Caught red-eyed and red-handed: an exploration of cannabis use and criminal offending

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Caught red-eyed and red-handed:
An exploration of cannabis use
and criminal offending

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B. Soc Sci Crim (Hons)

A thesis submitted in accordance with the requirements for
admission to the degree of Doctor of Philosophy

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Cannabis is the most frequently used illicit drug by adolescents and adults across the world. Individuals involved in crime have been found to initiate and progress to regular use at an earlier age and use larger amounts, more frequently than the general community. Early, heavy use of cannabis and frequent involvement in crime during adolescence is commonly associated with a range of negative health and social outcomes later in life.

The nature of the relationship between cannabis use and crime, however, remains contested. This thesis aimed to explore the initial and on-going association between cannabis use and criminal offending, focusing on the contributions of age and a range of social and environmental factors. This thesis reports on the findings of three studies using differing methodologies and data sources.

Study 1 examined data collected from the Drug Use Monitoring Australia program to compare drug use, offending and the predictors of recent criminal charges among police detainees by age and drug-user group. Younger participants were more likely to have recently used cannabis, initiated at a younger age and to have recently received more criminal charges. A mental health diagnosis was a significant predictor of recent charges among detainees whose past year illicit drug use was limited to cannabis-only.

The second study examined whether the temporal order of onset of cannabis use and criminal offending could differentiate between the social, motivation and environmental contributors to initiation and on-going cannabis use and crime among young offenders. Although temporal order was not distinguished by factors contributing to drug use or crime initiation, using cannabis prior to involvement in crime was found to influence the speed of progression from first to regular offending.
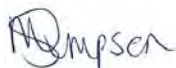
The final study used a qualitative approach to gather in-depth explanations and experiences of young people regarding contributors to initiation, on-going involvement and cessation of cannabis use and criminal offending. The immediate social environment was found to play a strong role in the initiation, acceptance and normalisation of cannabis use and offending.

Findings of these studies will prove useful in the development of targeted intervention programs, particularly among individuals whose immediate social environment place them at increased risk for early involvement in cannabis use and crime.

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ABSTRACT

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LIST OF ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ADAM	Arrestee Drug Abuse Monitoring
ADAN	Aboriginal Drug and Alcohol Network
ADD	Attention deficit disorder
ADHD	Attention deficit and hyperactivity disorder
AIC	Australian Institute of Criminology
AH&MRC	Aboriginal Health and Medical Research Council
AIHW	Australian Institute of Health and Welfare
ANOVA	Analysis Of VAriance
AOD	Alcohol and Other Drug
AODTS NMDS	Alcohol and Other Drug Treatment Services National Minimum Data Set
ASOC	Australian Standard Offence Classification
ASSAD	Australian Secondary Schools Alcohol and Drug (survey)
CUPIT	Cannabis Use Problems Identification Test
DUCO	Drug Use Careers of Offenders (study)
DUF	Drug Use Forecasting (program)
DUMA	Drug Use Monitoring Australia
EDRS	Ecstasy and related Drugs Reporting System
GP	General Practitioner
HR	Hazard Ratio
HREC	Human Research Ethics Committee
IDRS	Illicit Drug Reporting System
JJ MDS	Juvenile Justice Minimum Data Set
MMM	Marijuana Motives Measure
NCPIC	National Cannabis Prevention and Information Centre
NDARC	National Drug and Alcohol Research Centre
NH&MRC	National Health and Medical Research Centre
NDSHS	National Drug Strategy Household Survey
NSW	New South Wales

NT	Northern Territory
NYS	National Youth Survey
QLD	Queensland
SD	Standard Deviation
SDS	Severity of Dependence Scale
SPSS	Statistical Package for the Social Sciences
TAFE	Technical and Further Education
UK	United Kingdom
UNODC	United Nations Office on Drugs and Crime
UNSW	University of New South Wales
US	United States
VIC	Victoria
WA	Western Australia
YAA	Youth Accommodation Association
YAPA	Youth Action and Policy Association
YDRS	Youth Drug Reporting System
YSL	Youth Lifestyles Survey

CHAPTER 1: INTRODUCTION

Participation in drug use and crime result in significant annual costs to the Australian community. It has been estimated that drug abuse alone cost the community $55.2 billion in 2004–05. Although legal drugs (alcohol and tobacco) accounted for the majority of these costs, illicit drugs accounted for a substantial proportion — 14.6% or $8.2 billion (Collins and Lapsley, 2008). Crime attributable to the use of illicit drugs is estimated to have cost the Australian community $4 billion in 2004–05 (Collins and Lapsley, 2008).

In Australian and international literature there is a consensus that accepts that in addition to the high prevalence of drug use found among offenders compared to the general population (Australian Institute of Health and Welfare, 2011a; Indig et al., 2011; Sweeney and Payne, 2012), a strong association between drug use and crime exists (Bennett, Holloway and Farrington, 2008; Bradford and Payne, 2012; D'Amico et al., 2008; Dembo et al., 1998; Dembo, Wareham and Schmeidler, 2007; Menard, Mihalic and Huizinga, 2001; Whiteford, 2007; Wilkins and Sweetsur, 2010). The exact nature of the relationship, however, remains widely debated, with reviews of the literature concluding that results are often dependent on the type of research undertaken (including the selected sample and their age), the type of crime and the type and number of drugs examined (Bennett, Holloway and Farrington, 2008; Chaiken and Chaiken, 1990; Derzon and Lipsey, 1999; Hammersly, 2008; McBride and McCoy, 1993; Payne, 2006; White and Gorman, 2000; Wilczynski and Pigott, 2004).

Evidence linking cannabis use to criminal behaviour, such as the overall drug-crime relationship, is contested. Derzon and Lipsey (1999) conducted a meta-analysis of 30 longitudinal studies and found a positive relationship exists between cannabis use and delinquent and problem behaviours, with the relationship strongest during early adolescence and when cannabis use and problem behaviour were measured at the same time point. It is important to note that delinquency often encompasses a broader range of behaviours (such

as truancy) committed by young people (or juveniles[1]) than what is classified as criminal behaviour (as defined by law).

This thesis specifically examines the relationship between cannabis use and criminal behaviour through a series of studies. As there is no specific dataset for young offenders, routinely collected data from the Drug Use Monitoring Australia (DUMA) program will be interrogated to identify similarities and differences in drug use and offending behaviour among young people and adult police detainees, concentrating on age and drug-user type (i.e. non-illicit, cannabis-only and other-illicit drug user). Following this, the predominant focus of this thesis is young people, crime and cannabis use, with emphasis on aspects of crime and cannabis initiation and progression, from qualitative and quantitative perspectives. Thesis structure and aims of each empirical study are presented at the end of this chapter.

This introductory chapter provides background and contextual information for the three empirical studies that comprise this thesis. This chapter provides an overview of the prevalence of cannabis use and the extent of criminal offending that occurs within Australia. The chapter also examines methods used to estimate and measure crime and drug use among those who commit crime. Specific focus is on the use of cannabis and involvement in crime among young people.

Issues such as the over-representation of Aboriginal and Torres Strait Islander peoples within the criminal justice system, Australian jurisdictional differences in the definition of "juvenile", and some common characteristics of young people who come into contact with the criminal justice system are also examined. The chapter concludes with an overview of the thesis structure and provides an outline of subsequent chapters contained within this thesis.

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[1] The legal definition of a juvenile in Australia is discussed in Section 1.5.1.

1.1   Prevalence of illicit drug use

Worldwide, a relatively small proportion of populations use illicit drugs. Recent figures from the United Nations Office on Drugs and Crime (UNODC) World Drug Report, estimate the global annual prevalence of illicit drug users to be between 3.3 and 6.6%, with rates of use remaining stable over the five years to 2010 (United Nations Office of Drugs and Crime, 2012). The majority of drug users were consumers of cannabis (between 119 and 224 million users worldwide) and amphetamines type stimulants, excluding ecstasy (between 14 and 53 million users worldwide) (United Nations Office of Drugs and Crime, 2012).

In comparison, population data from the 2010 National Drug Strategy Household Survey (NDSHS) in Australia reported 14.7% of the population over the age of 14 had used an illicit drug in the past year, signifying an increase from 13.4% in 2007 (Australian Institute of Health and Welfare, 2011a). Similarly to worldwide consumption, the most commonly used illicit drugs were cannabis (10.3%), ecstasy (3.0%), cocaine (2.1%) and amphetamines (2.1%) (Australian Institute of Health and Welfare, 2011a).

1.2   Cannabis use in Australia

Cannabis is by far the most widely available and most frequently used illicit drug by adolescents and adults across the world. Estimates indicate that the highest annual prevalence of cannabis use worldwide (9.1% – 14.6% of the population) occurs within the Oceania region, predominantly in Australia and New Zealand (United Nations Office of Drugs and Crime, 2012).

Despite the use and possession of cannabis remaining illegal within Australia, in 2010 just over a third (34.3%) of Australians aged 12 and older had tried cannabis in their lifetime, with 10.1% reporting use in the past 12 months. Since 2007, recent use has increased slightly from 9.1% at the population level (Australian Institute of Health and Welfare, 2011a). Recent cannabis use in the

United States (US) has followed a similar pattern, with past month use increasing from 5.8% in 2007 to 7.0% in 2011. In contrast, recent cannabis use (past 12 months) in England and Wales decreased from 9.5% in 1996 to 6.9% in 2011/12 (Home Office Statistics, 2012; Substance Abuse and Mental Health Services Administration, 2012). Compared to non-Indigenous Australians, Aboriginal and Torres Strait Islander peoples were 1.6 times more likely to have recently used cannabis (after adjusting for age) (Australian Institute of Health and Welfare, 2011a). In Australia, cannabis was also the most likely illicit drug to be used concurrently with any other drug, including alcohol and tobacco. (Australian Institute of Health and Welfare, 2011a).

Among drug treatment seekers nationally, cannabis is the second most common principal drug of concern (except among the 10–19 year age group), accounting for 23% of all treatment episodes in Australia. Within the 10–19 year age group, however, cannabis is the most frequently reported principal drug of concern (Australian Institute of Health and Welfare, 2011b). Regarding the type of treatment accessed, cannabis as the principal drug of concern was most commonly associated with receiving information and education only (67%), support and case management (33%) and counselling (22%) (Australian Institute of Health and Welfare, 2011b).

From a law enforcement perspective, cannabis-related arrests and seizures have accounted for over two-thirds of all illicit drug related arrests and seizures in Australia over the past decade, with the highest numbers reported during 2010–11 (Australian Crime Commission, 2012). These findings, in conjunction with use statistics, highlight the significant issue of cannabis use within the Australian community.

1.2.1   Age of cannabis initiation

Experimentation with illicit drugs tends to occur during adolescence, with cannabis typically being the first illicit drug used (European Monitoring Centre for Drugs and Drug Addiction, 2007). In Australia, recent population data from

the NDSHS found that for individuals aged 14 years and older, the average age of cannabis initiation was 18.5 years (Australian Institute of Health and Welfare, 2011a). General population surveys in other countries have found similar ages of initiation, for example the average age of cannabis initiation among 12–49 year olds in the US in 2011 was 17.5 years, while the average age of cannabis initiation in England and Wales among 16–59 year olds was 16 years in 2011/12 (Home Office Statistics, 2012; Substance Abuse and Mental Health Services Administration, 2012).

Among at-risk young people, age of first cannabis use and progression to regular cannabis use and poly-drug use have been found to occur much earlier (Copeland et al., 2003; Howard and Zibert, 1990; Indig et al., 2011; Johnson, 2001; Kenny and Nelson, 2008; Lennings and Pritchard, 1999; Prichard and Payne, 2005; Sweeney and Payne, 2012). Using discrete time survival analysis to examine periods of risk to drug use and crime initiation, Prichard and Payne (2005) found that among juvenile offenders, the risk of using cannabis was greatest at 13 years of age and declined by over 50% by 16 years of age. Examining age of onset of drug use among serious and non-serious delinquents, Doherty, Green and Ensminger (2008) similarly found that the cumulative incidence of cannabis initiation increased from the age of 12 to 20, with 74% of serious delinquents having used cannabis by the age of 26 and 58% of non-serious delinquents having used cannabis by 20 years of age (Doherty, Green and Ensminger, 2008).

Age is a significant predictor of involvement in cannabis use and overall drug use (Beckett et al., 2004; Dembo et al., 2009; Gfroerer, Wu and Penne, 2002; Guo et al., 2002; Kandel and Yamaguchi, 1993). Initiating use and the commencement of regular use illicit drug use at a younger age has been linked to a number of adverse outcomes such as further, more entrenched use of illicit drugs, higher prevalence of drug use disorders, detachment from pro-social activities and peers and increased risk of involvement in delinquent and criminal behaviour (D'Amico et al., 2008; Dembo et al., 1990; Horwood et al., 2010; Kandel and Yamaguchi, 1993; Pudney, 2002; Slade et al., 2008; Swift et al.,

2012; Zhang, Wieczorek and Welte, 1997). Outcomes associated with early cannabis use will be explored in more detail in Section 2.9.

1.2.2   Cannabis use among young people in Australia

Recent estimates indicate that among young Australians aged between 12–17 and 18–19 years old, 11.0% and 32.0% (respectively) have tried cannabis (Australian Institute of Health and Welfare, 2011a). Over time, among 14–19 year olds, recent (past 12 month) cannabis use has reduced substantially from 35.1% in 1998 to 15.7% in 2010 (Australian Institute of Health and Welfare, 2011a). Similar reductions have been noted previously within the Australian Secondary Students' Alcohol and Drugs (ASSAD) survey with lifetime cannabis use decreasing from 25.0% in 2002 to 13.6% in 2008 among 12–17 year olds (White and Smith, 2009).

Overall, lifetime cannabis use in Australia is more common among males (1 in 3) compared to females (1 in 4). Among young people aged between 14 and 19 years, the differences in use between males and females disappear (lifetime: 25.3% versus 24.9%, and recent use: 18.1% vs. 18.2%) (Australian Institute of Health and Welfare, 2011a). The recent convergence of rates of cannabis use, particularly among young males and females, has been likened to declining rates of tobacco smoking and alcohol consumption (Indig, Arcuri and Copeland, 2008).

1.3   The dark figure of crime

Before presenting some statistics highlighting the occurrence of crime in Australia, it is important to acknowledge that such figures are potentially affected by what is known as the "dark figure of crime". The following section briefly explains this concept.

Outside of specific research studies, data about types of crime and the characteristics of people committing these crimes comes predominantly from

two primary sources — the police/other law enforcement agencies and official sources such as the courts and prisons. Such data, however, are not thought to be comprehensive or to portray a true representation of all the crime that actually occurs (Coleman and Moyniham, 2002). The "dark figure of crime" is a term used to represent the amount of crime that remains unknown, undetected and/or unreported. The unknown figure is thought to vary year to year and has been linked to changes in the economic cycle (MacDonald, 2001).

As a result of the "dark figure of crime" crime data are often metaphorically described as an "iceberg", where the visible, small tip represents the amount of crime that is actually known or seen as compared to the larger portion of the iceberg (or crime) that sits hidden below the surface (Coleman and Moyniham, 2002). Self-report and victimisation studies have assisted in improving the estimate of the prevalence and incidence of crime (Clare and Morgan, 2009).

1.4 Crime in Australia

During 2010–11, the offending rate among Australians aged 10 years and over was 1,892 offences per 100,000. Among young people, this rate was much higher: for those aged between 15 and 19 years, the rate was 5,657 offences per 100,000 (Australian Bureau of Statistics, 2012). This young group of offenders have consistently remained the highest offending age group in Australia for the past 13 years (Australian Institute of Criminology, 2012). Young people and crime in Australia will be discussed in more detail in Section 1.4.3.

Also consistent with past years and many prior studies, during 2010–11, males accounted for approximately three out of every four offenders (78%). From the previous year, the number of male offenders aged 10 years and older decreased by 0.9%, while the number of female offenders decreased by 1.9% (Australian Bureau of Statistics, 2012).

The most common principal offences committed during 2010–11 included public order offences (19%), acts intended to cause injury (19%), theft (17%) and illicit drug offences (15%). Public order offences and acts intended to cause injury were the main offences committed by males, while theft was the main offence for females (Australian Bureau of Statistics, 2012). Principal offence types also differed by age, with the median age for offences such as unlawful entry without intent, robbery and extortion, theft and property damage being 21 years or younger (Australian Bureau of Statistics, 2012).

Aboriginal and Torres Strait Islander Australians are significantly over-represented within the juvenile and adult criminal justice systems. In 2010–11, Aboriginal and Torres Strait Islander Australians represented 71% of offenders in the Northern Territory (NT), 18% of offenders in Queensland (QLD), 13% of offenders in South Australian (SA) and 12% of offenders in NSW (all figures exclude offenders who received penalties and infringements) (Australian Bureau of Statistics, 2012). These figures may seem low, but when compared to the proportion of Aboriginal and Torres Strait Islander people within these Australian states and territories, the over-representation is clear. Aboriginal and Torres Strait Islander people currently constitute 28% of the population in the NT, 3% of the population in QLD, 2% of the population in SA and 3% of the population in NSW (Australian Bureau of Statistics, 2012).

Differences also exist between these Australian states and territories and offence types concerning the proportion of offenders identifying as Aboriginal and Torres Strait Islanders. In 2010–11, the proportion of Aboriginal and Torres Strait Islander people committing unlawful entry with intent was 17–20 times higher than non-Indigenous people, while robbery and extortion was 7–10 times higher (Australian Bureau of Statistics, 2012). Among non-Indigenous Australians, the peak age of offending is 15–19 years across all states and territories. However, the peak age of offending among Aboriginal and Torres Strait Islander people differs across states and territories: within NSW and QLD the peak age is 15–19 years, within the NT it is 25–29 years, while in SA it is 30–34 years (Australian Bureau of Statistics, 2012).

Similar rates of over-representation exist among adults and young people who are incarcerated within Australia. On 30 June 2010, just over a quarter (26%) of prisoners identified as being of Aboriginal and Torres Strait Islander origin (Australian Institute of Criminology, 2012). Between 2007 and 2010, the imprisonment rate for Aboriginal and Torres Strait Islanders rose by 12%, and the juvenile imprisonment rate is 429 incarcerations per 100,000 compared to 17 per 100,000 for non-Indigenous youth (Australian Institute of Criminology, 2012).

1.4.1   Legal definition of a juvenile

Within Australia, the legal age at which an offender is treated as an adult varies by jurisdiction (see Table 1.1 below). In each Australian state and territory, except Queensland, a juvenile is defined as someone who is between the ages of 10 and 17 inclusive. Within Queensland, a juvenile is aged between 10 and 16 years inclusive (Richards, 2011).

