>Treatment Duration</td>
<td>Findings</td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
<td>--------</td>
<td>----------------</td>
<td>-------------</td>
<td>--------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Franklin et al., 2002</td>
<td>USA</td>
<td>132 Juveniles</td>
<td>Program</td>
<td>Implementation of multidisciplinary aftercare</td>
<td>Treatment received to the outpatient clinic</td>
<td>Trauma Bum</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Article Name</td>
<td>Country</td>
<td>Sample</td>
<td>Treatment Type</td>
<td>Methodology</td>
<td>Outcome</td>
<td>Findings</td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
<td>--------</td>
<td>----------------</td>
<td>-------------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>Kirk et al.</td>
<td>USA</td>
<td>54 boys</td>
<td>Behavioral</td>
<td>Cognitive</td>
<td>FHS</td>
<td>4 level</td>
</tr>
<tr>
<td>Kasen et al.</td>
<td>USA</td>
<td>21 girls</td>
<td>Behavioral</td>
<td>Cognitive</td>
<td>FHS</td>
<td>4 level</td>
</tr>
<tr>
<td>Kokko et al.</td>
<td>Germany</td>
<td>100 children</td>
<td>Behavioral</td>
<td>Cognitive</td>
<td>FHS</td>
<td>4 level</td>
</tr>
<tr>
<td>Koenig et al.</td>
<td>USA</td>
<td>75 adults</td>
<td>Behavioral</td>
<td>Cognitive</td>
<td>FHS</td>
<td>4 level</td>
</tr>
<tr>
<td>Koopman et al.</td>
<td>USA</td>
<td>100 adults</td>
<td>Behavioral</td>
<td>Cognitive</td>
<td>FHS</td>
<td>4 level</td>
</tr>
<tr>
<td>Kuo et al.</td>
<td>USA</td>
<td>50 adults</td>
<td>Behavioral</td>
<td>Cognitive</td>
<td>FHS</td>
<td>4 level</td>
</tr>
</tbody>
</table>
## Table

<table>
<thead>
<tr>
<th>Rating Scale</th>
<th>Finding</th>
<th>Treatment Type</th>
<th>Methodology</th>
<th>Outcome</th>
<th>Measure Follow-up Period</th>
<th>Article Name</th>
<th>Sample Size</th>
<th>Country</th>
<th>Event of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No evidence that the outcomes were significantly different from the waiting list group</td>
<td>Randomised Control Trial</td>
<td>1986</td>
<td>Education</td>
<td>Centers comprised of mental health clinics for other children</td>
<td>Adiet et al., 1994</td>
<td>Australia</td>
<td>138 children</td>
<td>200</td>
</tr>
<tr>
<td>Setting</td>
<td>Interview</td>
<td>Knowledge</td>
<td>Prevention</td>
<td>Individual Fire Group</td>
<td>No Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
<td>------------------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>match play and fire</td>
<td>awareness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>follow up</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>subject</td>
<td>incidence</td>
<td>out-of-home</td>
<td>follow up</td>
<td>fire</td>
<td>4 Hour</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kloko et al., 1991

<table>
<thead>
<tr>
<th>Article Name</th>
<th>Country</th>
<th>Sample</th>
<th>Treatment Type</th>
<th>Methodology</th>
<th>Findings</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maryland</td>
<td>USA</td>
<td>24 Child</td>
<td>Intervention</td>
<td>Controlled</td>
<td>Observation of Toy Fire</td>
<td>Experimental,</td>
</tr>
<tr>
<td>Year</td>
<td>Case Study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>Boys who were placed in foster homes in 1991 were followed for 1 year.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The boy was monitored by his parents, and the treatment lasted over 1 year.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>10 hours of inpatient treatment in a medical hospital.</td>
</tr>
<tr>
<td>Residential</td>
<td>Inpatient treatment for 2 years.</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>Outpatient treatment for 6 months.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Approximately 50% of children were found to have improved academic skills.</td>
</tr>
<tr>
<td>Behavior</td>
<td>Analyzied the behavior of the children.</td>
</tr>
<tr>
<td>Social</td>
<td>Analyzed the social skills of the children.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quasi-</td>
<td>Experimental. Monitored by experimental.</td>
</tr>
<tr>
<td>Educational</td>
<td>Education and follow-up with his parents.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication</td>
<td>Yes</td>
</tr>
<tr>
<td>Psychoeducation</td>
<td>Yes</td>
</tr>
<tr>
<td>Behavioral</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Findings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Improved academic skills.</td>
</tr>
<tr>
<td>Behavior</td>
<td>Improved behavior.</td>
</tr>
<tr>
<td>Social</td>
<td>Improved social skills.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication</td>
<td>Yes</td>
</tr>
<tr>
<td>Psychoeducation</td>
<td>Yes</td>
</tr>
<tr>
<td>Behavioral</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Article Name</th>
<th>Country</th>
<th>Sample</th>
<th>Treatment Type</th>
<th>Methodology</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>USA</td>
<td>52 children</td>
<td>Medication, Psychoeducation, Behavioral</td>
<td>Quasi-Experimental, Monitoring by experimental parents</td>
<td>Improved academic, behavior, social skills</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parental</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>Yes</td>
</tr>
<tr>
<td>School</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>Yes</td>
</tr>
<tr>
<td>Level 1</td>
<td>Articulation of the Setting</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>204</td>
<td>Treatment did not recur over setting behaviour</td>
</tr>
<tr>
<td>Article Name</td>
<td>Country</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>A comprehensive treatment program for a fire setting child</td>
<td>Canada</td>
</tr>
<tr>
<td>Level 1</td>
<td>4 fires were lit</td>
</tr>
<tr>
<td>--------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting</td>
<td>No follow up</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>had a history of fire</td>
<td>disabilities</td>
</tr>
<tr>
<td>not discharged, 36%</td>
<td>intellectual</td>
</tr>
<tr>
<td>of those who were</td>
<td>mild</td>
</tr>
<tr>
<td>discharged, 11%</td>
<td>people with</td>
</tr>
<tr>
<td>of those who were</td>
<td>education (n=138)</td>
</tr>
<tr>
<td>total patients had a</td>
<td>Non-equivalent</td>
</tr>
<tr>
<td>outcome was</td>
<td>therapy and</td>
</tr>
<tr>
<td>treatment</td>
<td>forensic</td>
</tr>
<tr>
<td>discharged, 11%</td>
<td>Experimental</td>
</tr>
<tr>
<td>of those who were</td>
<td>Pharmacotherapy</td>
</tr>
<tr>
<td>successful</td>
<td>treatment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 2 Evaluation of evidence</th>
<th>Study Evaluating Fire Setting Rehabilitation for Persons with an ID</th>
</tr>
</thead>
</table>

Table 24
Beck Depression

1992
(CFSE; Z. Battle,
Z. Cohen, Form AD

1994

Noveaco, 2003
Scale (NAS)

Noveaco Anger
Scale (GAS)

Goal Attainment
Rehabilitation

40 hours

Intervention

and Borderline

2006

Taylor et al.,

Forensic unit,

including

group therapy

and mild

education, in a

intervention

program for

disabled to a

single sex low

intervention

level 2

UK

Measure Follow-up
Outcome
Methodology
Rehabilitation
Sample
Country
Article Name

Significant

Findings

Maryland

Table 1
<table>
<thead>
<tr>
<th>Rating Scale</th>
<th>Findings</th>
<th>Outcome</th>
<th>Methodology</th>
<th>Rehabilitation</th>
<th>Sample</th>
<th>County</th>
<th>Article Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory Short</td>
<td>After 2 years: rehabilitation and immediately post-follow up occurred and Beck (BDI-SR: Beck Inventory, Short)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Level</td>
<td>Test</td>
<td>Phase</td>
<td>Examination</td>
<td>Outcome</td>
<td>Methodology</td>
<td>Rehabilitation</td>
<td>Country</td>
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<td>None</td>
<td>None</td>
<td>Post</td>
<td>Case</td>
<td>Case Study</td>
<td>Assisted cover</td>
<td>UK</td>
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<tr>
<td></td>
<td>None</td>
<td>None</td>
<td>Post</td>
<td>Case</td>
<td>Case Study</td>
<td>Assisted cover</td>
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<tr>
<td></td>
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<td>None</td>
<td>Post</td>
<td>Case</td>
<td>Case Study</td>
<td>Assisted cover</td>
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<tr>
<td></td>
<td>None</td>
<td>None</td>
<td>Post</td>
<td>Case</td>
<td>Case Study</td>
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<td>None</td>
<td>Post</td>
<td>Case</td>
<td>Case Study</td>
<td>Assisted cover</td>
<td>UK</td>
</tr>
</tbody>
</table>
Quality and effectiveness of treatments for fire setters without ID

Given the paucity of peer reviewed research investigating the quality and effectiveness of programmes for persons with ID, the current review also considered generic programmes for fire setters without ID, including fire safety education programmes, Cognitive Behaviour Therapy, and multicomponent treatments. The findings of these studies were considered potentially informative for the development of programmes for persons with an ID.

Fire safety education.

Fire safety education has been evaluated in relation to children and juvenile fire setters, and recently persons with ID (Alexander et al., 2011; Taylor et al., 2006; Taylor, Thorne, et al., 2002), with many benefits being reported. Fire safety education has been reported to improve both parent’s and children’s fire safety knowledge and fire safety skills (Kolko et al., 2006), to reduce the numbers of fires set (Adler et al., 1994; Bennett et al., 2004; DeSalvatore & Hornstein, 1991; Koles & Jenson, 1985; Kolko, 2001), and to reduce match play, fire-related acts, curiosity about fire, interest in fire and attraction to fire (Kolko, 2001; Kolko et al., 2006).

An example of a treatment programme comprising fire safety education as the only form of intervention was that evaluated by Bennett et al. (2004). Known as the Burn Education Awareness Recognition and Support (BEARS) programme, the programme was offered to 42 children from Illinois who were referred by the courts, law enforcement, fire departments, hospitals or parents. Participants received an educational curriculum that had been developed by fire fighters, with programme success measured by the return of fire setting behaviours after the programme had been completed, as reported by the parents of the child or the child themselves. Upon completion of the programme and at the time of writing their article, Bennet et al. reported that none of the children had returned to fire setting behaviours, though no further follow ups were conducted. A key limitation of the study by Bennett et al. was that they did not specify the follow-up period, resulting in an inability to accurately interpret the findings.

Cognitive behavioural therapy.

The effectiveness of Cognitive Behavioural Therapy (CBT) on children, juveniles and adult fire setters has been the subject of a number of evaluations,
which have consistently reported positive results in regard to reducing fire setting behaviour (Kolko, 2001; Kolko et al., 2006; Timmerman & Emmelkamp, 2005). For example, the use of CBT was associated with greater improvement in positive problem solving skills (Kolko et al., 2006), coping skills, interpersonal functioning and well being (Timmerman & Emmelkamp, 2005). In addition, those receiving CBT demonstrated a greater reduction in fire setting and match play incidents than those receiving fire safety education, and CBT resulted in a reduction in fire related acts, curiosity about fire, interest in fire, attraction to fire and a reduction in severity of problems with fire (Kolko, 2001). Also, those receiving CBT demonstrated the greatest reduction in deviant fire behaviour compared to those receiving home visits from a fire fighter and fire safety education (Kolko, 2001). In this context, deviant fire behaviour was understood to consist of inappropriate interest in fire, deviant fire activities such as playing with fireworks, candles or cigarettes, and negative peer influences.

Kolko’s 2001 study compared the effects of Fire Safety Education (FSE), CBT, and Home Visits from a Fire-fighter (HVF) to determine whether these programmes were able to reduce fire setting behaviour in children. Kolko described CBT as targeting behavioural dysfunctions and environmental conditions to result in an enhancement in pro social skills and an improved parent-child relationship. A focus was placed on child self-control, parent management skills and/or appropriate and positive family interactions. Within CBT, problem solving skills, assertiveness, and interpersonal conflict resolution skills can be taught. For this research, 54 boys who were referred for services by the City of Pittsburgh Bureau of Fire were attained for the study. He discovered that overall each of the conditions showed improvements in some aspect of the fire setting behaviour, with CBT demonstrating the strongest effects. The post CBT group demonstrated a significant reduction in the number of fire setting and match play incidents. In addition, CBT demonstrated the largest reduction in deviant fire behaviour of all groups.

**Multicomponent treatments.**

Many of the studies included multicomponent treatment programmes in which there was a combination of treatments packaged together. For example, DeSalvatore and Hornstein (1991) combined education with behavioural
modification and discovered that after a one year follow up, of the 56.5% of children who completed the programme, there was only one account of recidivism. Further, Adler et al. (1994) created a programme known as the *Juvenile Fire Awareness and Intervention Programme* (JFAIP). The JFAIP study was conducted in Australia and involved fire fighters from the metropolitan fire brigade delivering a programme to children between the ages of five and 16 who in the past 12 months had three episodes of fire play or one episode of fire setting which threatened or caused damage to property or an injury to another person. The programme consisted of an education component, behaviour modification, negative consequences, and graphing behaviour.

The education component consisted of providing parents with details of fire safety in the home, as well as the dangers of fire setting. Additionally, lack of understanding or misconceptions about fire by the child were corrected by fire fighters. In regards to behaviour modification, the children were required to undertake an eight week programme of repetitive fire setting under strict parental supervision. The goal of this component of the programme was to eliminate the child’s desire to light fires through satiation. The parents were asked to use positive reinforcement when the child would not light an unsupervised fire for certain periods of time. The third component, which referred to encouraging the parents to respond to episodes of fire setting without supervision by using negative consequences (e.g. withdrawal of identified privileges), but avoiding the use of punishment. The final element of the programme was the graphing exercise. This involved the fire fighter preparing a graph of the events that led up to the fire setting and immediately after the fire setting, and the feelings associated with each event. The aim of this part was to encourage the child to recognise the emotional antecedents of the fire setting behaviour, and to discuss alternative ways of expressing these emotions in a similar circumstance in the future.

In total, 138 children were referred to the programme. Adler et al. (1994) discovered that the mean rate of fire setting significantly reduced in the 12 months following the intervention and there was a marked reduction in the seriousness of fire setting. As noted by the authors, however, there was no evidence to suggest this was attributable to the multicomponent programme. As with any multi-faceted
intervention, the relative effectiveness of any one component is difficult to quantify without the use of a more systematic design. Additionally, several key limitations existed in the study that may have detrimentally affected the results, including the 30% attrition rate of participants, the highly dysfunctional sample utilised, and the lack of a true control group. For example, the control group were exposed to the initial interview focussing on the child’s fire setting behaviour, and were also provided with a fire safety pamphlet. The authors note that this may have been sufficient to encourage the parents to seek outside help for their fire setting children, which was not accounted for at the final follow up.

Discussion

This review identifies the paucity of literature evaluating the effectiveness of arson and fire setting treatment programmes, especially for persons with an ID. Furthermore, only one of the 16 studies identified in this review adopted a randomised control design, with the majority relying on pre and post test data to determine programme effectiveness. Although this type of evaluation provides some indication of treatment effectiveness, it does not allow for the control of confounding variables that might have impacted the treatment groups during treatment completion (Taylor, Thorne, et al., 2002).