Prior to the mid-nineteenth Century, juveniles were often treated by the legal system the same way as adults, with age not being taken into account. In more recent times, differences in maturity and experience among adults and young people have been acknowledged (Richards, 2011). Adults are assumed to know what is right and wrong and therefore are responsible for their actions. However, juveniles are viewed as not fully understanding the implications of what they have done wrong, lacking in maturity and being strongly influenced by others. Perceptions of juvenile behaviour may differ depending on the age of the offender (Richards, 2011; White, 2008). When an older juvenile commits more serious crimes, they are often viewed as deserving more "adult like" punishments (Agnew, 2009).

Table 1.1   Age of criminal responsibility

Jurisdiction	No criminal responsibility	Treatment as child/juvenile
Commonwealth	Under 10 years	Not specified
Australian Capital Territory		Under 18 years ("young person")
New South Wales		Under 18 years ("child")
Northern Territory		Under 18 years ("youth")
Queensland		Under 17 years ("child")
South Australia		Under 18 years ("youth")
Tasmania		Under 18 years ("youth")
Victoria		Under 18 years ("child")
Western Australia		Under 18 years ("young person")

Adapted from: Table 1.1 - Age of criminal responsibility by Australian jurisdictions (as of 12 July 2005), *Legal Definition of a Juvenile*, Australian Institute of Criminology. Accessed on 9 October,

2012, http://www.aic.gov.au/crime_community/demographicgroup/youngpeople/definition.aspx

1.4.2   Age of first criminal offence

Age and crime are significantly correlated, with rates of offending among young people found to be much higher than rates of offending among adults (Australian Bureau of Statistics, 2012; Fagan and Western, 2005). Using US general population data (n=35,594) from the 1991 National Household Survey on Drug Abuse (NHSDA), Harrison and Gfroerer (1992) found age to be the strongest predictor of involvement in property and violent offending, even stronger than drug use, which was found to be more strongly related to being charged with an offence.

Previous research has shown that crime and delinquency tends to increase during mid-adolescence at around 17 years of age and declines after 18 years, with the majority of individuals "growing out" of such behaviour in their early adult life, often when for example, they take on a role as a parent, participate in a serious relationship or gain employment (Hirschi and Gottfredson, 1983;

Horney, Osgood and Marshall, 1995; Kazemian, Farrington and Le Blanc, 2009; Moffitt, 1993). Onset of drug use also begins during adolescence; however, peak periods of use tend to occur at around 25 years of age, with use maintained slightly longer than for crime and delinquency (Bean, 2002; Elliott, Huizinga and Menard, 1989; White and Gorman, 2000). In a study using National Youth Survey (NYS), Elliott and colleagues (1989) found delinquency declined by 75% from adolescence to mid-adulthood, while rates of poly-drug use increased by 350% during the same time period.

1.4.3   Young people and crime in Australia

Young people in Australia are more frequently apprehended by police than adults, with recent statistics showing that the offending rate for those aged between 15 and 19 years was almost four times that of the total offending population (Australian Institute of Criminology, 2012). In 2010–11, young people aged 10–19 years most frequently committed public order offences and acts intended to cause injury (Australian Bureau of Statistics, 2012). Since 1996-97, the rate of assault committed by juveniles has increased by 67%, while the rate of unlawful entry with intent has decreased by 24% (Australian Institute of Criminology, 2012).

Although a slight decrease in offending was noticed most recently between 2009–10 and 2010–11, since 1996–97, an overall increase in juvenile offending has been observed (Australian Bureau of Statistics, 2012; Australian Institute of Criminology, 2012). Most notable has been the rise in the juvenile female offending rate by 67%, from 1,528 per 100,000 in 1996–97 to 2,546 per 100,000 in 2009–10. In comparison, the juvenile male offending rate increased by 4% from 6,288 per 100,000 in 1996–97 to 6,521 per 100,000 in 2009–10 (Australian Institute of Criminology, 2012).

In terms of sanctions received, of the young people processed by Children's Courts across Australia in 2009–10, the majority received "other" non-custodial orders (45%), a further 27% received a community supervision/work order, 3%

received a suspended sentence, just under one-fifth (18%) received a monetary order, while 2% were sentenced to custody in the community and 5% were sentenced to custody in a correctional centre (Australian Institute of Criminology, 2012).

1.4.4 Common characteristics of young people who commit crime in Australia

Available data illustrates that young people who are in contact with the criminal justice system in Australia tend to be characterised as having backgrounds of risk and vulnerability. Many come from situations of economic disadvantage, parental imprisonment and substance use and are more likely to be disengaged from education, training and employment (Indig et al., 2011; Kenny and Nelson, 2008; New South Wales Department of Juvenile Justice, 2003). Regular participation in a range of risk-taking and thrill-seeking behaviours, particularly in relation to substance use is also common among this group (Kenny and Nelson, 2008).

The Drug Use Careers of Offenders (DUCO) study is one of the largest conducted to date within Australia on drug use and offending among those held in custody (Makkai and Payne, 2003). Adult prisoners and juvenile detainees participated during 2003-04 (Prichard and Payne, 2005). Consistent with other Australian studies of similar populations, a third of the juvenile sample had previously spent time in custody, over three quarters had already left school at an average age of 14 years old, over half lived with their parents, while just under 10% were parents themselves. Aboriginal and Torres Strait Islander young people were also over-represented within this sample (59%), consistent with the overall number of Aboriginal and Torres Strait Islander young people held in custody at the time (Prichard and Payne, 2005).

A drug use survey of NSW juvenile detainees conducted in 2009 reported similar demographic characteristics (Indig et al., 2011). A high proportion of young people in this study had been removed from their families, just under half

(45%) reported a history of parental incarceration, many were found to have poor physical health, while 87% were found to have at least one psychological disorder (Indig et al., 2011).

1.5 Drug use among people who commit crime in Australia

As mentioned in Section 1.4, crime is predominantly measured through official statistics based on those who come into contact with the criminal justice system. Information pertaining to illicit drug use among people who commit crime, therefore, is driven by data also obtained by those who come into contact with the criminal justice system, such as police arrestees and incarcerated persons.

Modelled on monitoring systems such as the Arrestee Drug Abuse Monitoring (ADAM) (previously the Drug Use Forecasting program) in the United States (US), the DUMA project was established by the Australian Institute of Criminology (AIC) to provide timely data on substance use and related trends among those who come into contact with the criminal justice system (Makkai, 1999). Despite a number of well-known limitations, it is the best on-going measure of substance use among this population in Australia. Other monitoring systems such as the Illicit Drug Reporting System (IDRS) (Stafford and Burns, 2012) and the Ecstasy and related Drugs Reporting System (EDRS) (Sindicich and Burns, 2012), whose samples report criminal involvement, also provide valuable insight into this population and their drug use behaviours.

However, such monitoring systems, in addition to independently conducted research studies have found that illicit substance use among offenders is typically higher in frequency and variety than among the general population. People who engage in regular crime have been found to have begun using illicit substances and progressed to regular use at a younger age. Increased use of illicit substances is commonly associated with increased involvement in crime and increased detection by law enforcement authorities (Bennett and Holloway,

2005a; Copeland et al, 2003; Dembo et al 1991; Johnson, 1991; Prichard and Payne, 2005). An extremely high proportion of young offenders who spend time in custodial settings report using illicit substances in the time leading up to and at the time of their last offence (Copeland et al., 2003; Putnins, 2001; Lennings and Pritchard, 1999).

The most recent national data from DUMA (2009 and 2010) found that of the 75% of police detainees who provided a urine sample, 66% tested positive to at least one illicit drug (Sweeney and Payne, 2012). Consistent with trends from previous years, detainees were most likely to have tested positive to cannabis (46%), benzodiazepines (23%), opiates (22%) and amphetamines (16%). Females were more likely to test positive to amphetamines, benzodiazepines and opiates, while males were slightly more likely to test positive to cannabis (Sweeney and Payne, 2012).

Although drug use trends among police detainees within Australia are regularly monitored via DUMA, trends and patterns of use among incarcerated offenders, and among young people in particular, have not been routinely collected over time, nor is this population included in routine community health surveys (Australian Institute of Health and Welfare, 2006). Some surveys have been conducted and published in an attempt to understand such patterns of use and related harms among this group. Most of these surveys have employed differing methodologies and lack standardisation of questions related to substance use and risk behaviours, making direct comparisons with national surveys difficult.

1.5.1 Cannabis use among those who commit crime in Australia

As discussed above, of all illicit drugs, police detainees are more likely to test positive to cannabis, with just over half of those (57%) aged between 18–20 years of age testing positive (Sweeney and Payne, 2012). Of all the offence categories, drug offenders were most likely to test positive to cannabis (51%),

followed by detainees who were charged with disorder offences (49%), traffic offences (48%), breaches (48%), property offences (47%) and violent offences (46%) (Sweeney and Payne, 2012).

During 2009 and 2010, just under half of young people (44%) interviewed as part of the DUMA program tested positive to cannabis (Sweeney and Payne, 2012), while just over a third of young people (39%) self-reported using cannabis in the 30 days prior to interview/arrest (Gaffney et al., 2010). Two-thirds of young people incarcerated in NSW reported using drugs (primarily cannabis) at least weekly in the year prior to their current episode of incarceration (Indig et al., 2011).

Prior studies of incarcerated Australian young people have reported similar results. For example, a study examining the prevalence of prior drug use among QLD youth detainees, found that 93% of the sample had previously used cannabis (Lennings and Pritchard, 1999). Over 80% of the sample had used cannabis more than 40 times in their life, while 61% had used cannabis more than 40 times in the month prior to detention (Lennings and Pritchard, 1999). Similarly, among South Australian adolescent detainees, 81% of detainees reported using cannabis in the previous month, 44% of whom were using cannabis daily or almost daily (Putnins, 2001). Among the large DUCO study, the majority of the sample (63%) had used cannabis regularly in the six months prior to detention (regular use was self-defined). Overall, 93% of the sample had ever used cannabis (Prichard and Payne, 2005).

Recently Simpson et al. (2009) attempted to compile all publicly available Australian data to compare the proportion of lifetime cannabis use among young people in custody to those in the general population using data from the NDSHS. Findings show that almost 100% of adolescents from the included studies had tried cannabis at some stage in their life and that this trend appears to have remained relatively stable over time. Incarcerated young people did not experience a reduction in use over the past few years, as displayed by the general Australian population at the time (Simpson et al., 2009) (see Figure 1.1).

Figure 1.1   Lifetime cannabis use among Australian adolescents
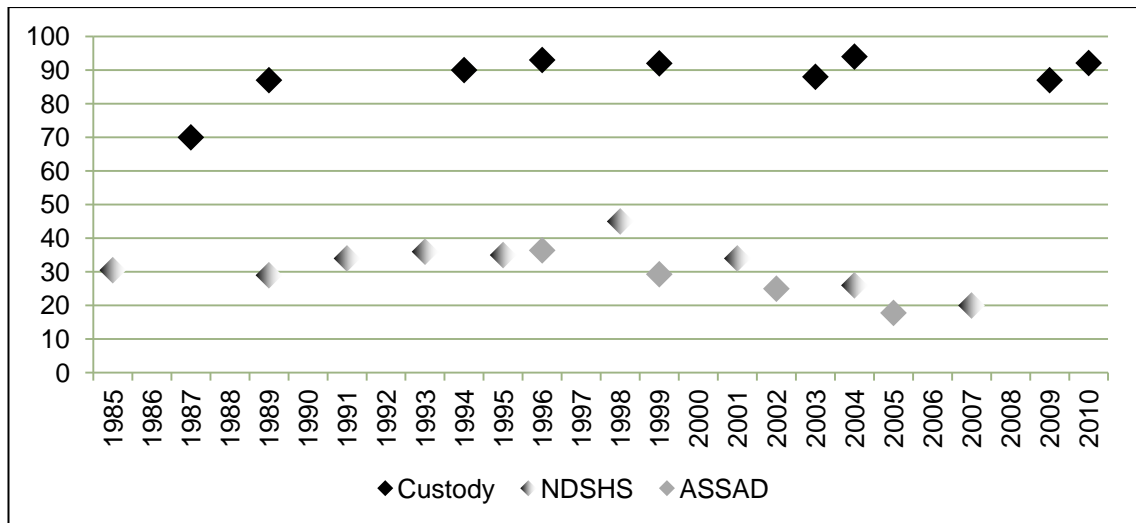
Note: Figure adapted from original appearing in Simpson et al., 2009.

1.6   Thesis structure and aims

The overall aim of the current thesis is to further explore the initial and on-going associations between cannabis use and criminal offending, focusing primarily on the contributions of age and a range of social and environmental factors. More specifically, the present thesis includes three empirical studies that use differing methodologies and samples to answer a subset of research questions related to the overall aim.

Chapter 1 of this thesis has provided important background and contextual information regarding drug use and offending in Australia.   Chapter 2 will provide an overview of the core and competing theoretical perspectives that attempt to explain the drug-crime relationship and will describe the key factors known to influence the relationship.

Chapter 3 (Study 1) utilises data routinely collected as part of the on-going Drug Use Monitoring Australia (DUMA) program to differentiate drug use and criminal offending among a sample of police detainees on the basis of age (comparing participants aged$\leq$ 25 years to participants aged $\geq$ 26 years) and drug-user group (non-illicit, cannabis-only and other-illicit drug users). The specific aims of Chapter 3 are:

1. To compare drug use and offending among NSW police detainees across age and drug-user groups; and

2. To explore predictors associated with the number of criminal charges received in the past 12 months by NSW police detainees and to determine whether any differences exist across age and drug-user groups.

The focus of the thesis will be narrowed in Chapters 4 (Study 2) and 5 (Study 3) to young people, cannabis and criminal offending. These studies form part of a larger sequential mixed-methods design, where Study 3 (a qualitative study) aims to complement and expand on the findings of Study 2 (a mostly quantitative study).

More specifically, Chapter 4 (Study 2) aims to establish the temporal order of initiation of cannabis use and criminal offending among a sample of 302 at-risk young people recruited through youth detention centres and youth services located within the community. The study also attempts to ascertain the role of the order of involvement in such behaviours on initiation experiences and later drug use and offending[2]. The specific aims of Study 2 are:

1. To establish the temporal order of cannabis use and criminal offending and to determine whether differences exist in the trajectory of subsequent drug use and offending between those who first used cannabis prior to offending, those who started offending prior to first cannabis use and those who initiated cannabis use and offending in the same year;

2. To describe a range of motivational, social and environmental aspects of cannabis and crime initiation and to determine if such factors differentiate between the temporal order of initiation to cannabis use and criminal offending; and

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[2] Refers to self-reported offending

3.   To determine whether the temporal order of cannabis use and criminal offending contribute to any differences in drug use, crime and mental health issues later in life as measured at baseline interview.

Chapter 5, the final empirical chapter, describes the findings of Study 3, a qualitative study that aims to expand on the findings of the previous study through the use of semi-structured, in-depth interviews. Study 3 aims principally to gain further insight into the thoughts, feelings and experiences of at-risk young people about initiation, continued involvement and cessation of cannabis use and criminal offending[3]. Study 3 aims:

1.   To determine role social and environmental influences play in the initiation of cannabis use and criminal offending among at-risk young people;

2.   To elicit which factors contribute to the on-going relationship between cannabis use and criminal offending from the perspective of at-risk young people; and

3.   To elicit which factors contribute to the cessation of involvement in cannabis use and criminal offending from the perspective of at-risk young people.

Chapter 6 will review the findings of the three empirical chapters, discuss the implications of the findings and suggest areas where future research is warranted.

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[3] Refers to self-reported offending

CHAPTER 2:   PART ONE: THE DRUG-CRIME RELATIONSHIP

2.1   Introduction

As outlined in Chapter 1, although the nature of the drug-crime relationship remains widely debated, there is plentiful evidence suggesting an association between the two behaviours. With some more widely accepted than others, there are a number of theoretical perspectives and models which attempt to describe and justify the relationship. In a substantive review of the drugs and crime literature, Menard, Mihalic and Huizinga (2001) summarised the core competing theoretical explanations (or models) based on White's (1990) four explanations:

- substance use causes crime;
- crime causes substance use;
- substance use and crime influence one another directly in a pattern of mutual causation; and
- the relationship between substance use and crime is spurious.

When considering causal models of the relationship between drug use and crime it is important to note that neither drug users nor criminals are homogeneous groups. Not all people who use drugs commit crime and not all people who commit crime use drugs. However, a disproportionate number of dependent drug users do commit crime typically as a result of their drug use (Willis, Homel and Gray, 2006). According to White and Gorman (2000), drug users can be categorised into three broad groupings: those who do not become involved in criminal activity (besides drug use/possession); those who are criminally active prior to becoming a drug user and remain so even if drug use ceases; and those who become involved in crime as a result of drug use. Additional factors that influence the drug-crime relationship include age, sex and primary type of drug consumed. Current theories on the aetiology of

substance use among young people highlight the importance of considering not only the individual but also the social environment to explain the occurrence of substance use and criminal offending.

Chapter 2 is presented in two parts. Part One provides an overview of the four most commonly cited primary and competing explanations for the drug-crime relationship (as summarised above), and draws on additional theoretical perspectives and empirical evidence where relevant. Specific focus is on how the relationship between cannabis use and crime has been theorised. Part Two explores in further detail a range of factors that have been found to influence the drug-crime relationship. Particular focus is on the role these factors play in the initiation of drug use, specifically cannabis and engagement in criminal offending.

2.2   Explanation 1: Drug use causes crime

The dominant theoretical opinion that suggests drug use leads to crime is the tripartite model proposed by Goldstein (1985). This model describes three ways in which drug use can lead to criminal behaviour: the effects of consuming drugs results in aggression or violent behaviour (psychopharmacological model); the monetary costs of consuming drugs results in acquisitive crime (economic model); and an intrinsic violent nature results from interactions within the drug market (systemic model) (Goldstein, 1985).

One of the major criticisms of this model is based on the temporal order of the onset of drug use and crime, with the tripartite model stating drug use leads to and causes crime; that is, first drug use occurs prior to first crime. Most evidence highlights that the committing of a first crime generally occurs prior to first drug use, with drug use increasing in frequency following involvement in minor offending (Makkai and Payne, 2003; Pudney, 2002; Torok, Darke and Kaye, 2012). Increasing frequency and involvement in drug use has been found to intensify and accelerate involvement in offending.

Other criticisms of the tripartite model include that the theory is used predominantly to explain the relationship between drug use and violent crime, it is adult rather than youth focused and does not take into account the influence of the environment or natural trajectories of offending over time (Brunelle, Brochu and Cousineau, 2000; Parker and Auerhahn, 1999).