The majority of the published evaluations involved small sample sizes (the average sample size was 49), with 14 of the 18 studies involving fewer than 50 participants (refer to Tables 23 and 24). This raises an issue regarding the power of the designs in discovering treatment effects. Further, many of the studies did not report significance levels or effect sizes (Clare et al., 1992; DeSalvatore & Hornstein, 1991; Franklin et al., 2002; Houvouras & Harvey, 2014; Koles & Jenson, 1985; Kolko, 1983; Lambie, Ioane, Randell, & Seymour, 2013; McGrath, Marshall, & Prior, 1979; Wolff, 1984), resulting in an inability to compare across studies.

To address these concerns, and given the practical problems that face programme evaluators in this area, it seems that multi-site designs, and potentially international collaboration will be important to progress research in this field. This would result in larger sample sizes that enable more robust statistical analysis of treatment effects. Assessments of clinical significance and reliable change based on
multiple baseline designs may also go some way to addressing these issues. One major concern with evaluating treatment programmes for fire setting is the difficulties associated with measuring the outcomes. For example, most programmes would aim to reduce fire setting behaviour, however acts of fire setting might not be common behaviours engaged in by persons who have completed these programmes. This is further compromised by the fact that fire setting behaviour is often undetected, and as such determining whether a person has ceased setting fires often relies on self-report.

Most of the programmes used to treat fire setters have adopted either a psycho-educational focus, or a cognitive behavioural focus. Both of these approaches have demonstrated effectiveness; though the current review suggests that CBT may be superior to education. While CBT has been demonstrated to be effective in other settings, there is a paucity of evidence for its use in the treatment of fire setting, and in particular, for persons with an ID.

Based on this review of the literature, it seems as though the next step could be to adapt programmes that have been developed for persons without ID to suit the needs of those with ID. Two studies in the current review evaluated the use of adapted education programmes with components of CBT for the treatment of fire setters with an ID, and found that they were successful; though the extent of success was unable to be determined due to a lack of reporting any effect size. Further, these studies utilised some participants who were deemed as having a borderline ID. As these participants fall into the borderline range, and as a result might be more likely to engage in crime (Langdon, Clare, & Murphy, 2011), it is unclear how applicable programmes would be to those in the mild, moderate, severe, or profound ID range. Adapting cognitive behavioural programmes may be the next step to determine whether these are effective or perhaps more effective than education alone for the ID population, considering their superior effectiveness in the normal intellectual functioning individuals. This would involve adapting the language and approach used in such a programme (Lindsay, 2009; Murphy & Clare, 1996) to enhance the understanding of those functioning at a lower cognitive level and at an earlier stage of moral development than their age equivalent peers. In addition to adapting the delivery style, programme development needs to take into
account the treatment needs and risk profile of offenders with an ID (see Chapter 3).

A further question is whether the adaptation of an adult programme would be sufficient, or whether adapting a juvenile/children’s fire setting intervention programme would be more suitable, due to similarities between persons with ID and juveniles with respect to their cognitive and moral development. With these considerations in mind, a psycho-educational programme, similar to those utilised with children and juveniles, has been implemented on two occasions for adult fire setters with an ID, and has demonstrated some success (Taylor et al., 2006; Taylor, Thorne, et al., 2002).

It is not clear from the studies identified in this review, the extent to which current programmes adhere to the principles of the RNR model, as outlined in the introduction. For example, in line with the risk principle, it has been estimated that 300 hours of treatment are required to ensure it is sufficiently intensive for high risk offenders (Bourgon & Armstrong, 2005). In the current study the longest treatment programme was 50 hours (and this was a programme for those without an ID), with an overall average of 18.2 hours for all treatment programmes. For those with an ID, the average treatment length was 40 hours, and for those without an ID 14.8 hours. It is unknown whether these groups present as high risk, as none of the studies reported the assessed risk of re-offending, even in relation to scores on general measures of risk-needs such as the Level of Service Inventory-Revised (LSI-R; Andrews & Bonta, 1995).

There is a deficiency in the literature in regards to the assessment and reporting of the level of risk posed by fire setters with ID, and, as such, further research needs to be conducted to determine and validate the risks presented by this particular population. Additionally, a review by Morgan et al. (2007) of 374 correctional programmes concluded that the majority (61%; N=230) failed to reach even a basic level of adherence to good practice principles, with less than 1% (N=6) of forensic mental health service documents making any reference to targeting treatment needs. It is therefore perhaps unsurprising that the disability programmes reviewed here do not appear to adhere to what is commonly regarded as good practice in offending behaviour programmes. It may be that treatment
effectiveness can be improved if programmes are developed that align more closely with the RNR principles.

Current treatment programmes for fire setting, such as fire safety education and CBT, appear to be effective in reducing fire setting behaviour in the general, non-ID population. Small sample sizes and a lack of effect size reporting, however, have rendered these studies incomparable, and treatment effectiveness is unable to be accurately gauged. Thus far, education programmes which contain components of CBT have demonstrated some effectiveness for persons with an ID; though the use of a solely CBT programme for fire setting behaviours has yet to be effectively evaluated for this population.

This review has demonstrated the need for further studies into the treatment of fire setters, and in particular those with an ID. The client group might be relatively small in number when compared to the larger offender population, but the harm that their actions can cause, the severity of their offences (as reflected in sentencing guidelines), coupled with the complexities of the issues surrounding the criminal proceedings associated with their behaviour, their rehabilitation and longer term support combined, all serve to escalate the need to develop evidence-based and effective treatment programmes. Future studies will need to carefully develop an appropriate methodology, ensuring it is suitable for the sample size utilised. Given the relatively small populations available, multi-site trials of a manualised programme might provide a solution. A focus on the use of a control group, and the reporting of significance levels and effect sizes will be essential to ensure treatment programmes are evidence based, and can be evaluated for effectiveness. Longitudinal follow-up will also be important to gauge the effectiveness of any such treatment. Also, as noted earlier, given the relatively small clinical population and their idiosyncrasies, individualised measures of treatment outcome using Goal Attainment Scaling techniques appears to be one promising approach to outcome evaluation.

A fire setting treatment programme for persons with an ID which is of a cognitive behavioural nature may be beneficial in providing an alternative treatment programme to the current reliance on psycho-education programmes. As CBT interventions have been shown to be generally superior to education
programmes, their adaptation for fire setters with ID seems like a logical next step in attempting to reduce fire setting behaviour in this specialised population. Such directions would be supported by recent research that supports the effectiveness of CBT for people with an ID in other clinical contexts, such as anger management and other such clinical presentations (Haddock & Jones, 2006; Oathamshaw & G., 2006; Taylor & Lindsay, 2007; Taylor, Novaco, Gilmer, Robertson, & Thorne, 2005; Taylor, Novaco, et al., 2002). Further, a focus on the RNR model in the development of programmes may assist in enhancing treatment effectiveness for this specialised population, particularly given that programmes adhering to the RNR model have demonstrated an ability to reduce recidivism by up to 35% in the general offender population, and those which do not have produced effect sizes close to zero (Andrews & Bonta, 2010a). It is important, though, that the RNR model is first thoroughly investigated in terms of its applicability to persons with ID, given the paucity of literature currently in this area.

Although arson is a costly offence, and is suspected to be associated with high reoffending rates, no rehabilitation programmes in Australian prisons or community services could be located. Current rehabilitation programmes for fire setting, such as fire safety education and CBT, appear to be effective in reducing fire setting behaviour. However, small sample sizes and a lack of effect size reporting have rendered these studies incomparable, and rehabilitation effectiveness is unable to be accurately gauged.
Chapter Seven: Discussion

This thesis provides insights into the characteristics and treatment needs of fire setters with ID. It reveals that fire setters with ID commonly present with comorbid mental disorders, a history of fire setting and violent offending, low frustration tolerance, poor anger management, and low levels of empathy. These findings inform our understanding of the risk factors and treatment considerations for these complex persons, and provide the basis for the development of comprehensive programmes for prevention, intervention, and rehabilitation. Furthermore, this programme of research documents and analyses the complexity of the judicial and corrections processes surrounding these individuals. It establishes the imperatives for rehabilitation from the perspective of the judiciary, rehabilitation professionals, and the community.

Through a series of studies the thesis has demonstrated that fire setters with ID are a heterogeneous group. They share many of the characteristics of fire setters in the general population. As a result of their cognitive deficits and potentially delayed psychosocial and moral development, they require specific treatment programmes. The results of the current research indicate they are deemed as ‘treatable’ by the judiciary and the community more broadly, and are identified as requiring specialised treatment by professionals who work closely with them. Current programmes addressing their fire setting behaviour are limited, both in regard to their existence and in evaluations of their effectiveness. The findings of the current thesis are discussed in regard to their implications for practice, including the assessment of risk and the development and/or improvement of fire setting programmes. This chapter concludes with a model, which integrates the findings and poses future directions for both research and practice.

Theories and Prevalence Data
Theories that attempt to explain why people set fires were critiqued in Chapter 1. These ranged from typology theories (which classify people according to their motive for fire setting by the presence of a particular mental disorder, or by their behaviour) to multi-factorial theories, which attempt to provide comprehensive models to explain fire setting in a wider context. These theories and models are varied and cover a variety of differing characteristics and risk factors
for fire setters. None of the models or theories have been evaluated for fire setters with ID. It was therefore concluded that the theories and models presented in chapter 1, based predominantly on general forensic populations, provide very little insight into the treatment and support needs of fire setters with ID, and that an ID specific model needed to be developed.

When considering the development of a model relevant to the circumstances and needs of people with ID in Australia, a further concern is the lack of publicly available information about fire setting or arson generally, and in particular for cases involving those who have an ID. Often arson is recorded as a property crime, rather than an offence in its own right, and whether the fire setter was a person with ID is also not readily accessible information. Consequently, Chapter 1 argued that in order to understand fire setters with ID, and to construct a model to inform prevention, intervention, and rehabilitation for this group, further research was needed; particularly to determine their characteristics and support needs, and subsequently the way in which the criminal justice system can most appropriately respond to them.

Risk

The characteristics and risk factors for fire setters with ID, and what this might mean for services who support this group were analysed in Chapter 3. In Australia, the UK, and North America, the most common approach to offender case management is known as the Risk-Needs-Responsivity (RNR) model (Andrews & Bonta, 2010a). Risk management is essential to the RNR model and the aim is to provide treatment to offenders to prevent community harm (Andrews & Bonta, 2010a). Risk management largely involves identifying offenders’ risks and their associated factors, and putting strategies in place to reduce the chance that the risk will occur, or to minimise its impact (Johnston, 2002). The RNR model has not been empirically evaluated in terms of its applicability or usefulness with offenders with ID. As such consideration is also given to a strengths-based approach to offender rehabilitation, known as the Good Lives Model (GLM).

The GLM assumes that offending results from individuals using maladaptive strategies, which have resulted from a lack of internal and external resources, to obtain things they value (Ward & Stewart, 2003). The GLM incorporates the
criminogenic needs aspect of the RNR model, acknowledging that these needs can interfere with the person’s ability to achieve their ‘primary goods’ (i.e., things they value).

According to the GLM, there are 11 types of primary goods: life; knowledge; excellence in work; excellence in play; excellence in agency; inner peace; friendship; community; spirituality; pleasure; and creativity (Ward & Gannon, 2006). Whilst there is no existing evidence that favours either the RNR model or GLM for offenders with ID, it appears that in the context of ID the focus on building and promoting skills within the GLM may be beneficial for persons with ID who likely experience difficulties achieving the 11 primary goods without support. Further, the GLM incorporates aspects of risk and need, meaning these can be managed within its strengths-based approach.

It is therefore asserted that both the RNR model and the GLM incorporate aspects of risk, and as such a further understanding of these models and their applicability to fire setters with ID is important. With this in mind, there are two major types of risk factor to be considered: static and dynamic. Static risk factors are those that cannot be changed as they are part of the offender’s history (e.g. childhood experiences) but still need to be taken into account when designing individualised treatment (Lofthouse et al., 2014). Dynamic risk factors, also known as criminogenic needs, are those factors related to the offending behaviour that are amenable to change, and as such should be targeted by treatment programmes (Andrews & Bonta, 2010a). There are two different types of dynamic risk factors; those that are stable and those that are acute. Stable dynamic risk factors refer to those which are not expected to change for long periods of time (months or years); for example attitudes and beliefs (Hanson & Harris, 2000). Acute dynamic risk factors, on the other hand, can change very quickly and may only last days, minutes, or seconds (Hanson & Harris, 2000). Examples of acute dynamic risk factors include intoxication and stress. Hanson and Harris (2000) noted that it is stable dynamic risk factors that should be targeted in treatment as they will produce long-lasting change, whereas acute dynamic factors are likely to be related to the timing of the offending, and have minimal influence on long-term risk potential (Hanson & Harris, 2000).
The current thesis has contributed to the understanding of the characteristics and dynamic risk factors in regard to fire setters with ID. These were identified in Chapter 3, however they remain hypothesised risk factors due to a lack of research assessing the predictive validity of these factors for fire setting recidivism. The potential risk factors included a history of fire setting and violent offending, as well as a high prevalence of comorbid mental disorder, particularly personality disorders. The prevalence of comorbid personality disorder is consistent with a study by Alexander et al. (2010) who found that of the 77 offenders with ID who also had a diagnosed personality disorder in a medium secure service in the UK, 14% had a conviction for arson, compared to only 5% in the ID offending group who did not have diagnosed personality disorder (N=61). In addition, 31% of the ID and personality disorder group had a history of fire setting, compared to only 10% of those without a comorbid personality disorder. It is important to note that the high level of personality disorder identified in Chapter 3 may be a result of over-diagnosing personality disorders for persons with ID, who have a particular way of behaving, thinking, and feeling as result of their disability, and for whom dependency needs may be confused with criteria required for diagnosing certain personality disorders (Alexander, Chester, Gray, & Snowden, 2012).

Of particular importance was the similarity in dynamic risk factors, as identified through the Short Dynamic Risk Scale (SDRS; Quinsey, Book, & Skilling, 2004), between those with an index arson offence and those with an index violent offence, highlighting the potential for persons charged with arson offences who have an ID to receive similar treatment programmes to violent offenders particularly when the motive for fire setting is anger based. The potential needs identified as elevated for index arson offenders (and index violent offenders) included a lack of responsibility, experiences of anger/frustration/anxiety, and a lack of empathy. There has, however, been little testing undertaken on the SDRS, particularly in regard to determining the cut-offs for risk classification; i.e. what constitutes low risk, medium risk, and high risk. As such, it is unclear whether these needs are in fact elevated, or whether all persons with ID would receive elevated scores on these particular needs. Further, as these were based on the one needs
scale that was included in the pre-existing database, and which only covered eight items, these are only three of a possible range of needs that may be present for fire setters with ID. For example, other needs that may be present include impulsivity, substance abuse, inappropriate fire interest, and poor communication skills (for a full list of potential needs see Table 25).

Although it is important to identify the characteristics of fire setters with ID related to their acute dynamic risk factors in order to determine the level of risk requiring management, it is stable dynamic risk factors that are of particular importance to treatment development and provision for offenders. As such these needs will be the focus of discussion in relation to such programmes.