2.2.1   Psychopharmacological model

The psychopharmacological model claims that the chemical properties of licit and illicit drugs react with the body to create either indirect or direct changes in behaviour.   Reviews of psychoactive effects report that drug use promotes feelings of irritability, excitability, fear, paranoia, impaired judgement, dis-inhibition and irrationality (Haynes et al., 2010).   This model has been used predominantly to describe the relationship between drug use and violent crime, whereby the effects of long-term or immediate use of particular drugs are seen to provoke or increase the risk of aggressive behaviour by an individual (Goldstein, 1985).   Similarly, this model is often used to explain the occurrence of crime during periods of drug withdrawal (and in anticipation of withdrawal symptoms), where increased irritability and aggression have been observed (Bennett and Holloway, 2009; Boles and Miotto, 2003).   An alternate interpretation of the psychopharmacological model states that some individuals intentionally consume drugs in an attempt to gain confidence and reduce anxiety prior to committing a criminal offence (Brunelle, Brochu and Cousineau, 2000).

Chronic cannabis use and periods of abstinence among dependent cannabis users have revealed withdrawal is linked to violent outbursts, aggression and agitation (Budney, Novy and Hughes, 1999; Budney et al., 2004; Miczek et al., 1994; Moore and Stuart, 2005).   Among Australian police detainees who attributed their offending to cannabis, 36% reported they were high on cannabis, while 15% were "hanging out" for cannabis at the time they committed their offences (Payne and Gaffney, 2012).

The overall applicability of this model, however, is inconclusive. Vast differences in the chemical composition of drug types, pre-existing individual psychological tendencies/conditions and situational and socio-cultural factors can consequently influence the way in which a drug impacts on an individual (Boles and Miotto, 2003; Fagan, 1990; Parker and Auerhahn, 1998).

The link between alcohol intoxication and increased aggression and/or violence constitutes most of the evidence supporting the psychopharmacological model. Boles and Miotto (2003), in their evidence-based review of substance abuse and violence, summarise the main explanations linking alcohol to violence as:

- reduction of inhibitions leads to impairment of internal behavioural cues and consideration of consequences;
- offenders and victims misread signals;
- normally unacceptable behaviour is justified;
- reduction in frontal lobe functioning affects the ability to handle new situations and solve problems; and
- disruption of neurochemical systems is responsible for mediating aggressive behaviour.

The most recent DUMA sample of 5,624 police arrestees across Australia found just under half (45%) of those interviewed self-reported drug use as a contributor to their current offence. Alcohol was the most likely drug identified (29%) as contributing to violent offences, drink driving, road and traffic offences and disorder and breach offences, while heroin and amphetamines were more likely to have played a role in property and drug-related offences (Sweeney and Payne, 2012). Further evidence also exists linking illicit stimulants such as cocaine, crack cocaine, amphetamines and methamphetamines use to increased crime and violence, with effects resulting in sudden behavioural outbursts such as paranoia, agitation and irritability (Chermack et al., 2010; Indermaur, 1995; Moore et al., 2008).

As has been found for the relationship between heroin use and violent crime, evidence of an association between cannabis and violence and/or aggressive behaviour remains conflicted, with some studies finding that cannabis temporarily inhibits violence and aggression, and others failing to identify a positive association or any association at all (Abel, 1977; Brochu, 2001; Goode, 1997; Ostrowsky, 2011; Reiss and Roth, 1993). In a critical review of the literature, Abel (1977) examined the following four possible types of relationships between cannabis and crime: 1. cannabis is a major cause of aggression as shown by the number of violent crimes associated with cannabis use; 2. an individual's predisposition towards violence may be triggered by cannabis use; 3. some individuals with more social or psychopathic tendencies may be more inclined to use drugs including cannabis, but violence is not related to drug use; and 4. cannabis use reduces the likelihood of violent behaviour. Abel (1977) concluded that the majority of studies did not implicate cannabis as a main cause of aggression. However, most studies were based on a "typical cannabis user" and therefore did not take into account those individuals with prior histories of violent behaviour or poor impulse control. He also argued that the influence of certain social situations and settings might increase the risk of aggression and irritability, and in effect, the risk of violent behaviour among some cannabis users (Abel, 1977).

As previously discussed, a core criticism of the psychopharmacological model is that it is unclear whether criminal behaviour is actually a result of the drug's effect on the body or the individual's perception of how the drug should make them behave (Boles and Miotto, 2003; Fagan, 1990; Parker and Auerhahn, 1998). It has also been argued that the context of drug taking plays a role in how the individual subsequently acts (Brunelle, Brochu and Cousineau, 2000). Similarly, the model fails to recognise those who take drugs to increase fun and excitement while committing crime (Brunelle, Brochu and Cousineau, 2000). Brunelle and colleagues (2000) examined the qualitative perceptions of the drug-crime relationship among 38 institutionalised youth who were receiving treatment in drug addiction centres or were being held in custody in youth detention centres, and among non-institutionalised youth recruited via youth centres. Many of the young people within the study reported taking drugs

intentionally prior to committing crime to decrease nerves and increase courage and to assist in forgetting feelings such as guilt and fear and to increase the level of enjoyment. Within this study, cannabis was identified most commonly as a drug taken for the purpose of increasing fun while committing crime. Motivations for cannabis use will be explored in more detail in Section 2.8.9.

2.2.2   Economic model

Crime predominantly motivated by the need or desire to obtain money to purchase drugs forms the basis of the economic model (Goldstein, 1985). The high cost and addictive nature of particular illicit substances where the habit cannot be legitimately funded (through employment or government benefits), often results in crime of this nature being committed (Brunelle, Brochu and Cousineau, 2000; Goldstein, 1985). Economically motivated crime can occur as violent and non-violent offences such as robbery, armed robbery, shoplifting, break and enter, drug dealing, and prostitution (Goldstein, 1985). Acquisitive type crimes are the primary focus of this model, where the direct theft of money or goods that can be re-sold or traded with a dealer is common. Although not generally cited within the literature, young people with drug use problems can be considered to be more susceptible to this type of crime due to a general lack of means for acquiring legitimate funds. The economic model is alternatively called the "economic-compulsive model", since it is often used to describe a broader range of reasons for financially motivated crime. However, given that not all dependent drug users commit crime, it is generally considered to be inadequate explanatory model of the relationship between drugs and crime (Weiner et al., 2005).

The primary evidence linking drug use to financially motivated crime is derived from studies showing that the following factors are associated with an increase in the frequency of criminal activity: an increase in the frequency and severity of drug use, the use of multiple drugs (poly-drug use) and the use of drugs with higher street prices, dependency and withdrawal effects such as heroin and cocaine (Bennett, Holloway and Farrington, 2008; Bradford and Payne, 2012;

French et al., 2000; Parker and Auerhahn, 1999; Torok et al., 2008; Wilkins and Sweetsur, 2010). Such findings are supported by the high prevalence of property-related crimes committed by drug-using offenders as found among samples of prisoners and police detainees (Sweeney and Payne, 2012; Dobinson and Ward, 1985). Additionally, research has found individuals who receive treatment for drug dependence have reduced involvement in drug use and crime, particularly income-producing crime post treatment (Anglin and Perrochet, 1998; French, Fang and Fretz, 2010; Jofre-Bonet and Sindelar, 2001; Weatherburn et al., 2000). Using a large, multi-site sample of inner-city drug users entering treatment, Jofre-Bonet and Sindelar (2001) examined changes in drug use and crime pre- and post-treatment. Drug use was causally related to crime with results showing an 18% reduction in days of crime due to a reduction in heroin use, a 9% reduction in crime due to a reduction in alcohol use and a 33% reduction in crime due to a reduction in other drug use post-treatment (Jofre-Bonet and Sindelar, 2001).

Despite the presence of an overall association between drug use and financially motivated crime, variations in the relationship have been found to occur across drug and crime type, with the use of multiple drugs often intensifying and fuelling the need for greater involvement in crime (Bennett and Holloway, 2005a; Bennett, Holloway and Farrington, 2008; Payne and Gaffney, 2012; Wilkins and Sweetsur, 2010). The majority of the literature in this area has focused on the relationship between heroin use and acquisitive crime, with users often resorting to this type of crime to support their addiction (Ball, Shaffer and Nurco, 1983; Goldstein, 1985: Moffatt, Weatherburn and Donnelly, 2005). When asked to specify the main reason for their offending, just under half of heroin users (45%) within a sample of Australian police detainees admitted committing crime as a means of obtaining money to buy heroin (Payne and Gaffney, 2012). It has been argued that when heroin users engage in violent crime, they are only doing so as a means to achieve their financially motivated goals (Goode, 1997 in Bennett and Holloway, 2005b). Likewise, the social context in which the economically motivated crime committed by any drug user occurs may result in unintentional violence against the victim. Some factors believed to increase the chance of violence occurring include anxiety, reaction

of victim, presence of weapons and involvement of others who witness the event (Goldstein et al., 1989).

Studies reporting the association between methamphetamines use and financially motivated crimes have become more prevalent, with findings similar to those for heroin, in that increasing use and dependency requires users to resort to crime to support their use (Bradford and Payne, 2012; McKetin, McLaren and Kelly, 2005; Wilkins and Sweetsur, 2010). However, the evidence linking cannabis use directly to economically motivated crime is contested, with support for this association more prevalent among adolescent offenders than adults (White and Gorman, 2000). For example, in a recent survey only 9% of cannabis using adult police detainees reported attributing their offences to needing money to buy cannabis (Payne and Gaffney, 2012). The relatively low cost of cannabis in conjunction with the common occurrence of social supply are potential reasons for this (Coomber and Turnbull, 2007), where social supply is defined as "the purchase of drugs and sharing among friends with little or no financial gain" (Duffy et al., 2008, pg. 2).

In light of these findings, it is important to consider the ability of homeless and street based youth or individuals from low-socio economic backgrounds, particularly those not receiving government benefits who are dependent on or consume large amounts of drugs, to cover the costs of drug use, even cannabis, through legitimate means (Barton and Hartnagel, 1998). Reducing the cost of drugs for personal use is one of the main financial benefits of drug dealing from a drug user's perspective. Young people participating in Brunelle, Brochu and Cosineau's (2000) qualitative study expressed a willingness to take part in income producing crimes. Young, at-risk women have also been found to engage in sex acts in exchange for drugs (Logan, Leukefeld and Farabee, 1998). Other research studies have found that young people are able to support their drug use within their own means and are therefore not motivated to commit crime for this reason (Altshuler and Brownstein, 1991; Johnson et al., 1986).

2.2.3 Systemic model

The systemic model focuses on the functioning of the drug market and the resultant violent or negative interactions that result from taking part in the illegal drug economy (Collins and Lapsley, 2008; Goldstein, 1985; White and Gorman, 2000). Users, dealers, drug runners and other "players" who become entrenched within drug distribution networks become increasingly more vulnerable as either victims or the perpetrators of violent acts (Goldstein, 1985). Crime can occur within the drug market in the following ways: disputes over territory, maintenance of hierarchies and power, elimination of informers and those affecting reputation (organisational crime), debts, retaliation due to theft of drugs, disputes over drugs and drug equipment (transaction-related crime), disputes occurring in related illicit markets and the involvement of witnesses in transactions (third-party related crime) (Goldstein, 1985; Brunelle, Brochu and Cousineau, 2000; Carpentier, 2007, Reiss and Roth, 1993). The systemic model has been labelled a "lifestyle model" because crime is viewed as an intrinsic part of the drug-using way of life (Bennett and Holloway, 2005a).

Much of the evidence for the systemic model comes from research conducted predominantly on organised crime in the US and some in Europe (Wilcynski and Pigott, 2004). A commonly cited study supporting this model is by Brownstein and Goldstein (1990), who found over 60% of homicides in New York State to be drug-related (cited in Menard and Mihalic, 2001). Other research indicates that current drug users are at greater risk of victimisation than previous drug users and that those involved in drug use and dealing are more susceptible to violence and victimisation because of the environment created by drug-using lifestyles (Australian Institute of Health and Welfare, 2002; McKetin, McLaren and Kelly, 2005; Menard and Mihalic, 2001; Torok et al., 2008).

2.3 Explanation 2: Crime causes drug use

The second explanation for the drug-crime relationship suggests that crime leads to, and causes, drug use. The main assumption of this model is that drug

use occurs as a result of deviant contextual and delinquent peer group influences that provide an environment (social situations and subculture) that encourages and tolerates alcohol and drug use (Collins, Hubbard and Rachal, 1985; van Dee Bree and Pickworth, 2005; White and Gorman, 2000). The model also postulates that crime provides the motivation and resources to buy drugs and/or alcohol to celebrate. This is also known as "chemical recreation", where offenders may be inclined to want to celebrate the successful commission of a crime through the use of drugs and alcohol much like the way a legitimate achievement or milestone is celebrated within mainstream society, often through "celebratory drinks", "farewell drinks" and so forth (Menard, Mihalic and Huizinga, 2001). The temporal order of drug use and crime indicates that individuals usually begin to commit minor crimes prior to initiating illicit drug use (D'Amico et al., 2008; Prichard and Payne, 2005; Pudney, 2002). The temporal order of drug use and crime will be discussed in more detail below, while the influences of peers will be discussed in Section 2.8.3 and Section 2.8.5.

2.3.1   Temporal order of onset - drug use and crime

Establishing the temporal order of initiation and/or regular involvement in drug use and crime over a person's lifetime is one way in which the direction of causality within the drug-crime relationship can be determined. However, the order of involvement does not necessarily equate to causation. Although evidence is inconsistent, the consensus is that first involvement in criminal offending precedes first substance use, while regular drug use typically precedes regular offending (Chaiken and Chaiken, 1990; Huizinga et al., 1989; Menard, Mihalic and Huizinga, 2001). For example, the DUCO study found that among young people aged between 10 and 17 years (n=371), half reported offending prior to first drug use, a quarter used drugs prior to first becoming involved in crime and the remaining quarter used drugs and began crime in the same year (Prichard and Payne, 2005). As with all studies relying on self-report, the primary criticism of this study lies within the ability of the study participants to accurately recall the order of crime and drug use. However, self-

report has been shown to be the most effective way of obtaining information about events that are unattainable from routine administrative and judicial sources (Darke, 1998; Thornberry and Krohn, 2000).

2.4 Explanation 3: Drug use and crime influence one another directly in a pattern of mutual causation

The third explanation for the drug-crime relationship suggests that drug use and crime may influence and strengthen each other bi-directionally (Menard, Mihalic and Huizinga, 2001). Although first involvement in criminal offending often precedes the first use of drugs, regular involvement in drug use often occurs prior to involvement in regular offending, indicating that involvement in regular drug use potentially extends involvement in criminal activity (Elliot, Huizinga and Menard, 1989; Huizinga et al., 1989, Menard, Mihalic and Huizinga, 2001).

In an effort to further explore this theoretical association, Mason and Windle (2002) examined the stability and change of behaviours among 1,218 high school students over time via a four wave panel design study. The study found a bi-directional relationship, which showed changes in delinquency to be positively associated with changes in drug use among the adolescent boys, but not the girls, within the sample. Limitations of the study include focusing on minor forms of drug use and offending and the relatively short time frame in which the panel interviews were conducted (Mason and Windle, 2002). Using a sample of 470 adults recruited to take part in a separate longitudinal study examining adolescent growth, development and drug use, Newcomb, Galaif and Vargas Carmona (2001) also found a reciprocal relationship between drug use and crime. In this study, drug problems were found to be predictive of, and an outcome of criminal behaviour, explaining that early drug problems lead to the continuation of destructive behaviour later in life (Newcomb, Galaif and Vargas Carmona, 2001). This final point relates to Moffit's (1993) body of work

on life-course-persistent problem behaviour, which will be discussed in more detail in Section 2.6.3.

2.5 Explanation 4: The relationship between drug use and crime is spurious

The fourth explanation for the drug-crime relationship suggests that drug use and crime do not directly influence each other, but are related due to the sharing of similar common causes (the "common cause model"). Such causes can be on an individual or interpersonal level, stem from environmental and situational factors or, in other words, form part of a broader deviant lifestyle (Hawkins, Catalano and Miller, 1992; Menard, Mihalic and Huizinga, 2001; White and Gorman, 2000; Wilczynski and Pigott, 2004). The theory states that the relationship between drug use and crime is not causal but resultant from the co-existence of problem behaviour, where a common general factor may account for the association (Bennett, Holloway and Farrington, 2008; Pena, Andreu and Grana, 2009).

Exploring the common cause model, Pena, Andreu and Grana (2009) used a bio-psychosocial multivariate model to evaluate contributions to anti-social behaviour and legal and illegal drug use among high school students (n=1,629) in Spain. Findings of the study highlight that anti-social behaviour, legal drug use and cannabis use shared common significant relationships to personal resources and ethical values, and scholarly, family and personality factors, while also having different predictors. For example, personality factors and peer group were significant predictors of anti-social behaviour, while family resources was a significant predictor of legal drug use and cannabis use (Pena, Andreu and Grana, 2009). The common cause model within this study was unable to predict the consumption of illegal drugs other than cannabis among the sample. Given that the sample was recruited from high schools within an upper middle class city within Spain, the proportion of those using illegal drugs (2.86% for males and 2.78% for women) may have been too low for the analysis.

Early social environments have long been documented as important elements for determining criminal and deviant behaviours (Hirschi, 1969; Hirschi and Gottfredson, 1983; Spooner and Hetherington, 2004). Jessor and Jessor's (1977) classification of problem behaviour syndrome is widely referred to when describing this explanation of the drug-crime relationship. This early research found that a cluster of problem behaviours, such as drinking, cannabis use and delinquency, were explainable by the same set of environmental and personality variables (Jessor and Jessor, 1977). Recent work on factors that may place individuals "at risk" or "protect" individuals from engagement in problem behaviours will be discussed in more detail in Section 2.7.

2.6   Factors that affect the drug-crime relationship

Following the outline of theoretical explanations for the drug-crime relationship, this section will briefly discuss some important factors found to influence the drug-crime relationship, including age of onset, sex and life transitions. The section will conclude with an overview of the differences between life-course-persistent and adolescent-limited offenders, prior to moving on to Part Two which will discuss in further detail the factors that have been found to influence and impact on drug use and crime initiation.

2.6.1   Early age of onset of drug use and crime

Research findings indicate that the younger a person begins engaging in crime and/or drug use, the worse the outcome later in life (Bacon, Paternoster and Brame, 2009; Moffitt, 1993). Using data (n=935) obtained from a longitudinal birth cohort, the Christchurch Health and Development Study (New Zealand), Fergusson and Horwood (1997) report their results consistently and clearly showed that those who had used cannabis more than 10 times before the age of 16 were more likely to go on to use other drugs, commit crime and develop mental health problems. Young people who used cannabis prior to 16 years were also more likely to have come from disadvantaged backgrounds, have poor parental attachment and to associate with other delinquent peers.