In the study documented in Chapter 5, professionals who had experience working in disability services, corrections, or both, were asked to identify important areas to be addressed when treating fire setters with ID, as well as to provide considerations for treatment development or adaptation. These findings are summarised in Table 25. The needs identified within Chapter 3 as well as the potential needs identified through the literature review in Chapter 1 are also included. While all of these needs have not been explicitly linked to persons with ID, given the findings reported in this thesis that fire setters with ID share many of the characteristics of fire setters without ID, they are asserted to be applicable to this population.

The extensive list of potential needs identified for fire setters with ID demonstrates the importance of further investigating this population. Whilst there are some needs which are common across the majority of groups, for example anger and a history of offending, there are many which were only identified through one of the series of studies. Table 25 also demonstrates the lack of agreement about what constitutes a risk factor for fire setters with ID, highlighting the infancy of research in the area.
Table 25

*Potential dynamic risk factors/needs of fire setters with ID to be targeted in treatment*

<table>
<thead>
<tr>
<th>Generic fire setting literature (Chapter 1)</th>
<th>ID Fire setters (Chapter 3)</th>
<th>ID Case Law (Chapter 4)</th>
<th>Professionals (Chapter 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of antisocial behaviours such as shoplifting, school truancy, repeated lying, non-acquisitive property crimes, violent offending</td>
<td>Comorbid mental disorder (particularly personality disorder)</td>
<td>Comorbid mental disorder</td>
<td>Consequences of fire setting</td>
</tr>
<tr>
<td>Extensive criminal histories</td>
<td>Anxiety</td>
<td>Other offending behaviour</td>
<td>Communication</td>
</tr>
<tr>
<td>Antisocial personality pattern, including aggression, and impulsivity</td>
<td>Anger</td>
<td>Male</td>
<td>Insight</td>
</tr>
<tr>
<td>Antisocial cognition, including revenge motives</td>
<td>Frustration</td>
<td></td>
<td>Problem Solving</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>Empathy</td>
<td></td>
<td>Self-esteem</td>
</tr>
<tr>
<td>Inappropriate fire interest, including excitement, and fascination with fire</td>
<td>Responsibility</td>
<td></td>
<td>Coping skills</td>
</tr>
<tr>
<td>Frustration</td>
<td>Coping Skills</td>
<td></td>
<td>Empathy</td>
</tr>
<tr>
<td>Anger</td>
<td>Other offending behaviour</td>
<td></td>
<td>Emotion Regulation &amp; management</td>
</tr>
<tr>
<td>Poor communication skills</td>
<td>Depression</td>
<td></td>
<td>Frustration</td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td></td>
<td>Substance use</td>
</tr>
<tr>
<td></td>
<td>Boredom</td>
<td></td>
<td>Relationship problems</td>
</tr>
<tr>
<td></td>
<td>Anger</td>
<td></td>
<td>Depression</td>
</tr>
<tr>
<td></td>
<td>Trauma</td>
<td></td>
<td>Stress</td>
</tr>
<tr>
<td></td>
<td>Peer group influence</td>
<td></td>
<td>Boredom</td>
</tr>
</tbody>
</table>


The needs of fire setters with ID identified in the studies within the current thesis might not be exhaustive, given they are derived from studies based on small sample sizes and jurisdictional differences, amongst other limitations. Developing a further understanding of the potential risk factors in regard to which are most predictive of further acts of fire setting, and whether these vary by gender, age or level of ID, or some other individual or contextual attribute, will be a crucial next step in understanding fire setters with ID, and determining whether existing
programmes have the potential to be effective at addressing the identified characteristics and treatment needs of fire setters with ID. Investigating the predictive validity of the risk factors highlighted in this thesis for fire setting recidivism will be essential if risk assessment tools are to be developed for this population (to be discussed further in the next section: Risk Assessment), and also for the development of treatments and the evaluation of interventions.

The potential risk factors from Table 25 are presented within the Fire-setting Offence Chain for Mentally Disorder Offenders (FOC-MD) model (Tyler et al., 2014) in Table 26. As discussed in Chapter 1, the FOC-MD consists of four main phases:

1. Background factors: The historical factors from the offender’s childhood and adolescence, such as caregiver experiences, experience of abuse, and a history of family mental health issues.
2. Early Adulthood: Factors that occur during early adulthood, as well as experiences that take place in this period, such as experiences of intimacy.
3. Pre-Offence Period: The factors that occurred early in the offender’s adulthood and in the period up until immediately prior to the fire, such as substance use, and poor problem solving skills.
4. Offence and Post-Offence Period: The factors that occurred during and immediately after the fire, such as fire interest and cognitions associated with the fire.

Many of the historical factors listed in Table 25 are arguably static risk factors and as such are unlikely to change as a result of behaviour change programmes. These include poor educational outcomes (Ducat, McEwan, et al., 2013), low socioeconomic status (Anwar et al., 2011; Doley, 2003; Harris & Rice, 1996; Inciardi, 1970; Ritchie & Huff, 1999), experiences of abuse (McCarty & McMahon, 2005; Moore, Thompson-Pope, & Whited, 1996), involvement in deviant behaviour as a child (Kolko, 2001; Kolko & Kazdin, 1990; Walsh, Lambie, & Stewart, 2004), and cognitive deficits (Bradford, 1982; Fineman, 1995; Hall et al., 2005; Leong & Silva, 1999; Lewis & Yarnell, 1951). However, many of those factors within the early adult, pre-offence, and offence/post offence categories in Table 26 are dynamic and as such have the potential to be targeted through programmes.
The FOC-MD demonstrates an extensive number of risk factors that present in the pre-offence and offence/post offence period, highlighting the importance of considering these factors in the development of any treatment or rehabilitation programme developed for fire setters with ID, though such factors would need to be evaluated in a sample of fire setters with ID prior to such development. This is important, given that most of the factors in the person’s background and early adult period are unlikely to be amenable to treatment using a behaviour change programme, unless the person is still relatively young. The mean age of those with an index arson offence with ID in Chapter 3 when they were admitted into secure services was 29 years of age, indicating that they are generally out of the early adult period, and thus are less likely to be amenable to having these factors effectively addressed.

As discussed in Chapter 1, the FOC-MD appears to be a useful framework for categorising risk factors for fire setters with ID as it combines the cognitive, affective, behavioural, and contextual factors that seem to be associated with fire setting (Tyler et al., 2014), which allows the complexity of fire setters to be accounted for when planning appropriate treatment responses. The lack of evidence for its utility, however, means it needs to be extensively evaluated using samples of fire setters who have differing levels of ID, and who are from differing jurisdictions. Further, Table 26 demonstrates the ability for the potential risk factors identified in the current thesis to enrich the model. Evaluating the applicability of an enriched FOC-MD in more detail for fire setters with ID would be a useful next step in increasing understanding of the offence process of fire setters with ID. This would not only involve determining the predictive validity of the potential risk factors for fire setters with ID identified in the Table 26, but would also involve evaluating each of the pathways identified by Tyler et al. (2014) for fire setters with ID, including the ‘fire interest-child mental health’ pathway, the ‘no fire interest-adult mental health’ pathway and the ‘fire interest-adult mental health’ pathway (as discussed in Chapter 1). Undertaking validation studies on the FOC-MD for fire setters with ID would go some way in helping to explain fire setting behaviour in persons with ID, and would also assist in the determination of the level
of risk of fire setters with ID by assisting in the development of valid risk assessment
tools for this population.

Table 26

*Risk factors/needs within the FOC-MD framework*

<table>
<thead>
<tr>
<th>Background</th>
<th>Early Adult</th>
<th>Pre-offence</th>
<th>Offence/Post Offence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience of abuse</td>
<td>Experience of abuse</td>
<td>Substance abuse</td>
<td>Fire interest</td>
</tr>
<tr>
<td>History of fire setting</td>
<td>Relationship problems</td>
<td>Aggression/anger</td>
<td>Lack of responsibility</td>
</tr>
<tr>
<td>Antisocial behaviour</td>
<td></td>
<td>Poor problem solving skills</td>
<td>Lack of insight</td>
</tr>
<tr>
<td>Trauma</td>
<td></td>
<td>Boredom</td>
<td>Excitement from fire</td>
</tr>
<tr>
<td>Poor education</td>
<td></td>
<td>Impulsivity</td>
<td>Fascination with fire</td>
</tr>
<tr>
<td>Low SES</td>
<td></td>
<td>Antisocial cognition</td>
<td></td>
</tr>
<tr>
<td>Low IQ/ID</td>
<td></td>
<td>Poor coping skills</td>
<td>Fire interest</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Poor emotional regulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Communication difficulties</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Frustration</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lack of empathy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Anxiety</td>
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<td></td>
<td></td>
<td></td>
<td>Self-esteem</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Peer group influence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No understanding of consequences of fire</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mental Disorder- including schizophrenia, personality disorder, and depression</td>
</tr>
</tbody>
</table>

**Risk Assessment**

The risk principle of the RNR model suggests that the assignment of individuals to treatment should be based on a valid and reliable assessment of risk (Andrews & Bonta, 2010b). Importantly, ensuring level of risk is determined before allocation to treatment is paramount as low risk offenders can be negatively
influenced by attending programmes targeted at higher risk offenders (Andrews & Bonta, 2010a). There is currently little evidence to suggest that adhering to the risk principle is necessary for effective treatment outcomes with offenders with ID, particularly those who set fires. Assessing risk, and in particular dynamic risks for fire setters with ID may provide assistance in the development and/or improvement of treatment and rehabilitation programmes by basing them on identified risk factors and levels of risk of the group. To place such assessment in a historical context, Casey et al. (2013) present four generations of risk assessment approaches; unstructured or unguided clinical judgements, actuarial measures; risk/needs scales; and integrated risk-need assessment and case management plans, or tools which were developed for specific populations.

The unstructured clinical judgement method of risk assessment involves clinicians using their discretion to identify level of risk based on clinical factors presented, combined with their individual experience. This approach to assessment was demonstrated to be unreliable and invalid (Guy, Packer, & Warnken, 2012). Actuarial assessment was introduced in response to the criticism to unstructured clinical judgement, as a way for clinicians to objectively determine level of risk, based on a series of predetermined historic and static risk factors for the particular offence (Dolan & Doyle, 2000). In pure actuarial assessment, risk factors are known but these are static or historical and provide a probability risk estimate (Mills, Kroner, & Morgan, 2011). Other actuarial assessments incorporate dynamic risk factors, or needs, and as such fall under the third generation (risk/needs scales) presented by Casey et al. (2013). Actuarial tools presented an important strength that was their predictive ability, though they have their own limitations, often ignoring clinically relevant individual differences in risk (Hart, 1988).

The structured professional judgement (SPJ) approach is a combination of empirical knowledge and professional expertise (Dolan & Doyle, 2000); that is, a combination of clinical judgement and actuarial assessment. It involves identifying factors that have been shown to have an empirical association with an increased risk of offending, and the professional then making judgements about level of risk based on the factors that they consider are most important for the individual being assessed (Guy, Packer, & Warnken, 2012). SPJ is a risk and case-management
oriented approach that provides a descriptive risk estimate (Mills, Kroner, & Morgan, 2011). An example of a widely used SPJ tool is the HCR-20 (Webster, Eaves, Douglas, & Wintrup, 1995), which contains items relating to historical factors, present clinical status, and future risk management factors (Pederson, Ramussen, & Elsass, 2012).

When considering risk assessment, there is also an important distinction to be considered between criminogenic needs and non-criminogenic needs. Criminogenic needs are dynamic risk factors that are functionally related to criminal behaviour (Andrews & Bonta, 2010b). An example of these are the central eight criminogenic needs as discussed by Andrews, Bonta, and Wormith (2006), including a history of antisocial behaviour, antisocial personality pattern, antisocial cognition, antisocial associates, family/marital circumstances, school/work, leisure/recreation, and substance abuse. Non-criminogenic needs are those which have a very minor or no relationship to criminal behaviours, but which may indirectly influence them. Examples of non-criminogenic needs include self-esteem, mental disorder, and a history of victimisation (Andrews & Bonta, 2010b).

Hocken, Winder, and Grayson (2013) have noted that assessment of risk for offenders with ID is significantly lagging behind mainstream risk assessment literature as a result of the small, specialist group of researchers and practitioners working with these clients, in addition to the lack of cohesiveness and communication between these professionals. As such it is not surprising that no risk assessment tools for fire setting specifically could be identified.

One tool known as the St. Andrew’s Fire and Arson Risk Instrument (SAFARI; Long et al., 2013), has been developed specifically to augment existing structured risk assessments (such as the HCR-20) for fire setting in offenders with mental disorder. The tool is a semi-structured interview that was developed using Jackson et al.’s (1987a) functional analysis model as a basis, and which aimed to provide information that could assist with case formulation and treatment. The SAFARI was designed to be used alongside existing structured risk assessments to provide fire specific information to tools which were already being utilised by ID services, though by itself does not comprise any actuarial measure of risk, nor does it have
any evidence of predictive validity, which are two aspects argued to be necessary for good correctional assessment (Bonta, 2002).

The SAFARI interview incorporates questions focussed on background/developmental behaviour, cognitive factors, environmental factors, and specific trigger events. Importantly, the assessment focuses on thought processes regarding the fire setting, which was not initially included in Jackson et al.’s model but which have been considered important in subsequent models (Gannon et al., 2012). The tool was tested to determine the test-retest reliability, inter-rater reliability, internal consistency, and content validity on 15 women who had a history of fire setting and a diagnosed mental disorder (it is indicated by the authors that some participants had a mild ID, but the number is not specified). The authors found that the questions in the tool were easy to understand and comprehensible by 95% of participants, including those in the mild range of ID. The Cronbach’s alpha was 0.87, indicating good internal consistency, and the inter-rater reliability was 0.88. However, with a small sample size of 15 women these findings can only be considered preliminary, and further testing would be required to determine its utility and its predictive validity.

There are some existing dynamic risk assessments that have been developed for offenders with ID, including the Assessment of Risk and Manageability of Individuals with Developmental and Intellectual Limitations who Offend – Sexually (ARMIDILLO-S; Boer et al., 2012). The ARMIDILLO-S was developed as a response to the lack of risk assessment tools available to offenders with ID who offend sexually, and focuses on using SPJ and dynamic risk factors in determining the client’s ‘manageability’- rather than their level of risk. The ARMIDILLO-S refers to the client’s manageability as its authors noted that determining a person’s reduction in level of risk through SPJ would be difficult.

An important strength of the ARMIDILLO-S is its inclusion of contextual risk factors, such as social relationships, which have received little attention in the ID offending literature particularly when compared to the more general criminological literature (Wheeler, Clare, & Holland, 2014), and which were unable to be investigated in the current thesis due to the use of a pre-existing data set which did not comprise such variables. The ARMIDILLO-S comprises both stable and acute
dynamic risk factors, which are further divided into the stable dynamic environmental subscale, acute dynamic environmental subscale, stable dynamic client subscale, and acute dynamic client subscale.

A study by Blacker et al., (2011) found that the ARMIDILLO-S was the best predictor of recidivism for sexual offenders with special needs (ARMIDILLO-Acute AUC=0.73; ARMIDILLO-Stable AUC=0.61), compared to the Rapid Risk Assessment for Sex Offence Recidivism (AUC=0.54), Risk Matrix 2000 for Violent offenders (AUC=0.50), and the Sexual Violence Risk-20 (AUC=0.45). Further, Lofthouse et al. (2013) investigated the predictive accuracy of the ARMIDILLO-S for sexual offenders with ID, and found that it was more effective than the STATIC-99 and the VRAG at predicting sexual reoffending. Whilst the tool has a general version (ARMIDILLO-G) currently undergoing psychometric evaluation (Boer et al., 2012), it presently has little evidence of application to fire setters with ID, particularly considering the range of potential risk factors that require validation.

There is scope to develop a fire setting version of the ARMIDILLO, as the tool was specifically developed for offenders with ID, and as such the structure is useful and has demonstrated predictive validity with sex offenders with ID. If such a modification was to take place there are key items, as identified in the current thesis that would need to be included to make it more applicable to fire setters with ID. Importantly, the ARMIDILLO assesses many of the potential needs for fire setters identified in Table 25 including impulsivity, substance abuse, mental health, coping strategies, emotional coping ability, as well as having ‘unique considerations’ sections which allow for the individual specific variables to be accounted for such as antisocial tendencies and employment. However, the ARMIDILLO might not have the ability to account for individual variation in motives and reasoning for fire setting behaviour (see Chapter 1), and as such an important consideration when adapting the ARMIDILLO for fire setting is the incorporation of a functional assessment of the fire setting behaviour.

Functional assessment involves understanding the function of the fire setting for the person, including the antecedents, behaviours, and consequences associated (Miltenberger, 1999). Having this detail about the person allows some treatment needs to be understood, but also allows the motive of the fire setting to
be identified which in turn will assist in treatment allocation. This might involve allocating fire setters to existing generic programmes that are relevant, including anger management and social skills training, and supporting them through these and assisting them to apply the general concepts to their fire setting behaviour, which is something persons with ID find difficult (Griffiths, Watson, Lewis, & Stoner, 2004). Individual sessions could then address the other needs, such as fire interest, that are not covered in these programmes. For example, if the person’s motive is anger based, such as revenge, they may be allocated to a generic violent offending programme, whereas if it is excitement they may require a fire specific programme.

Functional assessment is one particular type of case formulation that is particularly pertinent for fire setters with ID, as it is commonly utilised for challenging and problem behaviour in persons with ID (Carr et al., 2006), and is relevant for fire setting due to the heterogeneity of the population. It is not a new concept to the fire setting area, particularly with persons with ID, as a tool known as the Fire-Setting Assessment Schedule (Murphy & Clare, 1996) was developed to assess fire setting based on the functional analysis approach developed by Jackson, Glass, and Hope (1987).

The Fire-Setting Assessment Schedule contains 32 statements, of which 16 refer to the events, feelings, and cognitions that preceded the fire setting behaviour, and 16 that refer to the events, feelings, and cognitions post fire setting. In their initial study using the tool, Murphy and Clare (1996) reported that anger was the most common prior event/cognition/emotion identified by fire setting participants (six out of 10 participants), closely followed by not being listened to (five out of 10). Murphy and Clare concluded that there appear to be a variety of motivations for setting fires, and that any treatment plan developed for an individual who engages in fire setting will need to consider a range of different pre and post events, feelings, and cognitions in order to reduce reoffending. In addition, the SAFARI, as described earlier, was developed based on the Jackson et al., functional analysis approach (Long, Baynard, & Fulton, 2013). However, as noted by Gannon et al. (2012), the functional assessment perspective alone does not adequately account for, or sufficiently explain, the variety of motivations and
potential relations with other factors associated with fire setting commonly seen in treatment.

As similarities have been identified between those persons with ID who have an index offence of arson and those with ID who have a violent index offence (see Chapters 1 and 3), it may be that risk assessment tools that have demonstrated predictive validity for violent offenders may also be valid for fire setters. An example of a violence risk assessment tool that has been shown to be predictive of violent and general recidivism in offenders with ID is the HCR-20 (Gray et al., 2007; Lindsay et al., 2008). For example, Lindsay et al. (2008) assessed the predictive validity of the HCR-20 for violent incidents with 212 adult male offenders with ID, and who had a mean IQ of 66. They discovered that the HCR-20 was a significant predictor of violent incidents (AUC=0.72). The most recent version of the HCR-20, version three, comprises 10 historical items, five clinical items, and five risk management items (Douglas et al., 2014). The historical items include violence, other antisocial behaviour, relationships, employment, substance use, major mental disorder, personality disorder, traumatic experiences, violent attitudes, and treatment or supervision response. The clinical items include insight, violent ideation or intent, symptoms of a major mental disorder, instability, and treatment or supervision response including compliance and responsiveness. The risk management scale comprises professional services and plans, living situation, personal support, treatment or supervision response, and stress or coping. The HCR-20 is particularly relevant for fire setters with ID, given that all items across the three scales have been identified as potential risk factors or characteristics of fire setters with ID throughout the current thesis. The HCR-20 also provides case formulation frameworks that can be drawn upon by the evaluator, which provides flexibility in addition to the structured aspects of the assessment.

Determining the predictive validity of the HCR-20 for fire setters will enable its utility for this population to be determined. It may be that for fire setters with ID, a modified version of the HCR-20 should be developed to incorporate more fire related variables, rather than focussing so heavily on violence. Alternatively, the use of the SAFARI in addition to the HCR-20 may be sufficient to account for the lack fire related variables in the HCR-20 alone. However, as the ARMIDILLO has been
developed specifically for an ID population, and is a standalone tool that has demonstrated validity within the ID offending population, it appears to be the most promising assessment tool to modify for fire setters and to further investigate. The fire setting version of the ARMIDILLO would comprise aspects of violent offending assessments, given the similarities that were identified between index violent offenders with ID and index arson offenders with ID identified in Chapter 3. If a modified version of the ARMIDILLO for fire setters is evaluated and is not a useful tool or does not have predictive validity for further acts of fire setting, alternatives such as the SAFARI and violence risk assessments could be further investigated.

Whilst predicting risk is important, there is a second component to risk assessment which involves matching treatment; that is persons who are deemed high risk receiving intensive treatment and rehabilitation, whereas those who are categorised as low risk receiving minimal or low intensity services (Andrews & Bonta, 2010a). Matching risk level to treatment is very important, as it has been demonstrated that providing treatment designed for high risk offenders to those with low risk can have the opposite effect, resulting in negative outcomes (Andrews & Bonta, 2010a). Lowenkamp and Latessa (2004) identified two meta-analyses (Dowden & Andrews, 1999; Dowden & Andrews; 2000) on offender populations that demonstrate intervention effect sizes of 0.20 and 0.16 respectively, in studies when the risk principle was followed.

Of interest, the professionals surveyed in the study reported in Chapter 5 did not mention matching treatment or rehabilitation to level of risk when asked about important considerations for treatment. This may be a reflection of the professionals believing that all offenders should be receiving treatment, regardless of risk, or an assumption that if these offenders have been sentenced to imprisonment that they must be high risk. The latter is supported by the judges in Chapter 4 providing longer sentences to fire setters with ID, than those fire setters without, regardless of their acknowledgement of issues with moral culpability and responsibility. However, nine of the 17 professionals had only disability experience, implying that they may not have mentioned treatment matching as essential as they have goals other than risk management when supporting these individuals; such as positive behaviour support which aims to increase the individuals quality of
life first, then focuses on decreasing frequency and severity of challenging behaviour second (Disability Services Commission, 2012). Challenging behaviours include aggression, property destruction, self-injury, and stereotypy (Luisell, 2012), and it has been argued that basing interventions for such behaviour on functional assessment will be more effective than those interventions which are not function-based (Didden, Korzilius, van Oorsouw, & Sturmey, 2006). This reiterates the importance of any risk assessment tool for fire setters with ID comprising an aspect of functional assessment, and also that professionals who work in disability settings might benefit from training in the assessment and management of fire setters with ID who tend to have a history of other offending behaviour (see Chapter 3).

Whilst research into the most appropriate risk assessment tools for offenders with ID is in its infancy, and there was a paucity of fire setting specific tools, there are some avenues that appear promising. The ARMIDITO-S has demonstrated predictive validity for sex offenders with ID, and as it has been specifically developed for an ID population might be a useful tool to adapt for fire setters. Further, as the HCR-20 addresses many of the potential risk factors identified for fire setters with ID, it too may be a tool that would be useful if modified for persons with ID. In addition, the inclusion of a functional assessment of the fire setting behaviour appears to be crucial when modifying these tools to fire setters, and if used as a first step may assist in determining which tool would be more appropriate, in that the HCR-20 may work best if the person had an anger based motive for their fire setting, such as revenge.

What was clearly demonstrated through Chapters 1 to 3 was the lack of existing knowledge and understanding of fire setters with ID, and a lack of sufficient available data to enable adequate analyses to be performed to provide further insight in this subgroup. As such, developing an understanding of how the criminal justice system responds to fire setters with ID was considered a necessary next step, given that very little is known about their characteristics and needs which may impact on their pathway through the justice system.

**Judicial Considerations and Sentencing**

In the process of understanding how the criminal justice system responds to fire setters with ID, four distinct pathways through the justice system for persons
with ID in Australia were identified (Chapter 4). These include diversion from usual
court processes; assessment of fitness to plead; entering a plea of not guilty by
reason of mental impairment; or a guilty plea and subsequent sentencing. As
discussed in Chapter 4, there are issues associated with diverting persons with ID
from the justice system, including the need for people to have previously been
diagnosed or identified prior to their contact with the police and court system.
Further, the lack of information about the number of people with ID who are
diverted results in an inability to quantify the number of fire setters with ID who are
diverted. The result of this is a lack of clarity regarding whether fire setters with ID
are being diverted away from usual court procedures, and an inability to quantify
the number of fire setters requiring specific support.

Subsequently, an investigation of public case law in Chapter 4 revealed that
judges tended to acknowledge that having an ID might impact on the persons
offending behaviour. Judges often placed less emphasis on deterrence, and
focussed more on the seriousness of the crime and protection of the community.
Moral culpability was given consideration in some cases, but was generally
considered less important when the fire setting was serious. Judges also discussed
rehabilitation and the importance of programmes being available, however they
also tended to provide longer sentences to fire setters with ID, than to fire setters
without ID. This inconsistency may be explained by differences in the seriousness of
the offence, or perceived level of risk. Chapter 4 reinforces the importance of
judicial training regarding fire setters with ID, and ensuring there is clear guidance
available for sentencing. It is important that this area receives further attention, as
sentencing has implications for the management of the individual and their
subsequent rehabilitative prospects.

Treatment

The intention of the research reported in chapter 5 was to determine the
awareness and opinions of the community generally, and amongst professionals in
particular, concerning fire setters with ID and their prospects for rehabilitation.
This was investigated using a series of online surveys. Results revealed that the
community were supportive of treatment for fire setters with ID, with a majority
believing that these fire setters can be rehabilitated, though there was an
uncertainty about whether current programmes were effective. Further, professionals reported a need for specialist treatment and rehabilitation options for fire setters with ID. Respondents indicated that such options would not only be useful, but also important to both reduce risk and to increase well being.

Given the support for rehabilitation of these offenders, based on the opinions of the judiciary, practitioners, and the community more widely, Chapter 6 then focussed on determining whether there currently existed any effective treatment programmes for fire setters with ID. Based on a systematic review of the literature and consultation with expert practitioners, it was established that there were very few specialist programmes, and a paucity of research to establish their effectiveness. Only four studies able to be located in which a fire setting treatment programme was undertaken with persons with ID. Two of these treatments were group treatments, with a focus on education delivered from a broad cognitive behavioural framework (Taylor et al., 2006; Taylor, Thorne, et al., 2002). They focused on fire interest, attitudes towards fire and fire setting, and distorted beliefs concerning responsibility for and risk factors related to their fire setting behaviour. The remaining two programmes utilised multicomponent treatments (Alexander et al., 2011; Clare et al., 1992). Whilst many other programmes were identified through the review in Chapter 6, particularly around education programmes delivered to children by fire services, it remains unknown whether these have applicability to adult fire setters with ID.

The current programme of research concludes that to date, only two education programmes, both incorporating CBT, implemented for fire setters with ID have shown promise (Taylor et al., 2006; Taylor, Thorne, et al., 2002). Both these programmes were designed specifically for adults with ID.

The first of the studies that approached treatment from a cognitive behavioural perspective utilised eight men and six women with mild and borderline ID from a low secure area of a specialist learning disability National Health Service (NHS), who were identified as potentially benefiting from participating in a fire setting rehabilitation programme (Taylor, Thorne, et al., 2002). Twelve of the participants were being detained in the service under the Mental Health Act 1983 due to their offending, and the two women who were not detained had previous
convictions for arson offences. To assess the effectiveness of the programme, the authors utilised the Fire Interest Rating Scale (FIRS), the Fire Attitude Scale (FAS), the Novaco Anger Scale (NAS), the Culture-Free Self Esteem Inventory- 2nd edn, Form AD (CFSEI-2), and the Beck Depression Inventory-Short Form (BDI-SF) at pre and post programme, and Goal Attainment Scales (GAS). Anger, self-esteem, and depression were targeted as a previous study by Murphy and Clare (1996) indicated these were the most salient in regard to antecedents and consequences associated with fire setting. The current thesis also identified that comorbid mental disorders may be risk factors for fire setting behaviour. In regard to fire interest and attitudes, 10 of the 14 participants improved after treatment. All but two of the participants improved on the GAS post treatment. Significant reductions were found for the NAS total score, and nine of 13 participants who completed this scale improved on following treatment. Self-esteem had increased post treatment, with the CSFEI-2 score being significantly higher post treatment. There were no significant changes on the BDI-SF post treatment. Three GAS subscales, ‘victim issues’, ‘emotional expression’, and ‘understanding of risks’, improved significantly after treatment, with all other scales seeing improvement also. However, this study had a small sample size, relied on a pre-post design, and had no comparison group rendering it a rating of only Level 2 of 5 on the Maryland Scale for Scientific Rigor (Sherman et al., 1998).

The second study utilised the same programme to the aforementioned study, but with six females who were being detained under the Mental Health Act 1983 in a hospital forensic service of a specialist intellectual disabilities NHS Trust in northeast England (Taylor et al., 2006). The participants were selected based on prior convictions of arson, and their scores on anger, self-esteem, depression, and clinical need in terms of having a personalised rehabilitation plan. Two of the participants had a mild ID, and the remaining four fell in the borderline intelligence range. The participants were assessed on the same measures as the previous study: FAS, FIRS, GAS, NAS, CFSEI-2, and BDI-SF. An additional assessment known as the Patient Rating Forms was utilised, which was designed specifically for the current treatment programme to evaluate participant engagement in the group therapy process. The Patient Rating Forms were completed by the therapist, and assessed
attention and concentration, participation in session, self-disclosure, level of communication (content), level of communication (form), and empathic concern/interest in others. The authors report group changes on each of the outcomes. However, they note that this must be interpreted with caution given the sample size of six. The GAS overall score significantly improved post treatment, and was the only score to do this. The NAS, CFSEI, and BDI all improved, however, the improvements did not reach statistical significance, which may be attributed to the small sample size. The results for both fire attitudes and interest were mixed, with two participants increasing their scores on each of these measures. It is important to note that these levels were in the neutral range to begin with, and as such slight increases were not considered problematic.