Similarly, age of onset of criminal offending has been linked to increased risk of engagement in subsequent and more frequent offending, increased length of involvement in crime over time and increased likelihood of committing more serious crimes (Molero et al., 2011; Nagin and Farrington, 1992a, 1992b; Torok, Darke and Kaye, 2012). In contrast to the majority of research on this topic, Bacon, Paternoster and Brame (2009) found that late onset offending among 13,160 males who formed the Second Philadelphia Birth Cohort aged between 10 and 18 years placed individuals at greater risk of offending later in life after controlling for unobserved criminal propensity. Outcomes associated with early cannabis use and criminal offending are explored in Section 2.9.

2.6.2   Sex

The relationship between drug use and crime appears to differ for males and females, although the evidence is not entirely consistent. Examination of data sources such as arrest statistics, the proportion of male and females held in custody and self-report surveys suggests that males are generally "more delinquent" than females (Australian Bureau of Statistics, 2012; Australian Institute of Health and Welfare, 2012; Williams et al., 2007). Overall, self-report data shows that males commit a greater number of offences and progress through criminal trajectories more quickly than females. In addition, males are more likely to commit more serious violent offences than females (Agnew, 2009; Osgood et al., 1996).

A comparison of male and female drug-crime trajectories among Australian police detainees found that females were more likely to progress from first to regular drug use prior to involvement in crime, whereas males were more likely to become involved in crime prior to using drugs (Loxley and Adams, 2009). Female detainees, particularly Aboriginal and Torres Strait Islander females, also tend to be more socially disadvantaged and to suffer from greater psychological distress than do male detainees (Loxley and Adams, 2009). Data from police detainees has identified that females tend to come to the attention of the police at a younger age than do males (Wei, Makkai and McGregor,

2003). In light of this, it is important to note the recent increase by 67% in the Australian juvenile female offending rate (as discussed in Section 1.5.3) and the impact this may have on the drug-crime relationship among females.

2.6.3 Life-course-persistent and adolescent-limited offending

Life-course perspective theory classifies adolescent offenders according to the length of time they continue to engage in criminal behaviour, specifically adolescent-limited or life-course-persistent offenders (Moffitt, 1993). Adolescent-limited describes a pattern of offending that starts in late childhood to mid-adolescence and ceases upon entering the late stages of adolescence. The majority of young offenders have been found to fall into this category (Agnew, 2009; Moffitt, 1993; Moffitt, 1997). In contrast, life-course persistent offenders typically engage in anti-social behaviour from a very young age and continue such behaviour into adulthood. Persistent offenders also tend to commit more serious crimes than those who are delinquent primarily during their teen years (Agnew, 2009; Moffitt, 1993).

Life-course-persistent offenders (also known as chronic offenders) tend to experience a number of problems early on in life, such as low self-control, irritability, poor parenting, low school achievement, rejection by peers due to aggressive and unpredictable behaviour, links with delinquent peers, employment and relationship problems that persist into adulthood (Agnew, 2009; Prendergast et al., 2009). Such internal and external problems encountered by these individuals tend to promote a cumulative consequence effect (or "cascading negative consequences") whereby the life-course trajectory of crime is often maintained and supported by limited opportunities to engage in and learn conventional pro-social alternatives, often resulting in becoming trapped in a re-enforcing deviant lifestyle (McBride and McCoy, 1993; Moffitt, 1993). The immediate environment of these young people, including family and friends, is often conducive to high rates of offending through tolerance and promotion of such behaviours.

Adolescent-limited offenders tend to be motivated towards crime and delinquency predominantly by social influences at some point in time. Engagement in anti-social behaviour is usually temporary, situational and often occurs within a group situation (Moffitt, 1993; Prendergast et al., 2009). Participation in anti-social behaviour during adolescence (such as minor offending and experimental drug use) is often viewed as a common transitory phase that usually subsides on entering adulthood. Early work by Farrington (1983) has shown that the age-crime relationship curve is reflective of the increasing number of offenders during adolescence rather than an increase in the number of crimes committed per offender (Farrington, 1983; Moffitt, 1993). Plentiful evidence has suggested that a small proportion of young people are actually responsible for the bulk of all known offending (Farrington, Ohlin and Wilson, 1986; Skardhamer, 2009).

2.6.4 Life transitions

The ability to predict and, therefore, prevent crime is ultimately a core aim of society. However, the prediction of crime in the long-term is relatively difficult given the inability to predict changes in individual life circumstances, such as the formation and breaking of social bonds (for example, marriage, employment) (Forrest and Hay, 2011; Horney, Osgood and Marshall, 1995; Kazemian, Farrington and Le Blanc, 2009; Morris, Gerber and Menard, 2011; Sampson and Laub, 1993). Also, it is difficult to predict whether young people will successfully negotiate normative transitions, such as from primary school to high school, and the associated new challenges and developmental tasks (Homel, 2005, Stewart, Livingston and Dennison, 2008). For example, using Sheldon and Eleanor Gluecks' unravelling juvenile delinquency longitudinal data, Laub and Sampson (2003) found that social bonds among the sample at the ages of 17–18 years were weak predictors of crime at age 32 years. Such findings have implications for predicting long-term criminal career paths based on childhood risk factors particularly once adult-type experiences start occurring (Laub and Sampson, 2003). Therefore, when attempting to predict the

longevity of a young person's criminal involvement or involvement in future crime, assessing crime at shorter intervals to allow for changes life circumstances and events become important (Horney, Osgood and Marshall, 1995).

Part 1 of Chapter 2 has provided an overview of the most commonly cited theoretical perspectives explaining the association between drug use and crime relevant to the current thesis. A number of key factors affecting the drug-crime nexus were also discussed with an emphasis on those significant to drug use and crime among young people.

CHAPTER 2:   PART TWO: DRUG USE AND CRIME INITIATION

Part Two of Chapter Two explores a range of factors (environmental, peer and family) thought to influence the first use of drugs, specifically cannabis, and first involvement in criminal offending. This section also provides a brief overview of the concept of risk and protective factors and the contribution they play in drug and crime initiation. It concludes with an overview of motivations and outcomes of early cannabis use and criminal offending.

2.7   Risk and protective factors

Seminal work by Jessor and Jessor (1977) found problem behaviour such as drug use and delinquency was explained by similar environmental and personal characteristics.   These findings have provided some of the basis for more recent research efforts that aim to reduce the susceptibility to initial and prolonged delinquent involvement by understanding the factors that place individuals more "at risk" and the factors that are considered "protective". Mrazek and Haggerty (1994) defined risk factors as "those characteristics, variables, or hazards that, if present for a given individual, make it more likely that this individual, rather than someone at random from the general population will develop a disorder" (pp. 12). In contrast, a protective factor is something "that reduces the likelihood of problem behaviour either directly or by mediating or moderating the effect of exposure to risk factors" (Arthur et al., 2002, pg. 576). Risk factors operate cumulatively, with the presence of more risk factors increasing the chances of an adverse event such as involvement in crime or drug use (Epstein et al., 2001; Stoddard et al., 2012; Williams et al., 2009).

A vast array of risk and protective factors have been identified, compiled and categorised within the literature (Hawkins, Catalano and Arthur, 2002; National Crime Prevention, 1999; Makkai and Payne, 2003; Prichard and Payne, 2005; Spooner and Hetherington, 2004), and fall under the following broad areas:

individual/personal characteristics/life events, family characteristics, school characteristics, peer influence and community and neighbourhood characteristics/cultural influences. Factors directly influencing an individual (such as mental illness) are termed "proximal" while broader community characteristics (such as community disadvantage) are termed "distal" factors (Centre for Parenting and Research, 2007; Wundersitz, 2010). A comprehensive list of identified risk and protective factors for involvement in drug use and/or criminal offending can be found in Appendix B. Drug use and criminal offending share a number of common risk and protective factors. In a study of more than 8,000 children aged between 10 and 14 years from 30 communities across QLD, WA and VIC, Williams et al. (2009) found that almost 80% of the sample reporting four or more risk factors had used alcohol in the past month and/or were involved in violent or anti-social behaviour in the past 12 months, while only 23% of children with one or no risk factors had engaged in such behaviour. Data for this study came from the Healthy Neighbourhoods School Survey, a large cross-sectional school-based study of communities stratified according to socio-economic status and urban/rural location (Williams et al., 2009).

Not all individuals who possess risk factors for drug use and/or crime will necessarily use drugs and/or take part in crime, nor will all of those who do possess protective factors for drug use and/or crime avoid those activities. Risk and protective factors may be interchangeable, for example peers can be protective and a risk depending on the type of their influence. The effect of risk and protective factors is often dependent on time, place and stage of development. For example, dynamic risk factors can vary over time and be influenced by social, biological, psychological and contextual factors, while static risk factors (such as sex) cannot be changed (Douglas and Skeem, 2005). Behaviours are often the result of a combination of risk and protective factors, depending on their strength and the times that they are present throughout life (Brown et al., 2001). Resilience is term used to describe the ability to overcome past or current adversity and achieve normal development (Centre for Parenting and Research, 2007). Figures 2.1 and 2.2 provide a comprehensive overview of life factors and stages experienced by individuals

early in life that can cumulatively contribute to adverse or positive outcomes later in life.

Figure 2.1   Cumulative risk pathways to suicide, violence and crime

Understanding the causal pathways
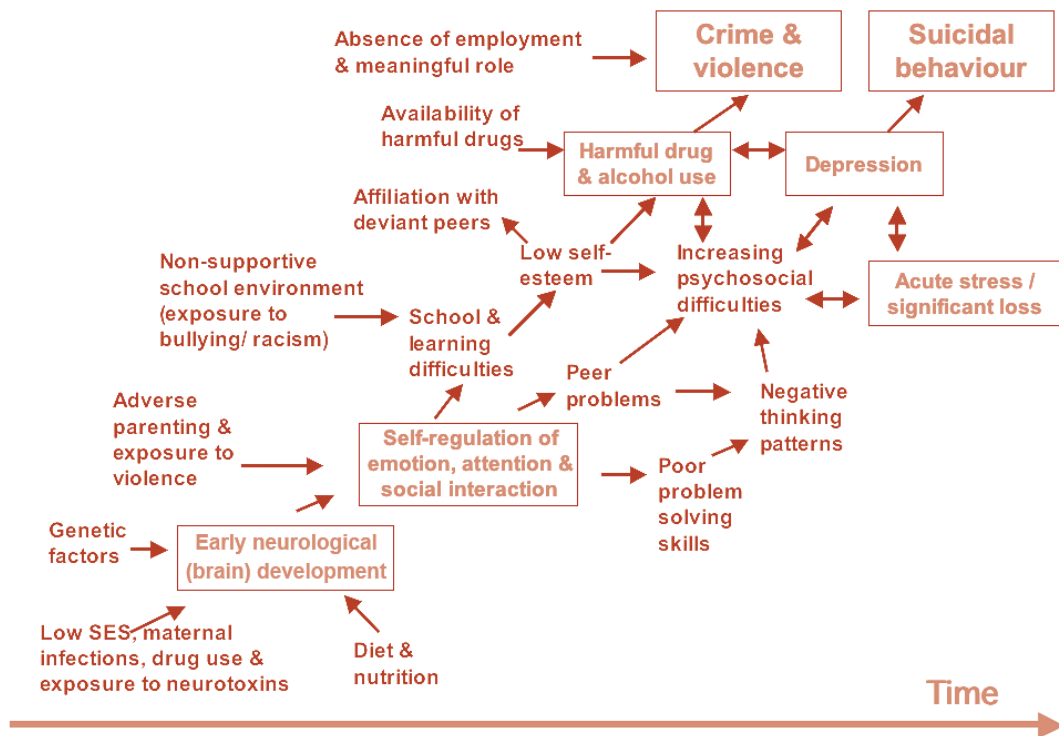
Figure 2.2   Pathways to resilience
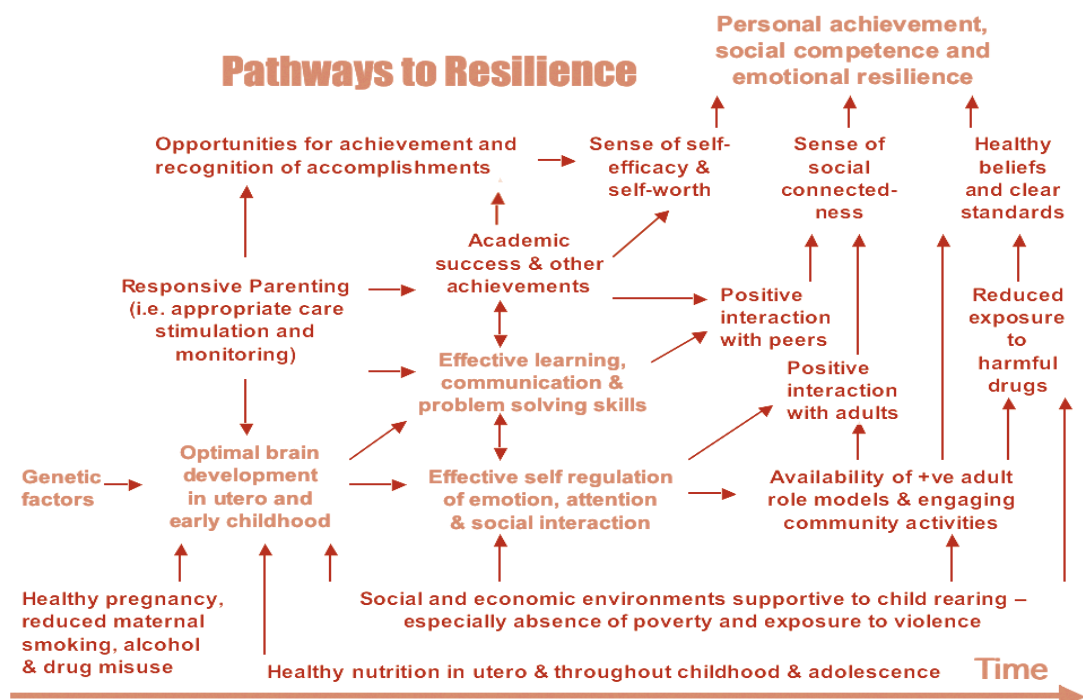
Source: Telethon Institute for Child Health Research (2003) cited in Department of Indigenous Affairs (2005).

2.7.1 Risk factors specific to cannabis use

As noted above, risk factors can vary from personal characteristics to external environmental factors. Identified risk factors that contribute to cannabis initiation and/or experimentation include being male (Hayatbakhsh et al., 2012; Hammer and Vaglum, 1990; Poikolainen et al., 2001), prior alcohol and cigarette use (Agrawal et al., 2007; Behrendt et al., 2012), conduct, behavioural and mental health problems (Galera et al., 2010; Pedersen, Masterkkaasa and Wichstrom, 2001), family (parental) drug use (Hayatbakhsh et al., 2012), parental absence, school problems and truancy (Henry, Thornberry and Huizinga, 2009; Legleye et al., 2009; van der Bree and Pickworth, 2005), peer drug use and attitudes towards drug use (Agrawal et al., 2007; Perez et al., 2010; van der Bree and Pickworth, 2005), cannabis availability (Gillespie et al., 2009) and delinquency (van der Bree and Pickworth, 2005). Many of these risk factors have also been identified as risk factors for the onset of criminal offending.

The factors that contribute to the risk of lifetime cannabis use occur across five stages (van Der Bree and Pickworth, 2005): initiation of experimental use, initiation of regular use, progression to regular use, failure to discontinue experimental use and failure to discontinue regular use. van Der Bree and Pickworth's longitudinal study of the factors predicting cannabis involvement, collected data from 13,718 students aged from 11 to 21 years (mean 15.4 years) from 134 high schools across the US and found there to be three strong predictors of all five stages of cannabis. These predictors were peer involvement with substances, delinquency and school-related problems. When all three factors were present, the risk of experimental and regular cannabis use increased considerably (van den Bree and Pickworth, 2005). However, within this study, the majority of the sample had not used cannabis, and most of those who had used were experimental users. Although the study covered a broad range of potential risk factors, the study was limited in the type of factors examined, for example biological risk factors fell out of the scope of the research (van den Bree and Pickworth, 2005).

Further studies have compared the influence of genetics versus environment on initiation. In a meta-analysis examining the contribution of genetic, shared and unshared environmental influences, Verweij et al. (2010) examined 28 twin studies on cannabis initiation and concluded that for males, genes played a stronger influence (genes: 48%, shared environment: 25%, unshared environment: 27%) than for females, while environmental influences played a stronger role in cannabis initiation among females (genes: 40%, shared environment: 39%, unshared environment: 21%).

Differences in the factors associated with cannabis initiation exist between young males and females. Using a sample of high school students (n=1,328) recruited from 47 schools in Barcelona aged between 14 and 15 years, interviewed twice, 15 months apart, Perez et al. (2010) found that for boys, cannabis initiation was related to smoking tobacco at least once a week, risky alcohol use, frequenting bares/discos, future plans to use cannabis and not engaging in planned leisure activities. For girls, cannabis initiation was related to smoking tobacco at least once a month, having friends who used cannabis and future plans to use cannabis. Schools participating in this study were also taking part in an evaluation of a general drug intervention program and therefore may have biased the study (Perez et al., 2010). Pedersen, Masterkkaasa and Wichstrom (2001) also examined gender differences in cannabis initiation, focusing specifically on conduct problems as a risk factor for early initiation. The study found the association between early conduct problems and cannabis initiation was stronger among girls than boys (aged between 12 and 16 years recruited via a national stratified sample of public high schools in Norway) (Pedersen, Masterkkaasa and Wichstrom, 2001).

Table 2.1 presents a summary of risk factors most commonly associated with cannabis use as reported by van den Bree and Pickworth (2005).

Table 2.1 **Summary of risk factors most commonly associated with cannabis use**

Daily activities	Low levels of engagement in pro-social activities
Psychological health	Intrapersonal difficulty, poor control of emotions, depression and anxiety
Personality	Limited capacity to cope with stress, poor self-concept, increased riskiness, rebelliousness, un-empathetic
School situation	Poor academic performance, low connectedness to school, truancy, dropout
Family functioning	Poor, inconsistent family management, family conflict, low bonding, lack of structure & rules, poor parental monitoring
Rough living	Use of other substances, substance using friends, precocious and risky sexual behaviour
Religious & conservative beliefs	Absence of these
Disadvantaged neighbourhoods	Increased risk of substance use

Source: van den Bree and Pickworth, 2005

2.7.2 Risk factors specific to the initiation of crime

Identified risk factors specific to the onset of crime or more broadly problem behaviour such as delinquency, range from individual and pre-existing traits to environmental characteristics; no one single factor can explain the occurrence of crime (Loeber and Farrington, 2000). Although not an exclusive list, risk factors include gender, ethnicity, conduct problems, anti-social behaviour, aggression, school problems, low academic achievement, peer delinquency and/or drug use, peer rejection, single parent family and parental supervision, attitudes and behaviour (Feinberg, Ridenour and Greenberg, 2007; Loeber and Dishion, 1983; Loeber and Farrington, 2000; Makkai and Payne, 2003; Moffitt and Caspi, 2001; Ou and Reynolds, 2010; Piquero and Lawton, 2002; van Lier et al., 2005; Weatherburn, 2001).