Two further studies reported multi-component treatments that included education, psychotherapy, and social skills training. The first of these was conducted by Clare et al. (1992), who conducted a single case study using a man with a mild ID who was in a specialist in-patient unit after being transferred from a maximum security hospital. The treatment involved assertiveness and social skills training, coping skills training, as well as surgery for facial disfigurement. The authors noted significant clinical improvements post treatment, as well as no reports of fire setting behaviour 30 months post treatment.

The second of the multicomponent programmes was a short-term treatment in a medium secure service for people with ID (Alexander et al., 2011). Fire setters were not the only participants in the sample, and as such the results specific to fire setters are not clear. The programme is known as a ten-point treatment programme, and its main components were: a multi-axial diagnostic assessment, a psychological formulation, risk assessment, a management aggression care plan, pharmacotherapy, individual and group psychotherapy, offence-specific therapies, education, community participation, and preparation for transition. The aim of the treatment was to move people to lower levels of security. Fourteen of the 136 participants had a history of convictions of arson, and 30 had a history of fire setting. The authors reported that eight (11%) of those with a history of fire setting were discharged to a lower level of security, indicating the programme could be considered to have an effect for those participants.
Although the four studies conducted on fire setters with ID have shown some promising features, their evaluations have methodological concerns (as discussed in Chapter 6), and it is unclear whether these programmes are addressing the characteristics and needs of fire setters. This reiterates the importance of evaluating the programmes further based on their ability to address the characteristics and needs of fire setters with ID, as well as the utilisation of methodologically rigorous designs when undertaking such evaluations, to determine whether the programmes have the ability to reduce subsequent fire setting behaviour. The rehabilitation programmes incorporated in the studies located through the literature review are reported in Table 27, which also demonstrates whether these have been found to be effective. The programmes that have been evaluated for fire setters with ID are presented first, followed by those developed for fire setters more generally from most recent to oldest. If the programme targeted any of the potential risk factors that were identified throughout the thesis, this is included in the far right column of the table. The table demonstrates that whilst many existing programmes address some of the potential risk factors identified throughout the current thesis, there are a variety of factors which have not been included and which should be considered in any revisions of these existing programmes, or in the development of new programmes. These are discussed further below.

Furthermore, bearing in mind the potential similarities in both moral and cognitive development between adults with ID and children/adolescents more generally, modified child/adolescent programmes could also be applicable, with some modification. For these purposes, further research is required.

As a common motive identified for fire setters with ID in Chapter 1 was revenge, with anger and a history of violent offending identified as characteristics of fire setters in Chapter 3, the current programme of research concludes that it is relevant to consider the applicability of violent offending programmes for this population. As such, one programme that was specifically developed for violent offenders with a disability in Victoria, known as the *Offenders with a Cognitive Impairment Violence Intervention Programme*, is presented in Table 28. An evaluation of this programme was unable to be located in the literature.
Overall, the current programme of research concludes that even where programme evaluations been conducted, methodological flaws limit the extent to which the effectiveness, or generalizability of any such effects can be determined. These methodological flaws include over-reliance of pre-post designs without any experimental control, small sample sizes, and lack of statistical reporting. Only one study from the systematic review of programmes in Chapter 6 was found to reach the highest level of the Maryland Scale for Scientific Rigour, which was the evaluation of the Juvenile Fire Awareness and Intervention Programme (Adler et al., 2004), as it was a randomised control trial. As a result, determining which programmes have promise and should be investigated further, using strong methodological designs, is an important future direction. As discussed earlier in this chapter, investigating the applicability of programmes developed for children and adolescents is important given the potential similarities in moral and cognitive development. Any further evaluation of treatment should also consider the difficulties associated with doing so, such as the relatively small populations that are typically co-located, limited resources to run programmes for these individuals, and levels of community supervision or monitoring when the person in back in the community which can influence further offending opportunities (Lindsay, Michie, Steptow, Moore, & Haut, 2011).

The fire setting programme developed by Taylor and Thorne for fire setters with ID targeted many of the treatment needs identified throughout the current thesis as important for fire setters with ID, and the Clare et al. (1992) programme targeted several of the identified needs. It was expected that both of these would be most suited to the needs of fire setters with ID, as both had been developed and evaluated specifically for this population. The evaluations were promising, however the Thorne and Taylor programme evaluations did not include follow-up on any possible further acts of fire setting making it difficult to determine the programme’s effectiveness for reducing re-offending. In addition, although the Clare et al. programme resulted in no further fire setting at the 48 month follow up, this was a case study, and as such cannot be generalised to a broader population of fire setters with ID. They did both see positive improvements on an array of important variables including anger, coping, and emotion regulation. Both programmes,
however, did not directly address empathy, which was identified in Chapter 3 as potential need for fire setters with ID.
<table>
<thead>
<tr>
<th>The Programs</th>
<th>Effectiveness</th>
<th>Evidence of Risk Factors</th>
<th>Major Areas Addressed</th>
<th>No. of Sessions x Time</th>
<th>Authors</th>
</tr>
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<tbody>
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</table>

2002 studies and Taylor et al. Taylor et al. 2006 (as utilised in the fifth seters of Programme 1)

<table>
<thead>
<tr>
<th>Programme 6</th>
<th>Individual or Group</th>
<th>Name of Authors</th>
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</table>

Table 27
<table>
<thead>
<tr>
<th>The Programs in This Study Addressed in This Meta-Analysis</th>
<th>Effectiveness</th>
<th>Evidence of Major Areas Addressed</th>
<th>No. of Sessions</th>
<th>Time</th>
<th>Name of Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety/Frustration</td>
<td></td>
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<tr>
<td>Emotion Regulation</td>
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<tr>
<td>Coping Skills</td>
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<tr>
<td>Communication Skills</td>
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<tr>
<td>The setting</td>
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<tr>
<td>- no further consequences</td>
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<tr>
<td>Reduce feelings that are not listened to</td>
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<tr>
<td>Feelings</td>
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<tr>
<td>Coping strategies-Training - Disturb from negative</td>
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<tr>
<td>Increase perception of being listened to</td>
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<tr>
<td>Reduce social isolation and feelings of helplessness</td>
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<tr>
<td>Increase self-control of angry and anxious feelings</td>
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<tr>
<td>Preparing for lapses</td>
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<tr>
<td>Individual risk factors</td>
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<tr>
<td>Developing coping strategies for common and</td>
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<tr>
<td>difference, and responding assertively</td>
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<tr>
<td>Handicapping curricula and insuff (inc. understanding the</td>
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<tr>
<td>understanding passive aggressive behaviors)</td>
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<tr>
<td>Learning to express oneself assertively (inc.</td>
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<td>and putting self in another’s shoes)</td>
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<tr>
<td>Challenging angry thoughts (inc. calming self-statements,</td>
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<td>management)</td>
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</table>
### Behavioral Skills Training

**Objectives:**
- Increase self-control of fire setting by remaining calm.
- Alleviate boredom.
- Reduce frequency of inappropriate calls to operator.
- Feelings and wishes clearly.
- Assertiveness Training - Develop ability to communicate.
- Improve participation in relation.
- Appropriate ways.
- Provide external gains from the related stimuli.

<table>
<thead>
<tr>
<th>Consequences of Fire Setting</th>
<th>Behavioral Skills Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginner</td>
<td>Behavioral</td>
</tr>
<tr>
<td>Consequences of handling lighters</td>
<td>Behavioral Skills Training</td>
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<td>Consequences of handling lighters</td>
<td>Behavioral Skills Training</td>
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<td>Consequences of handling lighters</td>
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<td>Consequences of handling lighters</td>
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<td>Consequences of handling lighters</td>
<td>Behavioral Skills Training</td>
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<tr>
<td>Consequences of handling lighters</td>
<td>Behavioral Skills Training</td>
</tr>
</tbody>
</table>

**Additional Information:**
- No. of Sessions x Time: 11 x 15 Minute Sessions
- Individual / Group: Individual
- Hours: 8

---

**Program Name:** Behavioral Skills Training

**Authors:**

<table>
<thead>
<tr>
<th>Program Name</th>
<th>No. of Sessions x Time</th>
<th>Individual / Group</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Skills Training</td>
<td>11 x 15 Minute Sessions</td>
<td>Individual</td>
<td>8</td>
</tr>
</tbody>
</table>

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**Assertion Training**
- Skills for dealing with loneliness and boredom
- Generation of alternative solutions
- Self-instructions (e.g., problem identification)
- Teaching problem solving skills
- Consequences

**Fire Fighter Home Visits**
- Initial 1 hour session, and 1 follow up call 8 weeks later
- 8 x 1 hour sessions

**Fire Safety Education**
- CBT
- 6 x 3 hour sessions

<table>
<thead>
<tr>
<th>Program</th>
<th>Name of Authors</th>
<th>No. of sessions x Time</th>
<th>Group or Individual</th>
<th>Evidence of Effectiveness</th>
<th>Risk Factors</th>
<th>Major Areas Addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program A</td>
<td>Koko et al., 2006</td>
<td>1 x 2 hour session</td>
<td>Individual</td>
<td>New Zealand Fire Awareness and Intervention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name of Programme &amp; Authors</td>
<td>Group or Individual</td>
<td>No. of sessions x time</td>
<td>Major Areas addressed</td>
<td>Evidence of effectiveness</td>
<td>Risk Factors identified in this thesis, addressed in the programmes</td>
<td></td>
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</tr>
<tr>
<td>Timmerman &amp; Emmelkamp 2005</td>
<td>Group/Individual</td>
<td>Behaviour modification through behavioural treatment principles</td>
<td>Improving coping skills</td>
<td>✓ - there were improvements at the group level in Coping Skills</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Improving social skills</td>
<td></td>
<td>Anger/Frustration</td>
<td></td>
</tr>
</tbody>
</table>

Interpersonal conflict resolution skills

**Fire safety education**

Effects of fires and personal safety strategies
Specific prevention strategies
Fire protection and evacuation strategies
Methods to report and control fire

**Fire fighter home visits**

Danger of fires
Functions of fire fighters
Fire safety materials
Asked to promise not to get involved with unsanctioned fire play (no-fire contract).
**Individually:**

- Assessment/Awareness (FAA)
  - Personal Fire/Burn Safety
  - Information about fires and their consequences
  - Characteristics and functions of fires
- Training (FSSST)
  - Immediate aftermath of fire setting & associated emotions
  - Understanding relationship between events before and immediately after the setting
  - Unsupervised fire setting
  - Withdrawal of privileges for participating in fire setting

**Group Fire Safety/Prevention Skills Training (FSSST)**

- Two types
  - Koko et al., 1997
  - Adler et al., 1994

---

**Program Elements**

- Cognitive elements
  - Reducing distress, hostility, anger, and aggression
- Psychological elements
  - Improving social awareness and confidence
- Behavioral elements
  - Improving well-being
- Coping, stress, and personality
- Fire safety information including dangers
- Behavior modification through continuous fire setting

---

**The Programmes**

<table>
<thead>
<tr>
<th>The Programmes Identified in this Evidence of Risk Factors Major Areas Addressed No. of Sessions x Time Program Name</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Fire 4 x 1 hour sessions</td>
<td>Individual</td>
</tr>
<tr>
<td>Group Fire Safety/Prevention Skills Training (FSSST)</td>
<td>Program</td>
</tr>
<tr>
<td>Name of Program &amp; Group Size</td>
<td>No. of Sessions x Time</td>
</tr>
<tr>
<td>-----------------------------</td>
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</tr>
<tr>
<td>1991 Individual</td>
<td>4 x 1 hour sessions</td>
</tr>
<tr>
<td>1995 Individual</td>
<td>30 min individual sessions</td>
</tr>
<tr>
<td>1995 Individual</td>
<td>4 group sessions</td>
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</table>

**Assessment/Awareness**

- Teaches the dangers of matches
- Teaches the proper way to strike and use matches
- Teaches potential dangers of fire, as well as fire safety
- Teaches fire-setting behavior
- Understands cause and effect relationships between fire-setting risk factors (such as curiosity, knowledge, etc.) and fire interest
- Enhances awareness of situational aspects of fire setting

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Koses and Jensen, 1991
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Authors</th>
<th>No. of Sessions</th>
<th>Major Areas Addressed</th>
<th>Risk Factors</th>
<th>Evidence of Effectiveness</th>
<th>Treatment Continuation</th>
<th>Major Areas Addressed</th>
<th>No. of Sessions x Time</th>
<th>Group or Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koko 1983</td>
<td>Individual</td>
<td>30 weeks</td>
<td>Education, and Reinforcing components</td>
<td>Fire setting</td>
<td>- no further</td>
<td>- no further</td>
<td>Behavioral Contracting</td>
<td>- no further</td>
<td>- no further</td>
</tr>
<tr>
<td>Wolff 1984</td>
<td>Individual</td>
<td>100 x 30 min sessions</td>
<td>Visit to fire station</td>
<td>Fire setting</td>
<td>- no further</td>
<td>- no further</td>
<td>Behavioral Contracting</td>
<td>- no further</td>
<td>- no further</td>
</tr>
</tbody>
</table>
Limited, 7 refers to those programs that have received limited support for effectiveness.

Note: 7 refers to those programs which found no further use setting.

<table>
<thead>
<tr>
<th>Communication Skills</th>
<th>Consequences</th>
<th>No. of Sessions</th>
<th>Time</th>
<th>Authors</th>
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Fire Safety Instruction - 6 sessions weeks of 3 x 1 hour

Cover Sensitization - 5 sessions per session for 11 sessions

Overconnection - 3 times our sessions

Social Skills Training - 4 x 1 session

Token Reinforcement of non-fire setting behaviour

Corrective consequences for fire setting

<table>
<thead>
<tr>
<th>The Programmes</th>
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</thead>
<tbody>
<tr>
<td>Theses addressed in this study</td>
</tr>
<tr>
<td>Evidence of risk factors</td>
</tr>
<tr>
<td>Major areas addressed</td>
</tr>
<tr>
<td>No. of sessions x time</td>
</tr>
<tr>
<td>Group or individual</td>
</tr>
<tr>
<td>Name of authors</td>
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</tbody>
</table>

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Incorporating empathy training, such as encouraging fire setters to reflect on the impact of their crime, victim perspective taking, and appropriate emotional responding (Ward & Durrant, 2013), into these fire setting programmes for persons with ID may increase their effectiveness, particularly if attention is paid to the level of moral development of the group members and how this might affect their ability to develop empathy skills. Research is currently mixed in regard to addressing empathy in treatment programmes, with some studies finding that empathy training is not required for offenders with ID due to a lack of differences in empathy levels between offenders and non-offenders with ID (Protcor & Beall, 2007; Ralfs & Beall, 2012), and others reporting lower levels of empathy for offenders with ID compared to non-offenders with ID (Hockley & Langdon, 2014). In addition, some

<table>
<thead>
<tr>
<th>Name of Programme &amp; Authors</th>
<th>Group or Individual</th>
<th>No. of sessions x time</th>
<th>Major areas addressed</th>
<th>Risk Factors identified in this thesis, and addressed in the programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrections Victoria-Offenders with a Cognitive Impairment Violence intervention programme</td>
<td>Group</td>
<td>74x 2 hour sessions</td>
<td>Developing an understanding of violence, Anger/aggression, Develop insight, Identification of strengths, Understanding of emotions, Understanding of offence process, Understanding relationship between thoughts, feelings, and behaviours, Self-talk statements, Understanding feelings, Coping strategies, Substance abuse, Consequences, Empathy</td>
<td>Substance abuse, Aggression/anger, Antisocial cognition, Poor coping skills, Emotion, Regulation, Empathy, Consequences of offending</td>
</tr>
</tbody>
</table>
studies have demonstrated increases in empathy levels of offenders with ID and persons with ID at risk of offending, after completing empathy training as part of a treatment programme (Michie & Lindsay 2012; Kelly, 2014). As many of the studies investigating empathy have focussed on sex offenders with ID, it is unclear whether it will be an important aspect of a fire settler programme for persons with ID, and as such it requires further investigation within this population.