A report produced by the Office of Juvenile Justice and Delinquency Prevention's Study Group on Very Young Offenders hypothesises that initial risk factors for involvement in juvenile delinquency lie at the individual level (i.e. behavioural factors), followed by family related risk factors (i.e. parenting techniques and behaviours). Once an individual starts attending school, exposure to school based and neighbourhood/community influences and risk factors subsequently become prevalent (Loeber and Farrington, 2000). Foundations for anti-social and disruptive behaviours are thought to be formed within the first five years of life and are obvious during primary school years (e.g., disruptive behaviour, aggression, sensation seeking) (Keenan and Wakschlag, 2000; Loeber and Farrington, 2000).

A summary of risk factors for juvenile crime compiled by Loeber and Farrington (2000) is provided in Table 2.2.

Table 2.2   Summary of childhood risk factors for child delinquency and later serious and violent juvenile offending

Child factors	Difficult temperament, impulsive behaviour, hyperactivity (but only when co-occurring with disruptive behaviour), impulsivity, substance use, aggression, early onset disruptive behaviour, withdrawn behaviour, low intelligence, lead toxicity
Family factors	Parental antisocial or delinquent behaviour, parental substance abuse, parents' poor child rearing practices (poor supervision, physical punishment, poor communication), poor parent-child relations, parental physical and sexual abuse, parental neglect, maternal depression, mother's smoking during pregnancy, teenage motherhood, parents disagree on child discipline, single parenthood, large family, high turn-over of caretakers, low socioeconomic status of the family, unemployed parent, poorly educated mother, family members' carelessness in allowing children access to weapons

School factors	Poor academic performance, old for grade, weak bonding to school, low educational aspirations, low school motivation, poorly organised and functioning schools
Peer factors	Association with deviant or delinquent siblings and peers, rejection by peers
Neighbourhood factors	Neighbourhood disadvantage and poverty, disorganised neighbourhoods, availability of weapons, media portrayal of violence

Source: Loeber and Farrington, 2000, pg. 749

2.8 Factors contributing to drug use and crime initiation

To enhance the general discussion of risk and protective factors provided above, this section discusses in further detail some of the key environmental, peer and family influences that have been found to contribute to the onset of drug use and/or criminal behaviour.

2.8.1 Availability and opportunity to use

Availability of, and opportunity to use, drugs have are significant factors contributing to an adolescent's decision to use drugs (Gillespie et al. 2012). In an English qualitative study of 50 young people aged between 16 and 21 years, Boys et al. (1999) examined the primary influences that contributed to drug-related decision-making. Participants in this study were selected on the basis that they were young people whose experience using drugs exceeded the "norm" for people of their age group. Using a semi-structured interview protocol, the study identified 10 primary influences (five individual level variables: functions of drug use, drug-related expectancies, physical/psychological state, commitments and boundaries; and five social/contextual level — environment, availability, finance, friends/peers and media) that shaped young people's decisions to use drugs. Among those, availability, obtainability and opportunity to use drugs (as provided by peers)

were social/contextual factors that mediated drug use (Boys et al., 1999). Although the sample was quite large for a qualitative study, there is always the possibility that not all influences and factors were identified by the current sample. Similarly, the generalisability of factors identified in a non-representative sample remains questionable.

As mentioned in Section 2.2.2, social supply refers to the way in which drugs are obtained at first time use. In a review of drug availability using data from nine UK population surveys and 30 reviews, Ogilvie, Gruer and Haw (2005) concluded that for those under the age of 25 the primary means of obtaining drugs (illicit and licit) among experimental users was through family and friends, whereas older and more frequent users tended to buy their own. Likewise, over half of the young people aged between 11 and 19 in Duffy et al.'s (2008) sample of 182 young people bought or received cannabis from a known seller. Young people in this study who bought their cannabis from unknown sellers were more likely to be older (Duffy et al., 2008).

Of all the illicit drugs, individuals are more likely to be offered and/or have the opportunity to use cannabis. The relative ease of obtaining cannabis has been documented consistently in national health surveys and surveys of regular drug users. Data from the NDSHS reveal that in 2010, 17.9% of Australians over the age of 14 years had been offered or had the opportunity to use cannabis in the past 12 months (Australian Institute of Health and Welfare, 2011a). Similarly, 93% of regular ecstasy users and 98% of regular injecting drug users in Australia report that hydroponic cannabis is easy or very easy to obtain, with 82% of regular ecstasy users indicating that the ease of obtaining cannabis had remained stable in the six months prior to interview (Sindicich and Burns, 2012; Stafford and Burns, 2012).

Among young people specifically, similar opportunities to use are reported. For example, in a study of young people with access to drugs in the United Kingdom, Ogilvie, Gruer and Haw (2005) reported that by the age of 15 years, two thirds of young people have been offered illicit drugs, with a similar number reporting they thought cannabis was very or fairly easy to obtain. Such figures

are slightly higher than those in Australia. Among young people aged between 12 and 17 years, only 17.4% of the general population report being offered or having the opportunity to use cannabis in the 12 months prior to interview (Australian Institute of Health and Welfare, 2011a).

2.8.2   Location and company kept during first drug use

Differential association theory (Sutherland, 1974) is often used to explain the influence of the environment on involvement in delinquency. However, surprisingly little research has examined how young people first gain access to drugs and the context within which first drug use occurs. As already discussed, first use of drugs is often enabled by social supply from people known to the first time user. The majority of first time drug use has been reported to occur in a social situation either in the presence of friends/peers or family (Duffy et al., 2008; Tarter et al., 2006; White and Smith, 2009). Duffy et al. (2008) found first use typically occurs within a social setting, including a public place (39.6%), followed closely by the individual's own home/friend's home (20%).

Although not specific to first time use, over one-third (38% of males and 41% of females) of Australian secondary school students reported past year cannabis use occurred at a friend's house, a further third reported using at a party (24% of males and females), while 11% of males and females reported using in their own home (White and Smith, 2009). Regular users were more likely to have used in their own home and by themselves compared to occasional users (White and Smith, 2009). Similar findings were reported for those aged 14 years and older in the NDSHS general population survey, where 65.9% of Australians obtained cannabis from a friend or acquaintance, while 20.8% obtained their cannabis from a dealer. Cannabis use predominantly occurred in private homes (86.7%) and at private parties (45.7%) (Australian Institute of Health and Welfare, 2011a).

First drug use is often a result of being in the "right place at the right time", where leisure activities and companions provide a convenient setting for supply

and/or consumption (Peretti-Watel and Lorente, 2004; Schaub et al., 2010). Duffy et al's (2008) study of cannabis supply and young people found that it was rare for young people to actively seek out cannabis to use for the first time (Duffy et al., 2008). Supporting the notion that peers play a role in the initiation and on-going use of drugs, Schaub et al. (2010) examined follow-up data (n=3,103) from a prospective cohort study — the Swiss Cannabis Monitoring Study of young people between the ages of 13 and 29 — to determine whether leisure activities predict initiation, progression or reduction in cannabis use. Interestingly, Schuab et al. (2010) found that it was the people with whom leisure time was spent that led to and influenced, initiation and progression of cannabis use rather than any specific leisure activity.

2.8.3 Peer affiliations and behaviour

During the transition to adolescence and adulthood, peer affiliations begin to become more influential in an individual's life. Peers often provide the context and opportunity to engage in delinquent behaviour, with the likelihood of associating with delinquent peers peaking during adolescence (Fergusson, Swain-Campbell and Horwood, 2002). Through selection and socialisation practices, and shaped in part by the childhood social and family environment, young people tend to seek out and affiliate with like-minded peers. Some associations are formed prior to engagement in their own delinquent behaviour (Elliott and Menard, 1996; Fergusson and Horwood, 1999; Fergusson, Swain-Campbell and Horwood, 2002; Lachman, Roman and Cahill, 2012). Unstructured social activities and socialising with peers is linked significantly to involvement in delinquency (Osgood et al., 1996). The formation of delinquent peer affiliations or affiliations with substance using peers is more common among young people from disadvantaged backgrounds who have dysfunctional, unstable families, experienced poor parenting, lacked self-esteem and did poorly at school (Fergusson and Horwood, 1999). Delinquent peer groups are often formed as a way to compensate and counterbalance deficiencies at home and school (Department of Economic and Social Affairs, 2004; Schwartz et al., 2000).

Deviant peer affiliations are one of the strongest predictors of engagement in drug use and criminal offending (Fergusson and Horwood, 1996; 1997; Kandel, 1973; Garnier and Stein, 2002; Woodward, Fergusson and Horwood, 2002). To determine the relationship of peers and family influences on delinquent behaviour (defined as drug use and involvement in deviant activities), Garnier and Stein (2002) analysed data from an 18 year longitudinal study of 198 families who were classified as conventional (i.e., married couples) or non-conventional (i.e., single mothers, de-facto couples and families living in communes). Although the study highlighted that family and peer variables played a role in the outcome of delinquency, the strongest predictor was the behaviour of the peers with whom the young person associated. Similar results were found in a 21 year longitudinal birth cohort study of 1,063 individuals by Fergusson, Swain-Campbell and Horwood (2002), where study findings revealed clear evidence that as deviant peer affiliations increased between the ages of 14 and 21 years, substance use and rates of criminal offending also increased. Deviant peers and delinquent activities have been found to be related to all levels of offending (Zhang, Wieczorek and Welte, 1997).

2.8.4   Parental and sibling drug use

Family characteristics are one of the more significant risk and protective factors affecting adolescent involvement in substance use and delinquent activity. Specific family characteristics that have been associated with substance use and criminal offending include social class, parental monitoring, parental attachment, family drug use and family anti-social behaviour.

Prichard and Payne (2005) found that parental substance abuse (alcohol and illicit drug use) was a risk factor for substance use and criminal offending among detainees. Among the sample of incarcerated young people in Australia, those whose parents used substances were more likely to be frequent drug users, commit regular offences and to have begun committing crime and using drugs at an earlier age than those who parents did not use drugs. Consistently, Goulden and Sondhi (2001) found significant associations between parental lifetime drug use and young person's lifetime and past year

cannabis use among those aged between 12 and 30 years who took part in the Youth Lifestyles Survey (YLS) in England and Wales (Goulden and Sondhi, 2001). Earlier Australian studies examining drug use among incarcerated young people have also reported similar findings. Copeland et al. (2003) found a quarter of a sample of NSW juvenile detainees reported their parents had an alcohol problem, while 9% also believed their siblings had a problem. Among juveniles held in detention facilities in SA, just under half (43%) reported that their natural parent or sibling had a drug use problem during the routine Secure Care Psychosocial Screening (SECAPS) assessment (Putnins, 2001). Studies of incarcerated young people and those within the general community highlight the consistency of the association between parental and children's drug use and provides support for the occurrence of intergenerational drug use.

Studies of drug use among siblings reveal similar associations to those found for parental drug use. Approximately 20% of the sample in Highet's (2004) study of cannabis-related beliefs and behaviours of 59 young people aged between 13 and 15 years revealed older siblings play a role in introducing the young person to cannabis and shaping their beliefs on its use. Additional data from the YLS revealed that young people aged 12–16 years, whose older siblings had never used illicit drugs were extremely unlikely to have used themselves, with only one in 10 reporting to have used an illicit drug if their older siblings had not, compared to 33% of those whose older siblings had used an illicit drug (Goulden and Sondhi, 2001).

Despite such associations, a strong body of research suggests that parental and sibling drug use and anti-social behaviour is secondary to peer drug use and delinquent behaviour in terms of influence on adolescent drug use (Garnier and Stein, 2002; Kandel, 1973). Such influence is often a result of a young person spending increased leisure time spent with peers (and less with parents) and sharing socialisation behaviours during the transition from childhood to adolescence and young adulthood.

2.8.5   Perceptions of drug use and delinquent behaviours

Perceived and actual delinquent behaviour of an adolescent's peers are positively related to a young person's own behaviour. Perception of peer drug use, and cannabis use in particular, is indicative of substance use among adolescents (Bailey, Flewelling and Valley, 1992; Kandel 1973). Studies by Ianotti and Bush (1992) and Perkins, Haines and Rice (2005) have found perceptions of peer alcohol use to be significant predictors of personal alcohol use among primary school and college students respectively. Other studies have, however, found young people to overestimate the frequency of drug and alcohol consumption among their peers (Martens et al., 2006; Perkins et al., 1999; Riou Franca et al., 2010). Drug use by individuals who have close relationships with young people involved in the criminal justice system is common. In a study describing the health of NSW juvenile detainees, Indig et al. (2011) found drug use to be common among the participants' close friends (28%), mothers (11%), fathers (13%) and other family members (15%).

Similar findings have been reported within general population samples. In a study of 1,040 school students, Duan et al. (2009) found that at six months follow-up, during the transition to high school young people's substance use and perceived peer and friend use of substances increased over time. Likewise, actual parental use is less important than perceived use. Kandel (1973) reported adolescent substance use was directly proportional to the perceived frequency of parental use of "psychotropic" drugs. This relationship only stood when the adolescent had peers who also used drugs. Cannabis in particular has been found to be strongly related to the perception of parental and friends' use of drugs. Only 7% of a random sample of adolescents from 18 public secondary schools in the US with friends who did not use reported using themselves (Kandel, 1973).

2.8.6   Parenting style, values and monitoring

Parental demonstration and belief in conventional norms and values have been reported by youth who are less inclined to use substances (Brook, Whiteman and Gordan, 1983).   In a study designed to determine the predictors for continued use of cannabis, Bailey, Flewelling and Valley (1992) examined a longitudinal sample of 456 secondary and high school students who reported using cannabis between one and five times across the follow-up period (1987–89 to 1989–90).   The study used logistic regression analyses to determine the predictive influence of a drug-specific domain measure, a social context domain measure and background characteristics.   Findings of the study indicate that only variables within the drug-specific domain (physical and psychological effects of the drug) were significant predictors of continued use.   Parental disapproval was found to be a significant predictor for adolescents not using illicit drugs including cannabis (Bailey, Flewelling and Valley, 1992).

Parental monitoring also plays a role in the development of deviant relationships.   Studies have found that low parental monitoring is a risk factor for involvement in anti-social behaviour including delinquency and drug use (Barnes et al., 2006; Bohnert, Anthony and Breslau, 2012).   In a study using data (n=506) from a six-wave longitudinal dataset, Barnes et al. (2006) examined the influence of parental monitoring and peer deviance on drug use and delinquency.   They concluded that although deviant peer affiliations may exert a stronger influence on delinquent behaviour during adolescence, parental monitoring and support provided a protective effect (Barnes et al., 2006).

Parenting style of mothers and fathers influences the level of delinquency of male and female children differently. Hoeve et al. (2011) found that after taking into account the sex of the child, age group and family income, the neglectful parenting style of fathers remained linked to male children's delinquency five years later.   The study also found level of delinquency to be linked to the number of authoritative parents (lower levels of delinquency) and the number of neglectful parents (higher levels of delinquency) (Hoeve et al., 2011).   Similarly,

cannabis use initiation between the ages of 11 and 17 years is associated with lower levels of parental monitoring (Bohnert, Anthony and Breslau, 2012). This sample consisted of newborn children discharged from two hospitals with assessments conducted at ages six, 11 and 17 years. Findings of the study indicate that for each point increase on the self-reported, standardised parental monitoring scale, there was a 6% decrease in the likelihood of using cannabis for the first time prior to the age of 17 years (Bohnert, Anthony and Breslau, 2012). Low or lack of parental affection was also commonly associated with drug use and delinquency among young people, with for example, lifetime alcohol use among school students (n=8,256 average age 12 years) recruited via the Healthy Neighbourhood School Survey predicted by family structure and management and a father's emotional closeness (Habib et al., 2010).

2.8.7   Socio-economic status

Prior to and during the 1960s, data on criminal offending among adolescents was derived primarily from arrest data. This led to numerous studies identifying social class to be strongly associated with juvenile delinquency. With the more widespread use of self-report data in the 1960s, the relationship between social class and delinquency no longer seemed apparent. Criticisms of early self-report studies highlighted the fact that many focused on minor delinquent activities, and inaccurate measures of number of delinquent activities alongside poor measures of social class. In a US study in the 1980s, the NYS was developed to address the limitations of prior self-report delinquency studies, particularly representativeness of minor and serious crimes and coding of social class (Elliott and Huizinga, 1989). Findings support the notion that social class did not distinguish minor delinquency but that the number of serious crimes committed by adolescents was higher among lower socio-economic groups (Agnew, 2009).

Since then, substantial evidence has found an association between low socio-economic environments and higher levels of substance use and anti-social behaviour, although the relationship remains contested (Chuang et al., 2005;

Thornberry and Farnworth, 1982; von Sydow, 2002). Chuang et al. (2005) found residing in lower socio-economic neighbourhoods was associated with parental smoking and peer alcohol use, after interviewing parent-adolescent pairs (2,359 participants). Young people in this study were aged between 12 and 14 years. In contrast to the majority of the literature, they also found that residing in high socio-economic neighbourhoods was associated with parent drinking and adolescent smoking, while low socio-economic neighbourhoods were associated with parental monitoring and closeness (Chuang et al., 2005).

2.8.8 Genetic influences

Environmental and genetic factors influence cannabis initiation. Genetic influences play a stronger role in cannabis initiation during the earlier years, while the influence of environmental factors increases with age (Distel et al., 2011).

To examine the effect of genetics and heritability of drug use behaviours and problems (particularly alcohol and cannabis use), twin studies are frequently used. In a study assessing developmental and environmental risk factors of alcohol and cannabis initiation, Gillespie et al. (2012) found genetic risk of drug use based on family drug use, and other factors such as high levels of sensation seeking, peer group deviance and cannabis availability, to be significant predictors of cannabis initiation. The sample for this study consisted of US adult male twins (n=1,796) aged between 24 and 63 years, and the applicability of such findings for females should be interpreted with caution (Gillespie et al., 2012). Consistent with such findings, Vink et al. (2010) sampled 3,115 twins from Norway to determine the influence of heritability on cannabis initiation and found genetic influences accounted for the majority (44%) of individual differences in initiation, while shared environmental influences and unique environmental influences accounted for 31% and 24% respectively.

2.8.9   Motivations for cannabis use

Research has distinguished that motivations for drug use often differ by drug type, stage of drug use and age of the user (Patrick et al., 2011). In a recent study of the health of incarcerated young people in NSW, Indig et al (2011) reported the three most common factors influencing a young person's decision to first use illicit drugs were peer pressure (61.2%), curiosity (54.4%) and for fun (31.3%). On average, of all the illicit drugs, participants in the study were youngest when they first tried cannabis (Indig et al., 2011). Consistently, Duffy et al. (2008) found 38% of young people using cannabis for the first time due to curiosity and experimentation and 32% trying cannabis because their friends used and they wanted to be like their peers.

Motivations for cannabis use vary, with many users citing the pleasurable effects of using the drug, with a minority of users (inexperienced users or those using high amounts) experiencing unpleasant effects such as "disturbing sensory alterations and feelings of depersonalisation (McLaren et al., 2008, pg. 8). Boys, Marsden and Strang (2001), in their study of the functions of recent cannabis use among poly-substance using young people aged between 16 and 22 years, found the most commonly reported functions of cannabis to be: to relax (96.8%), to become intoxicated (90.7%), to enhance activity (72.8%), to decrease boredom (70.1%), to sleep (69.6%) and to feel better (69.0%). Age differences were present among the reported functions of use with younger participants more likely to use cannabis to increase confidence and to stop worrying, while older participants were more likely to use cannabis to help them sleep and to feel elated/euphoric (Boys, Marsden and Strang, 2001). These findings have been more recently supported by Beck et al. (2009) whose study of cannabis motivations among 322 college students found the main reasons for use to be social facilitation, enhancement of feelings of well-being and social interaction.

When examining three broad predictors of continued cannabis use (social context, background characteristics and drug-specific), Bailey, Flewelling and

Valley (1992) revealed that only drug-specific variables, which included physical and psychological reasons for using, had a significant effect on continued cannabis use among secondary and high school students (n=456). Young people within Duffy et al.'s (2008) study reported internal and external reasons for increasing their cannabis use. Such reasons included attempting to maintain the same effect from the drug, access was now easier, boredom, peer influence and enjoyment of use. Young people who decreased their use reported financial reasons, health problems, addiction concerns and concerns about use affecting work and/or school performance (Duffy et al., 2008).

In a large study using up to seven waves (incorporating 32 consecutive cohorts) of national longitudinal data from the Monitoring the Future study in the US, Patrick et al. (2011) examined whether motivation to use alcohol and cannabis changed as a result of age, gender and level of substance use. Findings of the study indicated that as age increased, the number of reasons endorsed for using cannabis decreased. Three reasons were found to increase in prevalence with age: to get high, to relax and to decrease the effects of other drugs. Additionally, males were more likely than females to endorse using cannabis to have a good time, to get through the day, to seek insight, because they were hooked and to decrease the effects of other drugs (Patrick et al., 2011).

2.8.10 Motivations for criminal offending

Similar to motivations for drug use, motivations for criminal offending have been found to differ by age, gender and type of offender (Johnson, 2004; Prichard and Payne, 2005). Indig et al. (2011), as part of the Young People in Custody Health Survey, asked 286 incarcerated young people in NSW why they first committed a crime. Responses to the open-ended question were categorised into nine primary themes. The most common reason provided was related to peers and friends (38%) and included responses such as "peer pressure" and "hanging out with the wrong crowd". The next top two categories were related

to feelings and emotions (23%) and as a means of procuring alcohol and other drugs (22%) (Indig et al., 2011).

A large proportion of offenders, particularly property offenders, admit their offending is in some way related to drug use (as discussed in Section 2.2.2). Approximately half of male (44%) and female (52%) property offenders interviewed as part of the DUCO study reported committing crime to obtain money for drugs (Johnson, 2004; Prichard and Payne, 2005). Among female property offenders, the second most common reason provided was that they were drunk or high (44%), followed by they needed money to support themselves or their family (32%) (Johnson, 2004). In contrast, the next most common reasons for committing crime among male property offenders was wanting money/goods (42%) and needing money due to unemployment (41%) (Prichard and Payne, 2005). Compared to property offenders, reasons provided by violent offenders for committing crime differed substantially, with the most common reasons among males including losing their temper (63%), revenge (41%) and being drunk (29%) (Prichard and Payne, 2005).

2.9 Outcomes of adolescent cannabis use and criminal offending

As has been described previously in this thesis, early, and more specifically problematic, involvement in drug use and criminal offending can affect an individual detrimentally in the short- and long term. Documented harms have been found to impact on educational achievements, employment opportunities and mental health status in addition to further, more entrenched drug use and re-offending (Bennett and Holloway, 2005b; Brook, Balka and Whiteman, 1999; Degenhardt, Hall and Lynskey, 2001; Dembo et al., 1987; Fergusson and Horwood, 2000; Horwood et al., 2010; McGee et al., 2000; Swift et al., 2012). This final section of Chapter 2 will summarise some of the potential primary harms and consequences found to be linked to cannabis use and offending during adolescence.

2.9.1   Drug use and dependence

Those who experiment with cannabis during adolescence typically only do so for a limited period of time and do not go on to use other illicit drugs (Hall, Degenhardt and Lynskey, 2001). As mentioned previously, some young people do initiate and begin using cannabis regularly at an early age. These young people have been found to be more likely to use cannabis regularly as an adult, progress to the use of other illicit drugs and report substantial drug and alcohol problems (Behrendt et al., 2012; Swift et al., 2008).

Patton et al. (2007) examined trajectories of alcohol and cannabis use from adolescence to young adulthood, and found at least weekly (moderate-risk) and daily (high-risk) adolescent cannabis users had an elevated risk of using other illicit drugs such as amphetamines and cocaine (seven times higher for adolescent high-risk cannabis users) and of receiving AOD counselling as young adults. Cannabis use was assessed via self-report for the six months prior to each wave of data collection (eight waves over 10 years). This study used a two-stage cluster sample, selecting two classes at random (one class entering the study at a different time point) from a state-wide sample of 44 Victorian schools. Students were aged 14–15 years at baseline (n=1,943 and 1,520 young adults were surveyed at wave eight) (Patton et a., 2007).

Using the same dataset, Degenhardt et al. (2010) and Swift et al. (2012) separately concluded that more frequent cannabis use during adolescence is associated with an increased risk of later cannabis use and other illicit drug use. Degenhardt et al. (2010) also found that even persistent but occasional cannabis use during adolescence was associated with higher risks of alcohol, tobacco and illicit drug use as an adult.

Other studies report similar findings. Menard, Mihalic and Huizinga (2001) analysed longitudinal data from the NYS, and found the odds of using cannabis as an adult were six times higher among those who had used cannabis as an adolescent and two times higher for adolescent polydrug users compared non-

users. Fergusson and Horwood (2000) and Rebellon and Van Gundy (2006) found that even after controlling for a number of social, family and childhood factors, the risk of using other illicit substances was still higher among those who had used cannabis compared to those who did not (Fergusson and Horwood, 2000; Rebellon and Van Gundy, 2006).

Gateway theory and substance use trajectories

The gateway theory is used to explain the typical sequential initiation from drugs often conceptualised as "soft drugs", such as tobacco, alcohol and cannabis, to those conceptualised as "hard drugs" such as cocaine and heroin. Most research into the trajectories of substance use have used general population data or data collected from secondary school students, both of which under-represent marginalised youth (Kandel and Yamaguchi, 1993).

In an early study of high school student drug use, cannabis was singled out as the "stepping stone" into the illicit drug world, with data showing very few people went on to use illicit drugs without first using cannabis (Kandel, 1975). Many studies have since found similar trajectories. For example, Fergusson and Horwood (2000) used data from a New Zealand based 21–year longitudinal birth cohort, and found that the vast majority of their cohort (99%), who had use cannabis in addition to other illicit drugs (n=246) had used cannabis prior to the use of any other illicit drugs. Although there is clear evidence that a sequential drug use order exists, most research indicates that many people will stop and not progress to the use of other drugs (Kandel, Yamaguchi and Chen, 1992).

Acceptance of the gateway theory and the sequential order drug use trajectories, however, is not undisputed. Criticisms of the theory are extensive and range from concerns regarding applicability of this sequencing to sentinel groups such as the disadvantaged, criminally active and early initiators to more widespread concerns regarding availability and ease of access to the "soft drugs" (Degenhardt et al., 2010; Mackesy-Amiti, Fendrich and Goldstein, 1997). For example, individuals who develop mental disorders early on in life have been found to deviate from conventional sequencing (Degenhardt et al., 2009).

Additionally, a robust study examining substance use prevalence, sequencing of substance use initiation and substance use progression in 17 countries worldwide has found deviations to the gateway theory corresponding to the background prevalence of substance use (Degenhardt et al., 2010).

Recent literature has shown that criminally involved young people, particularly those who spend substantial periods of time incarcerated, may follow a different substance use pathway, given that time in custody restricts access, opportunity and exposure to (well-known/typical) risk and protective factors (Mauricio et al., 2009). In one study, Mauricio et al. (2009) found drug use among serious offenders aged between 15 and 20 years to be less likely to increase with age the longer the period of incarceration.

Golub and Johnson (2001) have argued that time and society affects the sequencing of substance use. The authors reasoned that progression from one drug to the next is not causal, but rather a result of the interplay between youth norms at specific times and places, including opportunity to use and ease of access (Morral, McCaffrey and Paddock, 2002; Pudney, 2002). For example, analysis of the US household survey data collected between 1979 and 1997 has shown that over time, the risk of progression from alcohol to tobacco or cannabis has increased (Golub and Johnson, 2001). Such findings are supported by Tarter et al. (2006) who suggested that drug use might be better explained by an individual's social environment and individual characteristics. Alternatively, Rey, Martin and Krabman (2004) have suggested that having fun as a result of experimenting with cannabis may encourage the use of other illicit drugs. In conclusion, Pudney (2002) has summarised the vast amount of research on this topic into four main reasons for why progression from "soft" to "hard" drugs may occur:

- Obtaining and using "soft" drugs brings a user into contact with dealers/users of "harder" drugs;
- Using "soft" drugs creates a psychological/physiological need for a "bigger high" or reaction;

- Little of no effect of a "soft" drug may encourage "hard" drug use as there appears to be fewer consequences to be concerned about; and
- Influence of peers may increase the need or desire to try something more risky.

As this review has shown, substantial research has examined substance use trajectories and the existence of the gateway theory. The dominant sequences of drug use have been shown to correspond to prevalence, availability and acceptability of such drugs, as well as the reasons summarised by Pudney (2002) above. Before accepting or rejecting the classic interpretation of the gateway theory, it is important to consider such influential factors.

2.9.2   Offending, recidivism and incarceration

Adolescent cannabis use increases the risk of involvement in delinquency and later criminal offending. After controlling for a range of factors including alcohol use, socio-familial and psychopathological variables, frequent cannabis use was found to predict delinquent behaviours (Chabrol and Saint-Martin, 2009; Chabrol et al., 2010). Menard, Mihalic and Huizinga (2001) found the odds of engaging in minor offending and index offending as an adult were four times as high and 2.5 times as high, respectively for adolescent cannabis users compared to non-cannabis users. Similarly, Green et al. (2010) examined the effects of heavy cannabis use (defined as 20 or more times in their lifetime) in adolescence on offending as an adult using data from a longitudinal study that followed the sample from six years of age to 42 years. Findings indicated that those who used cannabis heavily as an adolescent were more than twice as likely to have ever been incarcerated and 1.6 times more likely to be arrested as an adult compared to an adolescent light/non-cannabis user. Heavy cannabis users were also found to be at greater risk of involvement in property and drug-related crime, but not violent crime (Green et al., 2010).

2.9.3   Mental health problems

Mental health problems have long been noted as an outcome of cannabis use (Degenhardt et al., 2012; Kuepper et al., 2011; Manrique-Garcia et al., 2012). In a comprehensive review of the evidence linking cannabis use to mental health problems, McLaren et al. (2008) concluded that although the findings are not entirely uncontested, research does suggest that cannabis use can contribute to the onset of schizophrenia (particularly among those with risk factors), that there is link between cannabis use and psychosis (particularly among more frequent users) and that there is some evidence linking cannabis use to mood (depression and bi-polar) and anxiety disorders.

More recently, Degenhardt et al. (2012) examined data from a Victorian representative longitudinal study (9 waves over 15 years) to determine the association between adolescent cannabis use and the occurrence of depression and anxiety in adulthood.   Study participants were initially interviewed during their mid-secondary school years and at multiple time points to 28–29 years of age. The study found that adolescents who used cannabis daily were two times more likely to be diagnosed with an anxiety disorder at 29 years of age, while no association between adolescent cannabis use and depression existed (Degenhardt et al., 2012). Consistent with such findings, de Graaf et al. (2010) found an overall moderate association between early onset cannabis use (earlier than 17 years) and later onset depression (after the age of 17 years) among a large worldwide cross-sectional sample conducted by the World Health Organization (WHO). The relationship, however, became non-significant after adjusting for conduct problems occurring in childhood (de Graaf et a., 2010).

2.9.4   Education participation

School drop-out and educational under-achievement have been linked to frequent cannabis use among young people (Brook, Balka and Whiteman, 1999; Brook et al., 2003; Fergusson and Boden, 2008; Horwood et al., 2010;

Legleye et al., 2009).   Horwood et al. (2010) recently conducted a meta-analysis of three Australian cohort studies (totalling over 6,000 participants) to determine the association between adolescent cannabis use and three educational outcomes common to each study (high school completion, university enrolment, degree attainment). Age of cannabis use onset was found to be significantly associated with educational achievement. Young people who initiated cannabis between the ages of 15 and 17 years were between 1.4 and 1.7 times more likely to achieve greater educational achievement than those who initiated prior to the age of 15 years, while those who did not use cannabis prior to the age of 18 years were between 1.9 and 2.9 times more likely (Horwood et al., 2010).

Similar findings have been reported in earlier studies. For example, Brook, Balka and Whiteman (1999) interviewed the sample at approximately 14 years and again five years later and found that those who had used cannabis were less likely to have obtained a higher level of education and were three times more at risk of involvement in self deviancy and other problem behaviours. Brook et al. (2003) conducted a follow-up study examining adolescent cannabis use and later problem behaviour among a community-based sample of Colombian adolescents, and found that after controlling for gender, ethnicity and socio-economic status, cannabis use predicted poor school achievement and low attendance.

Chapter 1 of this thesis provided essential background and contextual information regarding drug use and criminal offending in Australia. Chapter 2 reviewed the core theoretical perspectives describing the drug-crime nexus. It also examined the core factors influencing the drug-crime relationship and provided an overview of the key outcomes resulting from early involvement in cannabis use and crime. The next three chapters will build on this literature through three empirical studies further exploring the relationship between cannabis use and crime, particularly among young people. The relationship between drug use and crime remains extremely complex. Additional research that focuses specifically on initiation and the influence of the immediate social environment will inform prevention and early intervention strategies and help to

identify contributors to the initial and on-going drug-crime relationship, as well as the continuation of behaviours.

CHAPTER 3:   AGE, DRUG USE AND CRIME AMONG POLICE DETAINEES

3.1   Introduction

Chapter 2 provided an overview of the core competing theoretical perspectives attempting to explain the drug-crime relationship and examined the key factors impacting on and influencing this association. In particular, the chapter focused on which factors contribute to the development of problem behaviours such as drug use, delinquency and criminal offending. Such behaviours have been found to peak during adolescence, with those initiating and engaging in multiple behaviours at an earlier age experiencing worse outcomes and more harm later in life. Experimentation with substance use and delinquency during the teen years is relatively common, with most growing out of such behaviour during adulthood and the onset of adult commitments and responsibilities. However, a subset of the population does not manage to outgrow such behaviour, and in conjunction with multiple drug use, the relationship between drug use and crime is intensified.

This first empirical chapter will further examine the relationship between age, drug use and crime among those who come into contact with the criminal justice system.

Age and polydrug use are important factors influencing the drug-crime relationship. Using DUMA data collected at three locations across Sydney, NSW between 2006 and 2010, this current study aims to:

1. Compare drug use and offending among NSW police detainees by age group (≤ 25 years and ≥ 26 years of age) and drug-user group (non-illicit, cannabis-only and other-illicit drug users); and

2. Explore predictors associated with the number of criminal charges received in the past 12 months by NSW police detainees and to determine whether any differences exist according to age and drug-user group.

The DUMA dataset was selected for this purpose because it serves as one of the few existing Australian data sources that routinely collects data from those who come into contact with the criminal justice system. Additionally, the dataset provides a rare opportunity to compare prevalence and patterns of drug use and it's association to crime among adults and young people who have been arrested.

3.2　　　Drug Use Monitoring Australia (DUMA) program overview

The DUMA program was established in 1999 to monitor the prevalence of illicit drug use in the community and to complement national data collections such as the NDSHS, the IDRS and the Australian Illicit Drug Report (which provides an overview of the national illicit drug environment). DUMA was modelled on a successful arrestee monitoring system in the US — the Arrestee Drug Abuse Monitoring (ADAM) program formerly known as the Drug Use Forecasting Program (DUF), currently known as the ADAM II. The ADAM II has routinely collected self-report data and urine (to be analysed) from volunteer police arrestees since the mid-1980s (Australian Institute of Criminology, 2007; Gaffney et al., 2010; Office of National Drug Control Policy, Executive Office of the President, 2010). In Australia, DUMA is co-ordinated by the AIC and constitutes an Australian, quarterly administered program that aims to monitor drug use among people apprehended by police. It provides valuable information on the association between drug use and offending. DUMA remains the only nationwide program in Australia to routinely interview police detainees (Gaffney et al., 2010).

The DUMA program, although criticised for using convenience sampling, offers a unique advantage over surveying incarcerated offenders or simply using

police administrative data. Administrative data tends to lack detailed information, particularly in regard to drug use, while incarcerated offenders may have been away from the community for some time and may be unaware of changes in the drug market. DUMA has large sample sizes and high survey response rates across interviewing sites, and is able to capture what may be a close to representative sample of police detainees from each site. The survey is designed to capture recent drug use behaviour and presents an opportunity to monitor recent trends in drug markets, including availability and the identification of new drugs (Bennett, 1998; Gaffney et al., 2010; Wilczynski and Piggott, 2004). Likewise the regularity of administration of DUMA ensures that timely information can be fed back to stakeholders and recruitment sites so that appropriate responses can be devised.

3.3   Method

3.3.1   Data access and ethical approval

A formal request to use the DUMA data for the current study was made to the DUMA data custodian located at the AIC in Canberra, Australian Capital Territory (ACT). The data request incorporated a brief research proposal and a data release statement that stated the researcher's intended use of the data including publications and a specification of the exact data requested (including date range, DUMA interviewing sites and key variables). The request was submitted for review within the AIC, with final approval being given by the Director of the Institute. Conditions of approval for data access set by the AIC included acknowledging the AIC in any work based on the data and the inclusion of a disclaimer. A full copy of the disclaimer can be found below:

> AIC Disclaimer
>
> *"The DUMA project is funded by the Commonwealth Attorney Generals' Department and South Australian Attorney Generals' Department. The data and tabulations used in this thesis were made available through the Australian Institute of Criminology. These data were originally collected by [name relevant data providers], with the assistance of the NSW Police Service, for the Australian Institute of Criminology. Neither the collectors nor the police bear any responsibility for the analyses or interpretations presented herein."*

Ethical approval (approval no. 08280) for the study was obtained from the University of NSW Human Research Ethics Committee (UNSW HREC).