There were other needs that had been identified in previous studies reviewed in the current thesis, but which were not targeted in any of the programmes addressing fire setting. For example, trauma and substance use were reported as important needs for consideration by professionals, and these have been consistently related to fire setting behaviour in the literature (Inciardi, 1970; Kidd, 1997; Koson & Dvoskin, 1982; Leong & Silva, 1999; Tyler et al., 2014). Consideration should be given to these needs when developing/modifying fire setting programmes for this population.

Influences on Treatment of Fire Setters with ID

The current thesis has identified many concerns with treatment options for fire setters with ID, and in particular has highlighted the heterogeneity of the fire setting population. In this regard it is important to consider the more individualised ‘case formulation approach’, which might be most appropriate for fire setters with ID.

One particular case formulation approach that might be relevant for fire setters with ID is the case formulation-driven approach (Persons, 2005). This approach involves the assessor developing an individual case formulation for each person, which guides their treatment planning and intervention based on a hypothesis-testing empirical approach (Persons, 2006). This allows clinician’s flexibility in working with complex cases, such as fire setters with ID, in that they are able to be guided by theory and their assessment of the person, rather than by a list of available interventions (Persons, 2006). The approach requires the assessor to use information obtained through assessment to develop hypotheses about the causes of the individual’s issues, i.e. the cause of the fire setting behaviour. This information is then used as the basis for treatment and rehabilitation. The assessor can then revert back to the assessment phase to gather necessary information
about the person, and modify the treatment or rehabilitation accordingly (Persons, 2006). Given the heterogeneity of fire setters and the questions regarding applicability of group treatment, it is likely that a case-formulation driven approach would be useful for fire setters, particularly as it would work well with individualised treatment. This approach is similar to the approach taken by the ARMDILO-S, again highlighting the potential applicability of an adaptation of this tool to fire setters with ID. The ARMDILO-S allows the clinicians to use their judgement about the person when determining their risk and manageability needs which is consistent with the flexibility of a case formulation-driven approach. In addition, a modified version of the ARMDILO-S for fire setters could also incorporate a functional assessment to develop hypotheses regarding the person’s fire setting behaviour, which would account for the broad and complex motives and reasons for the behaviour.

A second approach that may be useful for case formulation for fire setters with ID is ‘anamnestic assessment’ (i.e., recalling from the client’s memory). Essentially this involves identifying patterns and factors that are associated with past offending incidents (Allnutt et al., 2010), and as such could be considered a form of functional analysis. For fire setters with ID this would involve exploring the when, where, who, what, and why aspects of each prior fire setting incident in an attempt to understand the individual specific factors related to that particular behaviour that may not have been identified through previous empirical research. The assessor would then monitor these factors and if they re-emerge may need to review the person and their management plan (Allnut et al., 2010). Allnut et al. (2010) note that the anamnestic approach can be problematic when there is no clear pattern, though they also argue that this is important in itself. This approach to case formulation might be limited in its application to persons with ID, given deficits they may experience with memory, attention and concentration (Clare, 1993), however consideration should be given to its ability to contribute to a comprehensive case formulation, given the issues associated with basing case formulation on one approach alone (Delle-Vergini & Day, in press).

An important consideration when undertaking a case formulation for a fire setter with ID is their level of moral development. Research has demonstrated that
offenders with ID tend to be at lower stages of moral development than those without ID (Langdon, Clare, & Murphy, 2010; Langdon, Clare, & Murphy, 2011; Langdon et al., 2011), and as such it is essential to consider the stage of moral development the person is in when developing and delivering programmes. Measurement of moral reasoning can be undertaken using two types of assessment measures; recognition instruments, or production instruments (Langdon, Clare, & Murphy, 2011). Recognition tools provide participants with a moral dilemma, and then requires them to choose a moral justification that best matches their own reasoning from a pre-determined set of moral justifications. Production tools, on the other hand, ask participants particular questions related to moral reasoning and participants must verbalise their own moral reasoning in response. Langdon, Clare, and Murphy (2011) note that there is no research to demonstrate which type of moral reasoning assessment would be most appropriate for persons with ID.

If it is recognised during assessment for a programme that participants are at an early stage of moral development, introducing a component early in a treatment programme that assists in increasing moral reasoning skills, or a short programme that focuses solely on increasing moral reasoning skills such as EQUIP (originally designed to target youth with problem social behaviours and aggression) (Gibbs et al., 1996; Gibbs, Potter, & Goldstein, 1995; Langdon et al., 2013; Potter, Gibbs, & Goldstein, 2001), might be provided to these offenders before they are allocated to a fire setting specific programme, or to other more generic programmes. Langdon et al. (2013) conducted a study to investigate the effectiveness of a simplified EQUIP programme using three men with ID and four men with Asperger Syndrome who also had a history of illegal behaviour leading to conviction and detention in a medium secure hospital in the UK. They found that the treatment was successful at increasing moral reasoning, reducing cognitive distortions, and improving the participant’s ability to implement effective solutions to problems. However, the authors acknowledge the very small sample size and the importance of investigating the programme further to determine is appropriateness and effectiveness with persons with ID.

The existing programmes available for the rehabilitation and treatment of fire setters with ID are largely group programmes (see Chapter 6), though it is likely that
group programmes may not be appropriate for fire setters with ID. Notably, some of the programmes that were included in the review in Chapter 6 were individualised. There have been a variety of characteristics and needs identified for fire setters with ID (see Table 25), which is likely a result of the heterogeneity of the population. This means that existing programmes may be effective for some fire setters whose needs are addressed within that programme, but there may be some fire setters with low levels of empathy, trauma, and substance use, coupled with poor interpersonal and communication skills, for example, for whom the existing group programmes might not produce positive outcomes.

Not only are there problems trying to develop a fire setting programme that can meet the needs for all fire setters, but there are also concerns with trying to address persons with differing levels of ID in the one programme, which becomes an issue of responsivity. Programmes should to be delivered at a level that can be understood by each member of the group to enable positive outcomes (Andrews et al., 1990). This becomes problematic with a group of persons with ID, as it is likely their level of ID varies from borderline, through to moderate (or in rare cases, severe). Developing a programme which is able to be delivered to a group with this variation is likely impractical, which again raises the issue of applicability of group programmes for fire setters with ID, unless they are grouped according to ID level prior to programme entry, and programme content is delivered accordingly. Furthermore, given the relatively small numbers of fire setters with ID and, in the Australian context, their distribution across multiple jurisdictions and facilities, the feasibility of forming specialist treatment groups is minimal, if at all.

To assist in integrating the various considerations relevant to establishing interventions, and when allocating a fire setter with ID to treatment, building upon the current programme of research, this thesis proposes a model (see Figure 3). The model is asserted to demonstrate the pathway from offence to treatment outcomes and community reintegration, with the various considerations shown at their appropriate points. The model, drawing on the findings of the current thesis, demonstrates the complexity and heterogeneity that exists within the population of fire setters with ID, and the considerable amount of further research that needs to be undertaken in this area. In particular, there is a clear need to understand the
individual factors and treatment needs of fire setters with ID, along with the most appropriate way of assessing risk, undertaking case formulation, and in turn the type of treatment that would be most appropriate and effective for this population. The model attempts to conceptualise these concerns and provide a framework for any further research to be undertaken. Further, the model as a whole requires testing to determine if its components and construction are valid, reliable, and useful. Within Figure 3, solid lines show the pathway from offence to treatment for a fire setter with ID, and the dotted lines represent the influences on this pathway.

**Limitations**

There are some limitations to the findings and conclusions of the current thesis that need to be considered. First, the UK data concerning the characteristics and risk factors of fire setters with ID might not be applicable to other jurisdictions, such as in an Australian context. This could be due to differing legislation, sentencing practices, and the varying structures of correctional and human services across jurisdictions. As mentioned in Chapter 1, Australia and the UK have similar legal systems and responses to arson, and as such comparing these jurisdictions is useful.

Further, the Australian data was drawn from case law, which highlights critical cases and sentencing precedents, though still only potentially represents a small percentage of cases involving fire setters with ID who come before the courts. Furthermore, case law fails to capture the circumstances of those who are diverted from the court system. Also, retrieval of relevant cases was complicated by variations in the charges brought against the accused; for example some of which could have referred to an index offence of property damage, rather than arson. These complications of classification were also evident when attempting to retrieve relevant crime statistics collated by police. Accessing court records for all fire setting cases through the relevant courts would provide some solution to this concern, as would further investigating the number of fire setters with ID who are diverted from the criminal justice system to determine where they were diverted to. The resources to pursue these options were not available for the current programme of research.
Figure 3. Pathway from offence through treatment to community reintegration for fire settings with ID.
Another limitation of the current thesis that is in itself unavoidable, is the heterogeneity of fire setters, and of persons with ID. As evidenced by the findings of the thesis, fire setters with ID present with an array of characteristics and risk factors that are unlikely to all be addressed in one treatment programme. Further, persons with ID can be heterogeneous such that a fire setter with mild ID, or borderline intellectual functioning, is unlikely to have the same risk factors as a fire setter with a moderate or severe ID. The samples of fire setters with ID utilised in Chapter 3 were largely persons with mild ID, and those identified through the case law were likely in the borderline to mild range, otherwise it is likely they would have been diverted from the justice system prior to court involvement, and thus would not be located through a search of the case law. Whilst using a sample largely consisting of mild and borderline ID fire setters might be problematic, it is these levels of ID that are seemingly most involved in fire setting, and as such it is their offence related needs that are relevant to further research.

The definition of ID throughout the literature reviewed was not necessarily made clear, and as such it is difficult to determine whether borderline functioning was included in the definition of ID for some studies. This was also an issue for the studies within Chapter 5, as the level of ID was not specified in the surveys completed by the community and professional samples. This may have biased the results, with people potentially over-estimating, or under-estimating the level of ID referred to in the question. This is important, as persons may have over-estimated rehabilitation potential if they considered a fire setter with ID to be in a borderline to mild ID range, or may have under-estimated it if they thought the fire setter with ID was in the severe range. This also has implications for treatment, as persons with borderline intellectual functioning, as mentioned above, will have different needs than someone with a moderate ID. However, based on the level of ID identified in the UK database in Chapter 3, it is likely that most fire setters would be in the mild ID range and as such the findings from the current study are useful for this group.

Another related concern is that the type of fire setting was not specified, and as such it is not clear whether participants were answering the survey with a person who had set a bushfire in mind, or a person who had set fire to their own
house, for example. These definition-related limitations could have been addressed by utilising vignettes, which provided this information to participants to ensure they had a clear understanding of the level of ID and the type of fire setting that was being referred to.

Both of these limitations relate to a problem with the literature pertaining to fire setters with ID more generally. Definitions of arson, fire setting, and ID utilised throughout the existing literature are varied. As a result of this, it is difficult to apply findings from these studies to the general population, and this also applies to the findings within the current thesis. It is essential that future research focussing on fire setters with ID is very clear about the way they determined whether the person had an ID, and the level of ID the person was diagnosed with. Further, when fire setting is referred to, it is important that it is clear whether the person has engaged in fire setting behaviour, whether they have been charged with arson, or whether they have been convicted of arson. All of these definitional concerns can undermine findings in studies about this population, and contribute to the poor understanding of fire setters with ID.

Further, the majority of the sample used in Chapter 3 were currently detained in secure settings meaning that the findings cannot be generalised outside of this context, particularly as there was a large discrepancy between age at time of admission and at time of data collection indicating a long period of time spent in the institution, on average. It is unclear, however, how many fire setters with ID are in the community and this would require further investigation.

Whilst the use of an existing database in Chapter 3 provided some understanding of characteristics and treatment needs of fire setters with ID, it was also a limitation of this thesis, in that only variables that existed within the database could be utilised. However, it was the only data accessible for the current thesis that included a focus on characteristics and treatment needs of fire setters with ID. Ideally, interviews with fire setters with ID would be conducted with specific research questions to be addressed, to enable an in-depth understanding of fire setters with ID to be developed. This is certainly an important area for future research to focus on, as it is a necessary step toward developing appropriate risk assessment tools, and treatment programmes for fire setters with ID.
An over-arching concern identified in the current thesis that has yet to be addressed in research, is the tension that exists between the clinical and experimental approaches to treatment. From a clinical perspective, each fire setter would be treated individually based on the needs that they present with, and effectiveness would be gauged on that person achieving positive outcomes as determined by the clinician and the client. The traditional clinical perspective notes that the complexities of human feeling and action can not be measured, and as such treatment of each person’s unique behaviour is appropriate (Browning & Stover, 1973). The experimental approach, on the other hand, focuses on developing independent and dependent variables, which allows treatment outcomes to be scientifically determined for those who engage in a programme. If found to be effective, the same approach is recommended to be taken with each group/individual, and there then exists the ability to predict the outcomes that participants will have (Browning & Stover, 1973). Given the heterogeneity of the population of fire setters with ID, it is important that both the clinical and experimental approaches are given consideration when treatment for fire setters with ID is concerned, as a clinical approach is essential in determining the type of treatment that might be effective for the person (see Figure 3), however from an experimental perspective, this needs to be evaluated to determine its ability to reduce fire setting behaviour and other related outcomes. This then provides clinicians with information about the types of treatment that work for this population, which will inform case formulation and treatment allocation.