3.3.2   Administration of DUMA

The following is a summary of DUMA procedural information and has been provided as contextual information for the current study.   Further details

regarding administration and procedure are provided in the DUMA NSW Site Manual, July 2007 (Australian Institute of Criminology, 2007).

Interviewing sites

The DUMA program is ongoing and is conducted every quarter over a three to four week period. Currently the program is administered at nine sites (police stations and watch-houses) across Australia: Bankstown, Parramatta (alternate quarters since 2009) and Kings Cross (alternate quarters since site introduction in 2009) in NSW, Adelaide in SA, Brisbane and Southport in Queensland (QLD), East Perth in Western Australia (WA), Footscray in Victoria (VIC) and Darwin in the NT. Additional sites in the past have included Elizabeth in SA (data collection ceased in 2007) and Alice Springs in the NT (data collection ran for a one year period only between 2007 and 2008).

Eligibility

At participating sites, all those who are arrested (including those as young as 12 years at some sites) and have been held in custody for less than 48 hours are eligible to participate, regardless of the offence they had committed and how long they remain in custody. Potential participants can be excluded by police personnel if they are:

- unfit for interview due to alcohol/drugs/medication;
- considered mentally disordered;
- in need of an interpreter;
- considered to be potentially violent; and
- deemed ineligible for other reasons at the discretion of the watch-house personnel.

Participants can consent to provide a urine sample; however, agreement to this is not a requirement for taking part in the interview component of DUMA. Participation in DUMA is voluntary and anonymous. Neither the survey data nor urine specimen can be linked to the participant at a later date. All participants

are administered the same questionnaire regardless of age (Australian Institute of Criminology, 2007).

Interview process

All interviews with detainees take place at the specified police station/watch-house and are conducted by trained interviewers who are independent from the police service. Interviewers are trained in the administration of the DUMA survey and in basic interviewing skills. Site co-ordinators are responsible for scheduling interviews and liaising with police and detainees.

After determining if a detainee is suitable to participate and prior to commencing the interview, potential participants are escorted by a police officer to the designated interview room to discuss with the interviewer whether they might be interested in taking part in the research. Police personnel monitor all interviews; however, they are not within earshot. Upon commencing the interview, detainees are reminded that they are free to cease the interview at any time and can refuse to provide a urine sample at the end. The site co-ordinator is responsible for reconciling questionnaires, completing the DUMA log (including refusal rates) and shipping the urine specimens to the laboratory.

3.3.3   The research sample

A total of 20,551 police detainees were interviewed between 2006 and 2010 at 11 DUMA sites across Australia. The current study will use a sub-sample of 3,570 detainees recruited at the three NSW sites that were in operation during the selected time frame (Parramatta, Bankstown and Kings Cross). Young people aged between 12 and 25 years made up 42.0% of the sample. A breakdown of the numbers recruited from each site, including the proportion of those 25 years and younger can be found in Table 3.1 below. Participant demographic characteristics will be discussed in more detail in Section 3.4.1. A comparison of key demographic characteristics between NSW sites can be found in Appendix C. Throughout the remainder of this chapter, NSW data will be aggregated and detainees referred to as "participants of the current study".

Table 3.1 NSW DUMA recruitment sites

Recruitment location	Number of participants recruited 2006-2010 % (n)	Proportion aged 25 years and under % (n)
Bankstown	51.1 (1,825)	40.2 (733)
Parramatta	39.5 (1,409)	46.7 (658)
Kings Cross	9.4 (336)	31.8 (107)
Total	**100.0 (3,570)**	**42.0 (1,498)**

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

3.3.4   Data measures

The DUMA interview consists of a core set of questions that are administered each quarter. Interview questions cover a range of topics including arrest and prison experiences, patterns of licit and illicit drug use, drug market characteristics, mental health and alcohol and other drug (AOD) treatment. Additional special topic addenda items are administered during some quarters but differ substantially in content. For example, past addendum topics have included victimisation and fear of crime, weapons and individual drugs. Data analysis for the current study will use variables from the core DUMA questionnaire. The current study used data items from the DUMA interview Australian English Version, 4th Quarter 2010.

Relevant Survey Items

Socio-demographic characteristics

Participants were asked to specify the following socio-demographic characteristics: date of birth, sex, ethnicity (including whether they were of Aboriginal or Torres Strait Islander origin), marital status, recent primary accommodation and the number of dependent children they had living with them. Additionally, participants were asked to specify the highest level of education they had achieved and their current employment status.

Offending

Participants were asked to report the age of their first arrest and to specify whether they had served time in prison on a sentence in the past 12 months. Participants were also asked to specify the offence type they were currently arrested for, in addition to the type and number of charges they had received in the past 12 months. Up to 10 current charges were recorded on the survey in order of seriousness. Offences were coded according to the Australian Standard Offence Classification (ASOC). For the purposes of this study, offences have been categorised into eight classes devised by the AIC, based on the 16 divisions of the ASOC (Pink, 2008; Sweeney and Payne, 2012). The ASOC and AIC offence classifications can be found in Appendix D.

The reason for the participant's current arrest (or for being detained) and current status (or outcome of the current arrest) were also recorded. Participants may have been detained for the following reasons: breaching periodic detention, breaching bail, breaching a drug court program, breaching a restraining order, breaching release on their own recognisance, breaching probation, breaching parole, breaching a community service order or as a result of a warrant. Participants may also have been detained for more than one of the reasons stated above. The status of the participant was recorded as either detained with no charge, arrested and charged, held on remand, sentenced, received a caution or conference or reported by summons.

Participants were also asked to state on a five point Likert scale ranging from 1 (all of the time) to 5 (none of the time) how much of the income they had received in the past 30 days was from crime. For the purposes of data analysis in the current study, this variable was dichotomised (either received income from crime or not).

Alcohol and other illicit drugs, including cannabis

Participants were asked whether they had ever used alcohol and illicit drugs (i.e., cannabis, cocaine, heroin, other illegal opiates (including illegal morphine, street methadone and homebake), amphetamines (including speed and methamphetamines), ecstasy, hallucinogens (including LSD and magic

mushrooms), illegal benzodiazepines (i.e., illegally obtained and/or not prescribed by a doctor) and inhalants), the age they first used each drug and the age they first used each drug regularly. Regular use of an illicit drug was defined as use on three or more days a week. For alcohol, first heavy use was recorded as the age when males first drank five or more drinks on one occasion and females first drank three or more drinks on one occasion. Participants were asked to recall whether they had used each drug in the past 12 months, 30 days and in the 48 hours prior to interview, and to report the number of days each drug was used in the past month. The current study used recoded variables to determine the number of drugs used in the past 12 months, and to categorise participants into other-illicit, cannabis only or non-illicit drug user in the past 12 months.

Defining age and drug-user groups

A primary aim of the current study was to identify differences in drug use and criminal offending between younger and older participants and between drug-user groups who come into contact with the criminal justice system.

For comparison purposes, 25 years was selected as the maximum age for a "young person" within the current study. The cut-off age was determined for a number of reasons, some of which are described briefly below.

- Recent research within the neurobiological field suggests that the human brain does not reach full maturity until approximately the age of 25 years, implying that those who use drugs prior to this age are using during critical neurobiological changes in a significant phase of development (Blakemore, 2012; Blum et al., 2012; Casey and Jones, 2010).
- The definition of a "juvenile" currently varies across Australian jurisdictions and internationally and these ages have not remained constant over time (See Section 1.4.1). In NSW, a person aged 18 years and older is dealt with under criminal legislation relating to adults (Richards, 2011).
- To increase the size of the younger sample (participants under the age of 18 are only interviewed at a few select sites).

To further examine the association between cannabis use and criminal offending, participants were grouped according to their use of drugs in the past 12 months: non-illicit, cannabis-only (although cannabis is the only illicit drug used by participants in this group, participants may have used alcohol in the past 12 months) and other-illicit drug users (includes users of one or more illicit drug in the past 12 months). Overall the majority of participants were classified as either an other-illicit drug user (42.7%) or a non-illicit drug user (38.0%), while less than one-fifth of participants formed part of the cannabis-only user group (18.3%). Participants aged ≤ 25 years were significantly more likely to be cannabis-only users, while those aged ≥ 26 years were less likely to have used illicit drugs in the past 12 months (x^2 (2) = 44.20, p<0.001).

3.3.5   Data analysis

Prior to analysis, data was screened for outliers, missing data, distribution normality (using Kolmogorov-Smirnov test) and equivalence of variance (using Levene's test) where appropriate. As this study involved the secondary analysis of an existing database, a number of variables needed to be created or re-coded to fit with the aims of the current study. The DUMA Users Guide to the Machine Readable Data File manual was provided by the AIC to assist in deciphering the database, the type of variable used and the question it related to in the survey (Sweeney and Ness, 2011).

Pearson chi-square tests followed by an examination of standardised residuals (to determine which cell/s contributed to a statistically significant difference) were used to compare categorical data, while t-tests and Mann Whitney U tests (for non-normally distributed data) were used to compare continuous data. ANOVA and Kruskal-Wallis ANOVA were used to determine whether any differences existed between three or more groups of normal and non-normally distributed continuous variables. Finally, fixed negative binomial regression analyses were run to describe the relationship between a set of independent variables and the dependent variable, "the number of charges received in the past 12 months" by age and drug-user groups. All statistical analyses were

conducted using IBM SPSS Statistics for Windows, Version 20 (SPSS, 2011). To account for any significant effects based on chance alone, a more conservative p-value of 0.01 has been chosen to avoid claiming statistically significant differences when no such differences exist (except where stated in the Section 3.6 Results Part Three).

The results of the current study are presented in three sections. The first section will describe the whole sample and compare drug use and offending by age group. The second section will compare drug use and offending by drug-user group. The final section will examine which explanatory variables contribute to the number of charges received in the past 12 months according to age and drug-user groups.

3.4 Results Part One: Sample description and comparisons by age group

3.4.1 Sample characteristics

The socio-demographic characteristics of the overall sample are presented in Table 3.2. A full presentation of comparative data for age groups and drug-user groups can be found in Appendices E and F, respectively.

The sample was aged between 12 and 75 years (Mean (M) age = 29.7 years, SD = 11.2) and given that age of the participant formed the basis of the age group sample split, a significant difference in the mean age between the two groups within the sample was expected and observed (t (2737.67) = -82.09, p<0.001). No difference in age was found between drug-user groups.

The overwhelming majority of participants were male (82.4%). No sex differences between groups were found for age; however, examination of the standardised residuals within the chi-square (x^2) test between drug-user groups revealed a higher than expected proportion of males (88.4%) within the cannabis-only group, and a lower than expected proportion of males (80.2%) within the other-illicit user group (x^2 (2) = 21.46, p<0.001).

Participants came from mixed ethnic backgrounds, with 33.3% of participants identifying as Australian (including Aboriginal Australian). Caution must be taken when interpreting this variable because participants could nominate up to three ethnic backgrounds. The figures presented in Table 3.2 represent the participant's "first" nominated ethnicity and therefore may be under-representative of those who nominated Australian as their 2nd or 3rd ethnic background for example.

Just over 7% of participants self-identified as being of Aboriginal and/or Torres Strait Islander origin. Participants aged ≤ 25 years were more likely than those aged ≥ 26 years to identify as being of Aboriginal and Torres Strait Islander

origin (x^2 (1) = 17.31, p<0.001). A significant difference between drug-user groups was also observed, with the non-illicit drug user group less likely to self-identify as being of Aboriginal and Torres Strait Islander origin (3.9%) (x^2 (2) = 35, p<0.001).

The majority of participants (61.7%) were single, and had never been married. Participants ≥ 26 years of age were significantly less likely to be single (43.1%) and were more likely to be in a de facto relationship (17.3%), married (20.1%) or separated/divorced (18.5%) compared to those ≤ 25 years of age (x^2 (3) = 759.04, p<0.001). A significant difference between drug-user groups was also observed. When compared to the other two groups, a lower proportion of non-illicit drug users were single (52.1%) and in a de facto relationship (8.9%), while a higher proportion were married (24.4%) and separated/divorced (13.7%). Similarly, a higher proportion of other-illicit users were single (67.1%) and de facto (18.7%), while a lower proportion reported they were married (4.7%) and separated/divorced (8.9%). Cannabis-only users were more likely to be single (69.8%) and less likely to be married (7.3%, x^2 (6) = 343.10, p<0.001).

Living with dependent children was also more likely among those aged ≥ 26 years (x^2 (1) = 349.56, p<0.001). A significant difference between drug-user groups was also observed, with non-illicit drug users more likely to report they were living with dependent children (36.4%, x^2 (2) = 74.82, p<0.001).

The most commonly reported recent place of accommodation was a house/apartment either owned or rented by the participant (47.1%) or by someone else (45.5%). Participants ≤ 25 years of age were less likely to be living in their own house/apartment and other household locations such as caravan parks but were more likely to be living in a house/apartment owned/rented by someone else compared to those aged ≥ 26 years (x^2 (3) = 526.07, p<0.001). Among drug-user groups, a higher proportion of non-illicit drug users were more likely to be living in their own/rented apartment or house (53.9%) while a lower proportion of non-illicit drug-users reported living in someone else's house or apartment (42.1%) when compared to other-illicit and cannabis only users. A lower proportion of other-illicit users (40.3%) and

75

cannabis-only users (38.8%) were living in their own apartment/house while cannabis-only users (54.4%) were more likely to be living in someone else's apartment/house (x^2 (6) = 58.38, p<0.001).

Although unable to determine the number of years of schooling from this dataset, the majority of participants (41.4%) stated they had left school after completing Year 10 or less. Those aged ≥ 26 years were more likely to have completed a Technical And Further Education (TAFE) program or university degree than the younger age group (x^2 (3) = 123.14, p<0.001). Non-illicit drug users were also less likely to have only completed Year 10 or less (48.2%), while a higher proportion had completed Year 11 and 12 (14.5%) and university (2.1%) when compared to the other two groups. Cannabis-only (47.5%) and other-illicit users (48.2%) were more likely to have only completed Year 10 or a lower grade at school (x^2 (6) = 204.16, p<0.001).

Close to one-third of all participants (31.3%) were currently working full-time, while 22.7% admitted to currently looking for work. Participants ≤ 25 years, were more likely to be unemployed and looking for work, working part-time, and less likely to be disabled for work (x^2 (3) = 165.56, p<0.001). Between the drug-user groups, a higher proportion of non-illicit drug-users were working full-time (42.0%), while a lower proportion were unemployed and looking for work (15.0%) and disabled for work (6.4%). Other-illicit users were more likely to be unemployed and looking for work (29.5%), disabled for work (9.7%) and less likely to be working full-time (22.9%, x^2 (3) = 190.18, p<0.001).

Following police apprehension, the majority of detainees within the sample were arrested and charged (89.7%), while a significantly higher proportion of participants ≤ 25 years of age were issued with either a cannabis caution, a caution under the Young Offenders Act or a referral to a Youth Justice Conference. A higher proportion of non-illicit drug-users were detained and not charged (15.0%), while a lower than expected proportion of other-illicit users were detained and not charged (3.6%) and received a caution/conference (1.8%, x^2 (6) = 67.85, p<0.001).

Table 3.2   NSW DUMA Socio-demographic characteristics

Socio-demographic characteristic	Total sample (n=3,570) % (n)
Sex	
Male	82.4 (2,941)
Age (years)	
Mean age (SD)	29.73
Range	(11.19)
	12-75
Aboriginal and/ Torres Strait Islander[#*]	7.3 (259)
Ethnicity	
Australian + Aboriginal	34.6 (1,235)
Lebanese	15.2 (543)
New Zealander	3.5 (126)
Vietnamese	2.4 (86)
Other	44.3 (1,580)
Marital status	
Single, never been married	61.7 (2,201)
De facto	13.6 (484)
Married	12.9 (461)
Separated or divorced	11.2 (398)
Other	0.6 (22)
Lives with dependent children	28.4 (1,015)
Recent primary accommodation	
Someone else's house or apartment	47.1 (1,680)
Owned/rented apartment or house	45.3 (1,618)
Other household location (i.e., caravan park, boarding house)	2.0 (71)
A shelter or emergency housing	1.1 (39)
Other	4.5 (162)
Highest level of education completed	
Completed Year 10 or less	41.4 (1,475)
Completed a TAFE program	17.8 (634)
Completed Year 11 or 12	14.9 (531)
Completed a university or higher degree	5.7 (203)

Socio-demographic characteristic	Total sample (n=3,570) % (n)
Other	20.2 (723)
Current employment status	
Working full-time	31.3 (1,114)
Unemployed or laid off and looking for work	22.7 (810)
Working part-time	13.5 (481)
Disabled for work	8.1 (290)
Other	24.4 (869)
Outcome of arrest	
Arrested and charged	89.7 (3,201)
Detained no charge	6.2 (221)
Caution or conference	2.8 (100)
Other (i.e. telephone interim violence orders, revision and serving of AVO's)	1.3 (46)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

[*] Valid per cent for this variable was not presented due to the way the question was structured.

3.4.2   Drug use history and progression by age group

Lifetime drug use

Among the sample, cannabis was the most commonly reported illicit drug to have ever been used (73.6%) by the older and younger group of participants. Amphetamines (47.8%) was the second most likely group of drugs to have ever been used by participants aged ≥ 26 years and older, while ecstasy (40.4%) was the second most commonly used drug among participants aged ≤ 25 years old. With the exception of alcohol, ecstasy and cannabis, detainees aged ≥ 26 years were statistically significantly more likely to report ever using each of the other drug categories ($p<0.001$; inhalants $p = 0.003$) as presented in Figure 3.1. Corresponding chi-square values can be found in Appendix G.