Finally, whilst the model developed in Figure 3 provides an understanding of the issues associated with the pathway from offence to treatment for fire setters with ID, much of the information in the thesis is preliminary and as such it might be that the model itself applies more generally to anti-social or criminal behaviour by persons with ID. As yet, there is insufficient evidence to establish that this model is applicable to fire setting. It is important that this model is tested for its specificity for fire setters with ID, but also for its potential applicability to other offenders with ID. It may be that through further research the model is modified to be more specific to fire setters with ID, or in contrast it may be modified to apply more generally to persons with ID who engage in crime.
The findings of this thesis are important for providing further understanding of fire setters with ID; including their characteristics and needs, the way the criminal justice system responds to them, the awareness of fire setters with ID amongst the community and professionals, as well as their views toward treatment and rehabilitation, and the availability and effectiveness of treatment programmes. They must be interpreted with caution because of the limitations associated with the data on which such assertions have been made. Whilst some of these limitations may be easily addressed by improving design and reporting of research (such as specifying level of ID and type of fire setting that is being referred to within studies through the use of vignettes), other issues, including accessibility of offence data and the availability of sufficient documentation to identify persons with ID within such data will require both systemic and policy change in the justice system.

**Future Directions**

The most pertinent future direction arising from this thesis is the need for data on persons who set fires, are either charged with arson or diverted away from the justice system, and who are convicted of arson, to be collected and reported publicly, and that these data include whether the person had a diagnosed ID. This information is useful for raising awareness among the community and professionals, and would also allow evidence-based prevention and treatment programmes to be developed and evaluated. Importantly, arson needs to be reported as its own crime in publicly available reports across jurisdictions to allow for the prevalence rate to be determined, and finite specialist resources directed to areas of most concern. What is also essential is that future research focussed on fire setters with ID provide very clear definitions for how they define ID, the level of ID they are referring to, and how they define fire setting in their study.

Furthermore, the applicability of the FOC-MD model and the ARMIDILO-S, the HCR-20, or SAFARI combined with the HCR-20 to assess fire setters with ID needs to be further investigated. In addition, inclusion of a functional assessment for fire setting behaviour will be important given the variety of motives and reasons for fire setting behaviour. Without valid and reliable risk assessment tools, or a comprehensive model for understanding treatment needs, successful treatment outcomes and effective rehabilitation will be hindered.
It is also essential that any treatment programme developed for fire setters with ID take into account the variety of concerns that may influence the outcome of treatment for fire setters with ID. The complexity of this population needs to be better understood, particularly in regard to the risks they present, and their level of risk for further fire setting behaviour, before developing and evaluating treatment programmes. Importantly, this thesis identifies the need for further resources to be allocated to understanding this population, in regard to the risks they present and the most appropriate and effective way to manage and treat their fire setting behaviour.

**Conclusion**

The current thesis has demonstrated an urgent need to collect data about fire setters with ID given they are clearly a complex and challenging population who need to be further understood in order to provide them with the best opportunity for reducing their offending. This would be both in their interests, and those of the wider community. This will require policy change, and in order to change policy a greater understanding of fire setters with ID and the concerns identified within this thesis with regard to their rehabilitation will be essential. This thesis goes some way in increasing our understanding of fire setters with ID, their treatment and support needs, and outlines an agenda for research and the further development of evidence-based clinical programmes.

There are existing rehabilitation programmes that are promising for fire setters with ID, both of which have already been developed specifically for persons with ID. These programmes seek to address many important needs of fire setters with ID identified throughout the current thesis and have already demonstrated positive outcomes through initial evaluations. Further testing of these, with consideration given to the inclusion of empathy skill development, and a focus on addressing trauma and substance use, together with thorough assessment of their psycho-social (moral) development, may provide a more comprehensive programme, and have additional positive effects. Also, a focus on rigorous methods and larger samples sizes would enable a more methodologically sound evaluation to determine if these programmes are effective for the broader population of fire setters with ID. Further, the lack of consensus on risk factors, and the
heterogeneity of the fire setting population also means utilising an individualised approach to treatment may be another promising avenue.

Reflection on the various studies comprising this thesis, and their subsequent findings, has given rise to a model asserted to demonstrate both the quantity and complexity of considerations required when determining the most appropriate treatment for fire setters with ID, and also for developing new, and improving existing treatment programmes. Further investigation into the application of the model, including each of its components, is an important next step in developing our understanding and effectively implementing rehabilitation for fire setters with ID.

It could be argued that some of the conclusions of this thesis were predictable. However, given the paucity and limitations of the existing literature in the area, the studies within the current thesis represent the first of their kind. Their collective findings provide the basis for future research, the development of clinical programmes, and much needed policy change. This thesis represents a first attempt, using a multi-dimensional approach, to document who fire setters with ID are, and how we might move forward in better understanding their treatment and support needs, and further develop effective evidence-based policies and programmes to address these.
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Appendix A: NHS Ethics

Multi-Centre Research Ethics Committee for Scotland

Professor Gregory O'Brien
Professor of Development Psychiatry/Lead Clinician Forensic Service
Northing Hospital
Morrist Northumberland
NE61 2BP

Dear Professor O'Brien

MREC/03/0/23: A multi-centred study of the service pathways of people with learning disability who have offended or engaged in offending-like behaviour.

The Multi-Centre Research Ethics Committee for Scotland, Committee A gave a favourable ethical opinion to this study on 15 July 2003.

Notification of no objection to the conduct of this research has been received from the local site assessor, following site-specific assessment. The Chairman of this REC has confirmed the extension of the favourable opinion to the new site listed below:

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Title</th>
<th>Research site</th>
<th>Site assessor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Marie Bambrick</td>
<td></td>
<td>Specialist Learning Disability services in Norfolk covered by Norwich PCT Learning Disability services provided by Norwich PCT including Little Plumstead Hospital</td>
<td>Norwich Local Research Ethics Committee</td>
</tr>
<tr>
<td>Professor William Lindsay</td>
<td>Consultant Clinical Psychologist</td>
<td>The State Hospital, Castlereagh, Lanarkshire</td>
<td>Lothian Admin</td>
</tr>
<tr>
<td>Dr Amanda Michie</td>
<td>Head of Clinical Psychology</td>
<td>NHS Lothian, Community</td>
<td>Lothian Admin</td>
</tr>
</tbody>
</table>

Chairman Professor Kennedy Lewis
Vice Chairman Dr George Masterton
Appendix B: Approval for the use of a pre-existing database from custodians of the data set

From: Bill Lindsay [mailto:Bill.Lindsay@danshell.co.uk]
Sent: Friday, 21 March 2014 9:17 PM
To: Keith McVilly

Subject: RE: Database Collaboration

Dear Keith,

RE: MREC/03/0/23: A multi-centred study of the service pathways of people with learning disability who have offended or engaged in offending-like behaviours.

I write to confirm that I am the custodian of a de-identified database developed as part of the above mentioned project, as approved by the Multi-centre Research Ethics Committee for Scotland (refer to correspondence attached). My colleagues and I are eager to collaborate with you and your team (Professor Andrew Day and PhD Candidate, Ms Ashlee Curtis) in the analyses of these data, with particular reference to persons with Intellectual Disability who light fires.

In support of your current ethics application, I can provide the following details:

What access to the data has been granted?

Access to these data were granted for scholarly purposes, on the basis they were extracted from a pre-existing data set, and were de-identified at the point of release to the research team.

Who has been granted access to the data and for what purpose?

The principle investigators of the original study were Prof Gregory O’Brien, Prof Tony Holland, Prof John Taylor, Prof Derek Carson and myself. Our access was for the purpose of analysing the criminogenic profiles and pathways of offenders with Intellectual Disability.

What the original purpose of the data collection?

These data were originally collated for the purposes of service monitoring, review and evaluation.

What if any conditions or consent were required for its use?

Ethical approval was sought through the Scottish Committee for Medical Research Ethics. After some negotiation, approval was granted for England under a Section 60 exemption of the Health and Social Care Act 2001, and for Scotland under Caldicott Guardian approval. Individual consent for research purposes was not required as these were pre-existing data, collected as a statutory requirement at the point of service provision, retrieved in a de-identified format, and with analyses conducted in the public interest.

Yours sincerely,

[Signature Redacted by Library]

Prof. William (Bill) Lindsay

Please note change of email address. bill.lindsay@danshell.co.uk

Prof. Bill Lindsay
Consultant Clinical Forensic Psychologist,
Professor of Learning Disabilities and Forensic Psychology, University of Abertay, Dundee
Honorary Prof. Bangor Univ. Wales
Honorary Prof. Deakin Univ. Melbourne.
Danshell Group
Appendix C: Ethics Approval 088_2014

Memorandum

To: A/Prof Keith McVitty
School of Psychology

B

cc: Miss Ashlee Curtis

From: Deakin University Human Research Ethics Committee (DUHREC)

Date: 05 May, 2014

Subject: 2014-088
Characteristics of fire setters with intellectual disability in a UK sample

Please quote this project number in all future communications

Exemption from Ethics Review was granted for this project on 5/05/2014.
Authorisation has been given for Miss Ashlee Curtis under the supervision of A/Prof Keith McVitty, School of Psychology to undertake this project for the life of the project from 5/05/2014.

This Exemption from Ethics Review is given only for the project as stated in this memo. It is your responsibility to contact the Human Research Ethics Unit immediately regarding any of the following:

- Any adverse events or events which might affect the continuing ethical acceptability of the project
- All modifications to the research relating to the data or records must be submitted to the Human Research Ethics Unit for review prior to being implemented

In addition, you will be required to report on the progress of your project at least once every year and at the conclusion of the project. You are furthermore required to retain auditable records of the project demonstrating compliance with the National Statement on Ethical Conduct in Human Research (2007) (paragraph 5.2.9) and to produce these if required.

Human Research Ethics Unit
research.ethics@deakin.edu.au
Telephone: 03 9251 7123
# Appendix D: Ethics Approval 128_2012

## Memo

| To:       | A/Prof Keith McVilly & Prof Andrew Day  
|           | School of Psychology                   |
| From:     | Secretary – HEAG-H                     |
|           | Faculty of Health                      |
| CC:       | Ashlee Curtis                          |
| Date:     | 1 November, 2012                       |
| Re:       | HEAG-H 128_2012: investigating the need for a specialised treatment program for arsonists (or those with a history of fire lighting) who have intellectual disability. |

Approval has been given for A/Prof Keith McVilly & Prof Andrew Day, School of Psychology, to undertake this project for a period of 1 year from 1 November, 2012. The current end date for this project is 1 November, 2013.

The approval given by the Deakin University HEAG - H is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Secretary immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time
- Any events which might affect the continuing ethical acceptability of the project
- The project is discontinued before the expected date of completion
- Modifications that have been requested by other Human Research Ethics Committees

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

HEAG-H may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007). An Annual Project Report Form can be found at [http://www.deakin.edu.au/hmbs/research/ethics/ethicssubmissionprocess.php](http://www.deakin.edu.au/hmbs/research/ethics/ethicssubmissionprocess.php) which you will be required to complete in relation to this research. This should be completed and returned to the Administrative Officer to the HEAG-H, Pro-Vice Chancellor’s office, Faculty of Health, Burwood campus by Tuesday 20th November, 2012 and when the project is completed.

Good luck with the project!
Appendix E: Community Plain Language Statement

PLAIN LANGUAGE STATEMENT

TO: Members of the community

<table>
<thead>
<tr>
<th>Plain Language Statement</th>
</tr>
</thead>
</table>

**Date:**

**Full Project Title:** Investigating community views and opinions towards offenders with intellectual disability who have a conviction or history of fire setting or arson.

**Principal Researchers:** Associate Professor Keith McVilly and Professor Andrew Day

**Student Researcher:** Ashlee Curtis

This Plain Language Statement is 3 pages long. Please read all pages.

1. **Your Consent**

You are invited to participate in this research by completing a survey. Your completion of the survey will be interpreted as your consent to participate in the research.

This Plain Language Statement contains detailed information about the research. Its purpose is to explain the procedures involved in this project so that you can make a fully informed decision about whether you are going to participate.

Please read this Plain Language Statement carefully. You are welcome to ask questions about any information in this document.

2. **Background and Purpose**

The aim of this study is to determine the views and opinions of community members regarding offenders with intellectual disability who have a conviction or history of fire setting or arson.

3. **Funding**
This research is funded by Deakin University.

4. Procedures
The survey asks questions regarding your views and opinions about offenders with intellectual disability who have a conviction or history of fire setting or arson. It will take you about 10 minutes to complete.

5. Possible Benefits
The aim of this study is to determine community views and opinions regarding offenders with intellectual disability who have a conviction of or history of fire setting or arson. We do not guarantee that you will receive any direct benefit from this project.

6. Possible Risks
We do not anticipate there will be any risks or discomfort for you in engaging in this project.

7. Privacy, Confidentiality and Disclosure of Information
All data recorded will be de-identified. This de-identified data will be stored on a password protected computer, of which only the research team will have access to. Data will be stored here for a period of 6 years from the last publication arising from this research. After this time they will be destroyed.

8. Results of Project
The data obtained from this study will be part of a PhD thesis. Participants will be sent a summary report at the completion of the study, if they register their email address on a separate website noted at the end of the questionnaire.

9. Participation is Voluntary
Participation in any research project is voluntary and you are not obliged to take part. Before you make your decision, Ashlee Curtis will be available to answer any questions you may have. Please ensure you are satisfied with the answers to your questions before you complete the online survey.

If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Your decision whether to take part or to take part and then withdraw, will not affect your relationship with the researchers or with Deakin University. Any data already supplied by you via the on-line survey will have been anonymously incorporated into the database and will not be able to be withdrawn.

10. Ethical Guidelines
This project will be carried out according to the National Statement on Ethical Conduct in Human Research (2007) produced by the National Health and Medical
Research Council of Australia. This statement had been developed to protect the interests of people who agree to participate in human research studies.

The ethics aspects of this research project have been approved by the Human Research Ethics Committee of Deakin University.

11. Complaints
If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact:

The Manager, Research Integrity, Deakin University, 221 Burwood Highway, Burwood Victoria 3125, Telephone: 9251 7129, Facsimile: 9244 6581; research-ethics@deakin.edu.au

Please quote project number [2012-128].

12. Reimbursement for your costs
You will not be paid for your participation in this project.

13. Further Information, Queries or Any Problems
If you require further information, wish to withdraw your participant or if you have any problems concerning this project you can contact:

Ashlee Curtis
School of Psychology
Geelong Waterfront Campus Deakin University
1 Gheringhap St, Geelong, Victoria, 3220
(03) 52278426
ajcur@deakin.edu.au
Appendix F: Professional Plain Language Statement

PLAIN LANGUAGE STATEMENT

TO: Managers and Staff Supporting Offenders with Intellectual Disability

Plain Language Statement

Full Project Title: Investigating the need for a specialised treatment programme for arsonists (or those with a history of fire lighting) who have intellectual disability.

Principal Researchers: Associate Professor Keith McVilly and Professor Andrew Day

Student Researcher: Ashlee Curtis

This Plain Language Statement is 3 pages long. Please read all pages.

1. Your Consent

You are invited to participate in this research by completing a survey. Your completion of the survey will be interpreted as your consent to participate in the research.

This Plain Language Statement contains detailed information about the research. Its purpose is to explain the procedures involved in this project so that you can make a fully informed decision about whether you are going to participate.

You have been invited to participate because the research team believe that you have the experience and knowledge about offender treatment programmes and/or offenders with intellectual disability to provide a unique and valuable contribution.

Please read this Plain Language Statement carefully. You are welcome to ask questions about any information in this document.

2. Background and Purpose

The aim of this study is to discover what services are currently being offered to offenders with intellectual disability, and in particular those convicted of arson or with a history of fire lighting, and to identify areas for future service development.
3. **Funding**

This research is funded by Deakin University.

4. **Procedures**

A link to the electronic survey for this study was included in the email in which you received this plain language statement. The survey asks questions regarding your view on current services and any suggestions for improvement. It will take you about 25 minutes to complete.

5. **Possible Benefits**

The aim of this study is to determine gaps in current levels of service provision for intellectually disabled offenders. We do not guarantee that you will receive any direct benefit from this project.

6. **Possible Risks**

We do not anticipate there will be any risks or discomfort for you in engaging in this project.

7. **Privacy, Confidentiality and Disclosure of Information**

All data recorded will be de-identified. This de-identified data will be stored on a password protected computer, of which only the research team will have access to. Data will be stored here for a period of 6 years from the last publication arising from this research. After this time they will be destroyed.

8. **Results of Project**

The data obtained from this study will be part of a PhD thesis. Participants will be sent a summary report at the completion of the study, if they register their email address on a separate website noted at the end of the questionnaire.

9. **Participation is Voluntary**

Participation in any research project is voluntary and you are not obliged to take part. Before you make your decision, Ashlee Curtis will be available to answer any questions you may have. Please ensure you are satisfied with the answers to your questions before you complete the online survey.

If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Your decision whether to take part or to take part and then withdraw, will not affect your relationship with the researchers or with Deakin University. Any data already supplied by you via the on-line survey will have been anonymously incorporated into the database and will not be able to be withdrawn.

10. **Ethical Guidelines**
This project will be carried out according to the *National Statement on Ethical Conduct in Human Research* (2007) produced by the National Health and Medical Research Council of Australia. This statement had been developed to protect the interests of people who agree to participate in human research studies.

The ethics aspects of this research project have been approved by the Human Research Ethics Committee of Deakin University.

11. **Complaints**

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact:

The Manager, Research Integrity, Deakin University, 221 Burwood Highway, Burwood Victoria 3125, Telephone: 9251 7129, Facsimile: 9244 6581; research-ethics@deakin.edu.au

Please quote project number [2012-128].

12. **Reimbursement for your costs**

You will not be paid for your participation in this project.

13. **Further Information, Queries or Any Problems**

If you require further information, wish to withdraw your participant or if you have any problems concerning this project you can contact:

Ashlee Curtis
School of Psychology
Geelong Waterfront Campus Deakin University
1 Gheringhap St, Geelong, Victoria, 3220
(03) 52278426
ajcur@deakin.edu.au
CONSENT FORM

TO: Organisations Supporting Offenders with Intellectual Disability

Organisational Consent Form

Full Project Title: Investigating the need for a specialised treatment programme for arsonists (or those with a history of fire lighting) who have intellectual disability

Reference Number: 2012-128

I have read, and I understand the attached Plain Language Statement.

I give my permission for staff of [name of organisation] to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of Plain Language Statement and Consent Form to keep.

The researcher has agreed not to reveal the participants’ identities and personal details if information about this project is published or presented in any public form.

I agree that

1. The institution/organisation MAY / MAY NOT be named in research publications or other publicity without prior agreement.

2. I / We DO / DO NOT require an opportunity to check the factual accuracy of the research findings related to the institution/organisation.

3. I / We EXPECT / DO NOT EXPECT to receive a copy of the research findings or publications.

Name of person giving consent (printed) .................................................................

Signature ........................................................................................................... Date ...........................................
Appendix G: Community Survey Items

About you

1. Gender (Male / Female)

2. Age (years)

3. What is your highest level of education?

4. What is your occupation?

5. Do you know someone with an intellectual disability? (Yes/No)

6. Have you ever been affected by fire setting/arson?
   a. Fire setting/arson to home
   b. Fire setting/arson to property other than your home
   c. Fire setting/arson to land
   d. Bushfire
   e. Other

Your Views

Please read each statement below carefully and then decide whether you agree or disagree with each statement. Circle the number that best represents how you feel – there are no right or wrong answers.

7. I believe that offenders with intellectual disability who have an offence of arson or fire setting can be rehabilitated

   Strongly Disagree Disagree Neutral Agree Strongly agree

8. Treatment programmes for offenders with intellectual disability who have an index offence of arson or fire setting are effective

   Strongly Disagree Disagree Neutral Agree Strongly agree
9. Psychotherapy will not work with offenders with intellectual disability who have an offence of arson or fire setting

   Strongly Disagree  Disagree  Neutral  Agree  Strongly agree

10. People who want to work with offenders with intellectual disability who have an offence of arson or fire setting are ‘crazy’

   Strongly Disagree  Disagree  Neutral  Agree  Strongly agree

11. Regardless of treatment, all offenders with intellectual disability who have an offence of arson or fire setting will eventually reoffend

   Strongly Disagree  Disagree  Neutral  Agree  Strongly agree

12. Offenders with intellectual disability who have an offence of arson or fire setting can be helped using proper techniques

   Strongly Disagree  Disagree  Neutral  Agree  Strongly agree

13. Treatment doesn’t work, offenders with intellectual disability who have an offence of arson or fire setting should be incarcerated for life

   Strongly Disagree  Disagree  Neutral  Agree  Strongly agree

14. We need to urge our politicians to make treatment programmes for offenders with intellectual disability who have an offence of arson or fire setting mandatory

   Strongly Disagree  Disagree  Neutral  Agree  Strongly agree

15. All offenders with intellectual disability who have an offence of arson or fire setting should go for treatment even if they don’t want to

   Strongly Disagree  Disagree  Neutral  Agree  Strongly agree

16. Offenders with intellectual disability who have an offence of arson or fire setting should not be released back into the community

   Strongly Disagree  Disagree  Neutral  Agree  Strongly agree
17. It is important that all offenders with intellectual disability who have an offence of arson or fire setting being released receive treatment

   Strongly Disagree   Disagree   Neutral   Agree   Strongly agree

18. Offenders with intellectual disability who have an offence of arson or fire setting don’t deserve another chance

   Strongly Disagree   Disagree   Neutral   Agree   Strongly agree

19. Offenders with intellectual disability who have an offence of arson or fire setting don’t need treatment since they chose to commit the crime.

   Strongly Disagree   Disagree   Neutral   Agree   Strongly agree

20. Offenders with intellectual disability who have an offence of arson or fire setting should be executed

   Strongly Disagree   Disagree   Neutral   Agree   Strongly agree

21. Offenders with intellectual disability who have an offence of arson or fire setting should never be released

   Strongly Disagree   Disagree   Neutral   Agree   Strongly agree

22. I sometimes litter (True/False).

23. I always admit my mistakes openly and face the potential negative consequences (True/False).

24. In traffic I am always polite and considerate of others (True/False).

25. I have tried illegal drugs (for example, marijuana, cocaine, etc.) (True/False).

26. I always accept others’ opinions, even when they don’t agree with my own (True/False).

27. I take out my bad moods on others now and then (True/False).

28. There has been an occasion when I took advantage of someone else (True/False).

29. In conversations I always listen attentively and let others finish their sentences (True/False).

30. I never hesitate to help someone in case of emergency (True/False).
31. When I have made a promise, I keep it – no ifs, ands or buts (True/False).
32. I occasionally speak badly of others behind their back (True/False).
33. I would never live off other people (True/False).
34. I always stay friendly and courteous with other people, even when I am stressed out (True/False).
35. During arguments I always stay objective and matter-of-fact (True/False).
36. There has been at least one occasion when I failed to return an item that I borrowed (True/False).
37. I always eat a healthy diet (True/False).
38. Sometimes I only help because I expect something in return (True/False).

Thank you
Appendix H: Professional Survey Items

ABOUT YOU

1. Gender:
   - Male
   - Female

2. Age: years months

3. What formal qualifications, if any, do you hold (e.g., certificates, diplomas, degrees, etc)?

4. What is your professional background?
   - Social Worker/Case Manager/Welfare Worker
   - Fire Brigade Officer
   - Parole Officer
   - Psychologist
   - Psychiatrist
   - Other - please specify: ______________________

5. What is your country of residence?

6. Do you work for the government (disability services, justice, fire service, etc) or in the community sector (a private organisation, or one contracted by government to provide services)?
   - Government
   - Community sector

7. For which type of service do you work (e.g., Disability, Health, Justice, Fire Services etc.)?

8. What is your role in the organisation? (e.g., Direct service position, Team leader, Manager)

9. How long have you been employed in this position? years months

10. Do you have any experience working for corrective/correctional services?
    - Yes
    - No
11. Do you have any experience working for disability services?

☐ Yes
☐ No

12. Do you have any experience working for other services?

☐ Yes
☐ No

ABOUT YOUR SERVICE

1. What services generally does your organisation currently provide for offenders with intellectual disability?

☐ Mental health services
☐ Case Management
☐ Accommodation
☐ Education
☐ Employment
☐ Recreation
☐ Custodial
☐ Emergency services
☐ Other (please specify)

2. How are people with ID identified by your service? (e.g. do you use formal IQ testing; determine registration with state disability services; no formal recognition procedure in place; other)

3. In the past 12 months, with how many people with ID generally have you worked (not necessarily people who set fires) and what percentage of people you work with (e.g. what percentage of your caseload) would this represent?

Number worked with: [ ]
Percentage of caseload: [ ]

4. In the past 12 months, with how many people generally with a history of arson or fire setting have you worked (not necessarily people with ID) and what percentage of people you work with (e.g. what percentage of your caseload) would this represent?

Number worked with: [ ]
Percentage of caseload: [ ]

5. In the past 12 months, with how many people with ID who also present with a history of arson or fire setting have you worked, and what percentage of people you work with (e.g. what percentage of your caseload) would this represent?

Number worked with: [ ]
Percentage of caseload: [ ]
6. Does your service have a specific treatment (or educational) programme in place for people who have a history of fire setting or arson?

☐ Yes

☐ No

7. What other programmes, if any, are being delivered by your service to people who have a history of fire setting or arson (please answer none if these offenders do not receive any programmes); are these provided on an individual basis, group basis, or both; please describe?


8. On a scale of 1 to 10 (where 1= no need and 10= a strong need), do you think there is a need for specialist programmes for people with ID known to your organisation who have a history of fire setting or arson?

<table>
<thead>
<tr>
<th>No need</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>A strong need</th>
</tr>
</thead>
</table>

Comments?


9. How are people assessed for allocation to programmes (e.g., assessment of skills, risk levels, or prospects for rehabilitation)? Are any assessment tools used?


10. How is progress (e.g., acquisition of knowledge and skills, change of risk rating) in treatment assessed? Are there any assessment tools used (e.g., programme outcome measures)?


PROGRAMMES

For the following three questions please give experience in years, as well as elaborating on that experience.

1. What experience do you have in delivering education or treatment programmes for people generally who set fires or who have been charged with arson (not necessarily people with ID)? Please name any programmes.


2. What experience do you have in delivering education or treatment programmes for people with ID generally (not necessarily just those who set fires or who have been charged with arson)? Please name any programmes.

3. What experience do you have of education or treatment programmes specifically for people with ID who set fires or who have been charged with arson? Please name any programmes.

4. What would you consider to be the key components of an education or treatment programme to address the needs of people with ID who set fires or have a history of arson?

5. What would you consider to be the key considerations for adapting generic education or treatment programmes to address the needs of people with ID who set fires or have a history of arson?

6. On a scale of 1-10 (where 1= not effective and 10= very effective) how effective do you think that the current services provided to clients with ID who set fires or have a history of arson are for reducing fire setting behaviour?

<table>
<thead>
<tr>
<th>Not effective</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Very effective</th>
</tr>
</thead>
</table>

Comments?

7. On a scale of 1-10 (where 1= not appropriate and 10= very appropriate) how appropriate do you think that the current services provided to clients with ID who set fires or have a history of arson are, in terms of stopping their fire setting behaviour?

<table>
<thead>
<tr>
<th>Not appropriate</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Very appropriate</th>
</tr>
</thead>
</table>

Comments?
8. On a scale of 1-10 (where 1= not important and 10= very important) how important do you think specialised services are for clients with ID who set fires or have a history of arson?

<table>
<thead>
<tr>
<th>Not important</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Very important</th>
</tr>
</thead>
</table>

Why?

11. On a scale of 1-10 (where 1= not useful at all and 10= very useful) how useful would it be to have a manualised education or treatment programme for the treatment of clients with ID who set fires or have a history of arson?

<table>
<thead>
<tr>
<th>Not useful at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Very useful</th>
</tr>
</thead>
</table>

Why?

12. Are there any other concerns you have regarding services for offenders with intellectual disability with a conviction of arson/fire setting?

13. Any other comments?

YOUR VIEWS

Please read each statement below carefully and then decide whether you agree or disagree with each statement. Select the response option that best represents how you feel - there are no right or wrong answers.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I believe that offenders with intellectual disability who have an offence of arson or fire setting can be rehabilitated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Treatment programmes for offenders with intellectual disability who have an offence of arson or fire setting are effective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Psychotherapy will not work with offenders with intellectual disability who have an offence of arson or fire setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. People who want to work with offenders with intellectual disability who have an offence of arson or fire setting are ‘crazy’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Regardless of treatment, all offenders with intellectual disability who have an offence of arson or fire setting will eventually reoffend</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Offenders with intellectual disability who have an offence of arson or fire setting can be helped using proper techniques</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Treatment doesn’t work, offenders with intellectual disability who have an offence of arson or fire setting should be incarcerated for life</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. We need to urge our politicians to make treatment programmes for offenders with intellectual disability who have an offence of arson or fire</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please read each statement below carefully and then decide whether you agree or disagree with each statement. Select the response option that best represents how you feel - there are no right or wrong answers.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I sometimes litter</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. I always admit my mistakes openly and face the potential</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>negative consequences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. In traffic I am always polite and considerate of others</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. I have tried illegal drugs (for example, marijuana, cocaine, etc.)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. I always accept others’ opinions, even when they don’t agree</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>with my own</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I take out my bad moods on others now and then</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. There has been an occasion when I took advantage of someone else</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. In conversations I always listen attentively and let others finish</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>their sentences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I never hesitate to help someone in case of emergency</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. When I have made a promise, I keep it – no ifs, ands or buts</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11. I occasionally speak badly of others behind their back</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>12. I would never live off other people</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>13. I always stay friendly and courteous with other people, even</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>when I am stressed out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. During arguments I always stay objective and matter-of-fact</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>15. There has been at least one occasion when I failed to return an</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>item that I borrowed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16. I always eat a healthy diet
   - True
   - False

17. Sometimes I only help because I expect something in return
   - True
   - False

Your responses have successfully been submitted. Thank you for your participation.

Please indicate whether you would be interested in receiving a summary of the survey findings and/or participate in a follow-up interview. If you are not interested in either of these, the survey has finished and you may close this window.

- [ ] Yes, I would like to receive a summary of the findings
- [ ] Yes, I would be interested in participating in a follow-up interview.

Email address: 

Please note that your e-mail address is not stored with your responses to the questions you have just answered; your responses remain anonymous.

Would you like to speak with us about the project?
Please e-mail: ajcur@deakin.edu.au or telephone: (03) 52278426