Figure 3.1   Lifetime use of drugs by age group
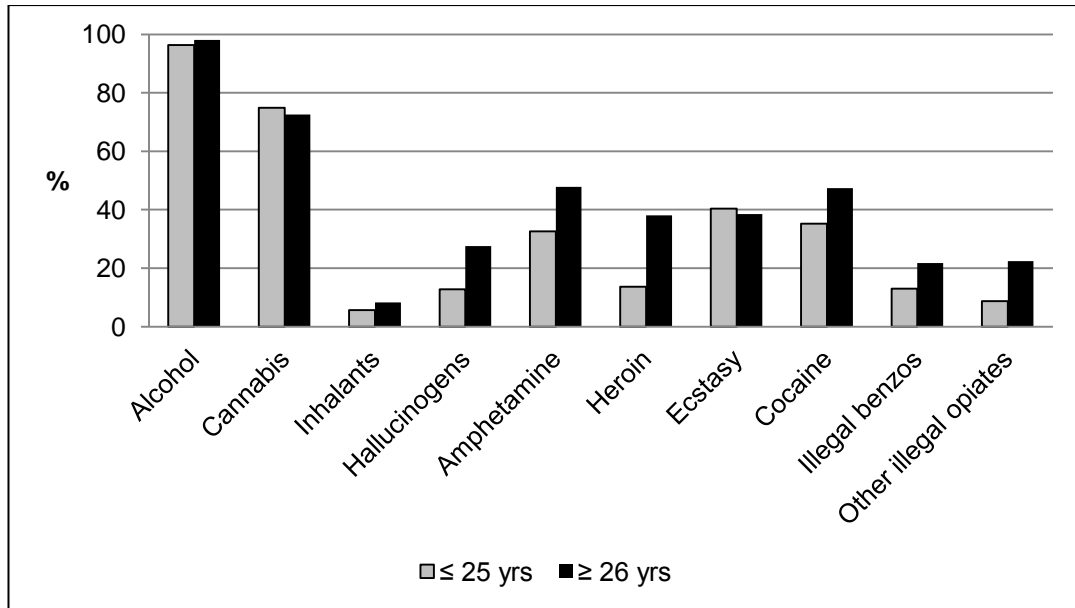
Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Age of drug use initiation

Cannabis was the first illicit drug tried by the sample at 15.45 years of age (SD: 4.13), followed by inhalants at 15.55 years of age (SD: 15.55). Only a small portion of the sample (n=251), however, had ever used inhalants. First use of alcohol preceded the use of any illicit drug (M: 15.29 years, SD: 4.22).

Figure 3.2   Drug use initiation by age group
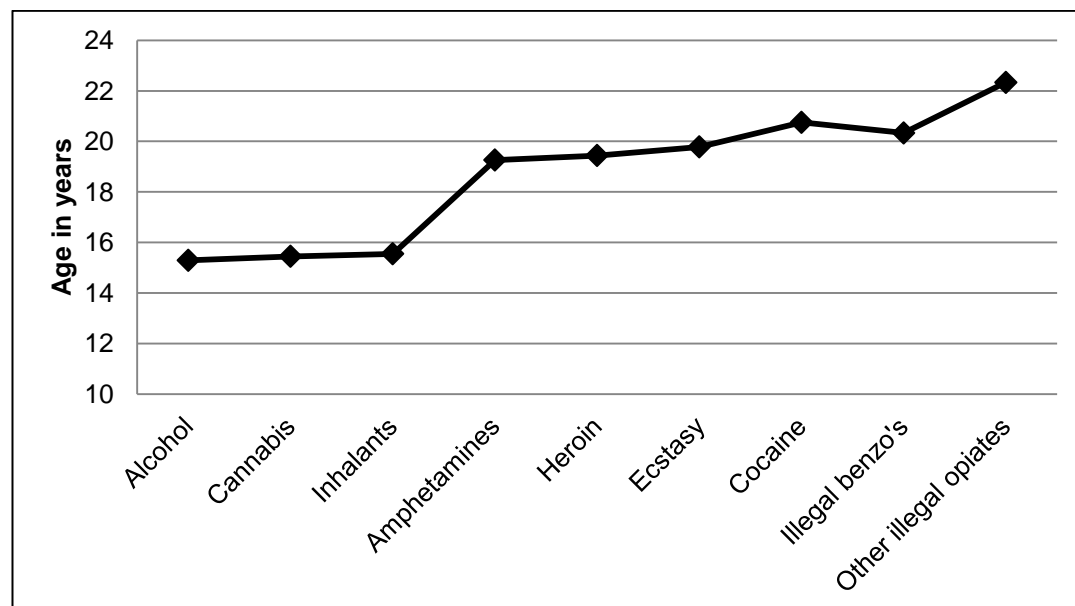
Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Regular drug use

Figure 3.3 presents the proportion of participants who reported ever using alcohol and a range of illicit drugs who went on to use each drug regularly. Hallucinogens were excluded from this analysis due to extremely small numbers reporting having used this drug regularly. Regular drug use of an illicit drug was defined as using the drug at least three times a week. The data reported for heavy alcohol use, however, was the age that males first drank five or more drinks on one occasion and the age that females drank three or more drinks on one occasion. Alcohol and cannabis were the drugs most likely to have been used regularly by both the younger and older age groups, with similar proportions of each group reporting regular lifetime use (alcohol: 74.0% vs. 66.11%; cannabis: 80.9% vs. 73.9%).

Figure 3.3   Lifetime regular use of drugs by age group
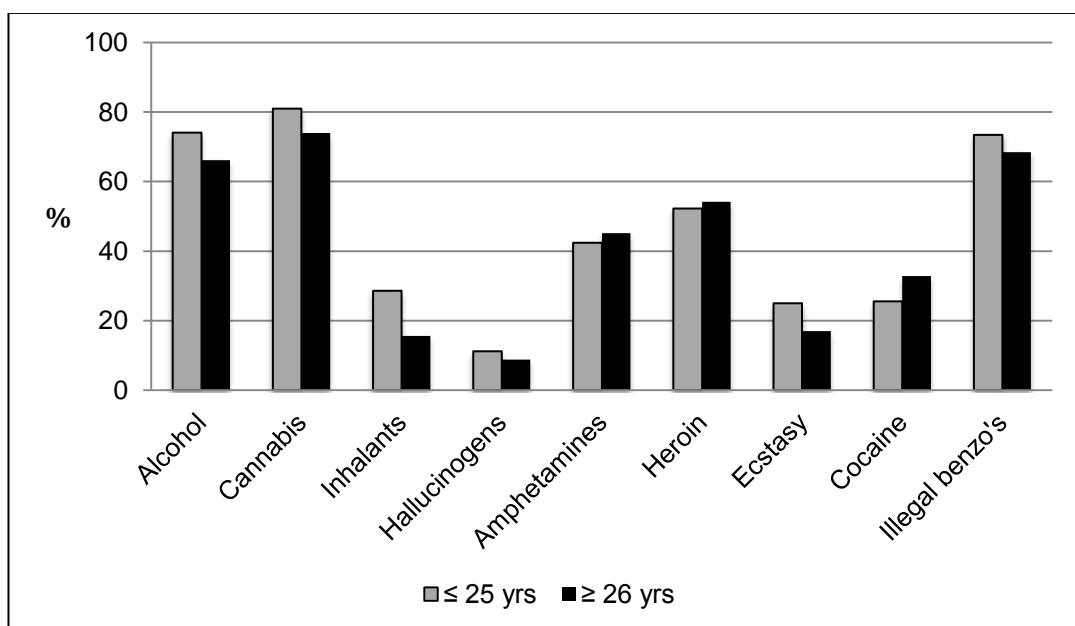
* For alcohol, this graph presents lifetime heavy use

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Age of regular drug use

Age of regular drug use followed a similar pattern to that of age of drug use initiation. Police detainees only reported a slightly younger age of first regular use of cannabis (M: 16.22 years, SD: 4.51) than of inhalants (M: 16.44 years, SD: 7.55) and alcohol (M: 16.51 years, SD: 4.64).

Figure 3.4   Age of regular drug use by age group
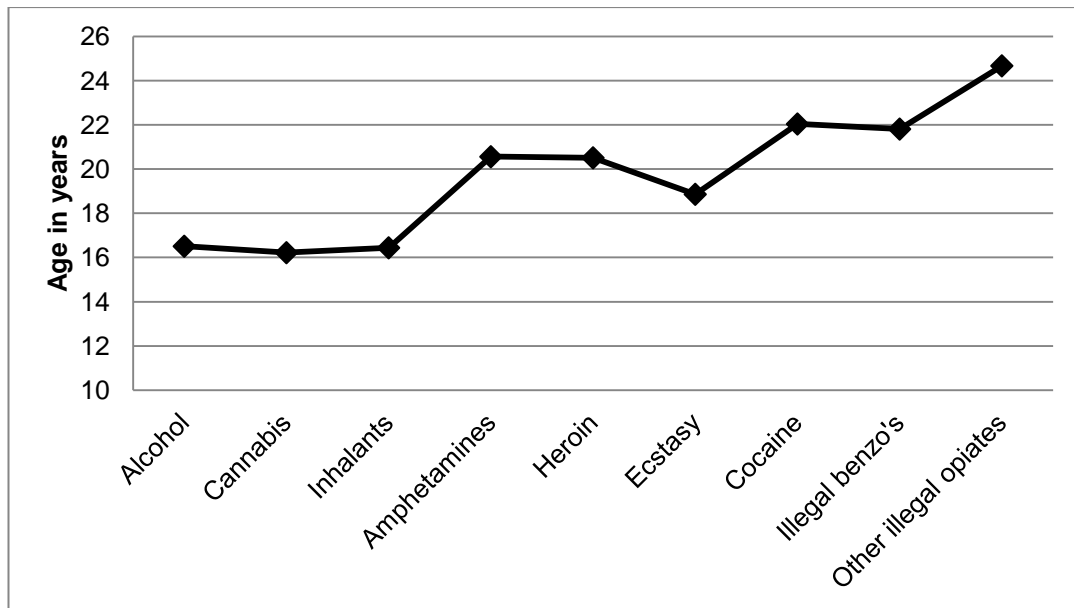
Graph plotting Age in years (y-axis, 10 to 26) against drug categories: Alcohol, Cannabis, Inhalants, Amphetamines, Heroin, Ecstasy, Cocaine, Illegal benzo's, Other illegal opiates.

* For alcohol, this graph presents lifetime heavy use

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Drug use progression

Of those who progressed to regular use, participants aged ≤ 25 years of age progressed more quickly from first to regular drug use for all drug categories than those aged ≥ 26 years of age. Participants in the younger age group progressed from first use to regular use the quickest for ecstasy (0.08 mean year difference) and the slowest from first to heavy use of alcohol (0.86 mean year difference). Among the older group, progression from first to regular use was quickest for cannabis (1.01 year difference) and slowest for inhalants (3.05 year difference).

3.4.3   Recent drug use by age group

The preceding section found a larger proportion of participants aged ≥ 26 years had ever used each of the illicit drugs listed (with the exception of cannabis and ecstasy) and a higher proportion also reported using each of the other illicit drugs regularly with the exception of hallucinogens. However, more important to the risk of involvement in future drug use, offending and other risky behaviour was that participants aged ≤ 25 years of age were significantly younger when

they first used each illicit drugs (with the exception of inhalants). The next section will describe and compare recent drug use among the participants.

Drug use in the past 12 months

A significantly higher proportion of detainees aged ≤ 25 years reported currently using each of the illicit drug categories in the past 12 months (with the exception of other opioids). Corresponding percentage and chi-square values can be found in Appendix H. Drug use in the past month will be discussed in more detail below.

Drug use in the past 30 days

Table 3.3 presents the median days of drug use among those that used in the past month. With the exception of alcohol and amphetamines, no statistical differences were found in days of recent drug use between the older and younger group of participants who had used the drug in the past month. Alcohol was used more often in the past month by participants aged ≥ 26 years (median=5 days) compared to participants aged ≤ 25 years (median= 3 days, t $(475.534) = -3.972$, $p<0.001$). Likewise, participants aged ≥ 26 years reported using amphetamines for a median of four days in the past month compared to a median of two days among those ≤ 25 years (t $(475.534) = -3.972$, $p<0.001$).

Heroin was the drug most frequently used by participants in the past month (median=12 days), followed by cannabis (median=10 days). However, the proportion of participants using heroin in the past month is much lower than the proportion using cannabis.

Table 3.3   Drug use in the past month by age group

	Median days (range)		
	≤ 25 years of age	≥ 26 years of age	All participants
Alcohol	3 (1-30)	5 (1-30)	4[*] (1-30)
Cannabis	12 (1-30)	10 (1-30)	10 (1-30)
Cocaine	2 (1-30)	2 (1-30)	2 (1-30)
Amphetamines	2 (1-30)	4 (1-30)	3[*] (1-30)
Ecstasy	2 (1-30)	1 (1-30)	2 (1-30)
Heroin	12 (1-30)	12 (1-30)	12 (1-30)
Hallucinogens	1 (1-20)	2 (1-2)	1 (1-30)
Illegal benzodiazepines	4 (1-30)	4 (1-30)	4 (1-30)
Other opioids	2 (1-30)	4 (1-30)	4 (1-30)
Inhalants	1 (1-30)	14 (1-30)	2 (1-30)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

*p<0.001

Drug use in the past 48 hours

Participants who reported using a drug on at least one day in the past month were also asked if they had used the drug in the 48 hours prior to interview/arrest. The proportion of participants who admitted using each drug during this time period is presented in Table 3.4. Participants aged≥ 26 years were significantly more likely than the younger group of participants to have drunk alcohol (x^2 (1) = 81.89, p=0.001) and used amphetamines (x^2 (1) = 17.61, p<0.001) in the 48 hours prior to arrest.

Among current users of each drug, heroin was the most likely drug (67.4%) to have been consumed prior to the participant's current arrest, followed closely by cannabis (65.5%). Hallucinogens (22.7%) and ecstasy (23.3%) were the least likely drugs to have been consumed in the 48 hours prior to arrest. Cannabis use was more common than alcohol use in the 48 hours leading up to arrest for both groups of participants.

Table 3.4   Proportion of participants who used each drug in the 48 hours prior to interview by age group

	Proportion who used drug in past 48 hours		
	≤ 25 years of age (n=920) (%) (n)	≥ 26 years of age (n=710) (%) (n)	All participants (n=2,079) (%) (n)
Alcohol	41.3 (380)	61.3 (710)	52.3 (1,090)
Cannabis	64.9 (450)	66.0 (508)	65.5 (958)
Cocaine	38.9 (56)	39.1 (88)	39.0 (144)
Amphetamines	30.5 (57)	48.2 (148)	41.5 (205)
Ecstasy	25.6 (46)	18.3 (15)	23.3 (61)
Heroin	70.1 (61)	66.5 (185)	67.4 (246)
Hallucinogens	26.3 (5)	0	22.7 (5)
Illegal benzodiazepine's	29.4 (32)	41.0 (94)	37.3 (126)
Other opioids	54.5 (6)	59.3 (16)	57.9 (22)
Inhalants	40.0 (6)	57.1 (4)	45.5 (10)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Poly drug use in past 12 months

The majority of participants in the sample reported using one illicit drug type in the past 12 months (39.2%), while two fifths of the sample (39.2%) did not use illicit drugs in the past 12 months (see Table 3.5). Less than 7% of the sample reported using five or more drug types in the past 12 months.

Table 3.5   Number of illicit drugs used in the past 12 months by age group

	≤ 25 years (n=1,498) % (n)	≥ 26 years (n=2,072) % (n)	Total (n=3,570) % (n)
0	34.2 (512)	42.9 (888)	39.2 (1,400)
1	27.2 (408)	21.2 (439)	23.7 (847)
2	16.7 (250)	13.4 (277)	14.8 (527)
3	10.1 (151)	9.5 (197)	9.7 (348)
4	4.9 (74)	6.5 (134)	5.8 (208)
5	3.4 (51)	4.1 (85)	3.8 (136)
6	2.1 (31)	1.9 (40)	2.0 (71)
7	1.2 (18)	0.5 (10)	0.8 (25)
8	0.2 (3)	0.1 (2)	0.1 (5)
Mean no. of illicit drugs	1.50	1.38	1.43
(SD)	(1.64)	(1.65)	(1.65)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

One and only drug used in past 12 months

The type of illicit drug used by those who reported using only one illicit drug in the past 12 months is presented in Table 3.6. Among those, cannabis was the only illicit drug used by three quarters of the current sample (76.4%). Participants aged ≤ 25 years old, were significantly less likely to have only used heroin (x^2 (1) = 11.68, p=0.001), amphetamines (x^2 (1) = 16.36, p<0.001) and significantly more likely to have only used cannabis (x^2 (1) = 16.84, p<0.001) and ecstasy (x^2 (1) = 8.29, p=0.004) in the past 12 months.

Table 3.6   Type of illicit drug use by participants who report using only one illicit drug in the past 12 months by age group

	≤ 25 years of age (n=408) % (n)	≥ 26 years of age (n=439) % (n)	All participants (n=847) % (n)
Cannabis only	82.6 (337)	70.6 (310)	76.4 (647)
Cocaine only	4.7 (19)	6.6 (29)	5.7 (48)
Heroin only	2.9 (12)	8.4 (37)	5.8 (49)
Other opioids only	0.2 (1)	0.9 (4)	0.6 (5)
Amphetamines/speed/Methamphetamines only	2.9 (12)	9.8 (43)	6.5 (55)
Ecstasy only	5.9 (24)	2.1 (9)	3.9 (33)
Hallucinogens only	0	0	0
Illegal benzodiazepine's only	0.7 (3)	1.6 (7)	1.2 (10)
Inhalants only	0	0	0

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

3.4.4   Offending history by age group

Age of first arrest

The mean age of first arrest for police detainees was 20.29 years (SD: 9.75).

3.4.5   Recent offending by age group

Reason for current arrest

All participants had been arrested and were present at one of the police stations participating in the DUMA program. Participants may have been arrested for a number of reasons (see Table 3.7); however, the most common reason for arrest among participants aged ≤ 25 years was for committing a breach of their bail conditions (14.1%). The most common reason participants aged ≥ 26 years were currently detained was due to an existing warrant having been served; arrest often occurs when approached by police for any reason and the existence of a warrant becomes known when their identification is checked. Participants were least likely to have been arrested for breaching periodic detention (0.2%) and breaching probation (0.2%).

The data highlights a number of differences between the older and younger groups and the reason for their current arrest. A statistically significantly higher proportion of detainees aged 26 years   were arrested for breaching a restraining order (x^2 (1) = 67.417, p<0.001) and on the grounds of an existing warrant (x^2 (1) = 13.244, p<0.001). A higher proportion of younger detainees were more likely to have been arrested for breaching their bail conditions (x^2 (1) = 29.312, p<0.001). The outcome of the participant's current arrest has already been described in Section 3.4.1.

Table 3.7   Reasons for current arrest by age group

	≤ 25 years of age (n=1,498)	≥ 26 years of age (n=2,072)	All participants (n=3,570)
Breach periodic detention	0.2 (3)	0.1 (3)	0.2 (6)
Breach bail	14.1 (211)	8.4 (174)	10.8 (385)
Breach drug court program	0.2 (3)	0.8 (16)	0.5 (19)
Breach restraining order	2.1 (32)	8.7 (181)	6.0 (213)
Breach release on own recognisance	1.0 (15)	1.1 (22)	1.0 (37)
Warrant	13.0 (194)	17.4 (361)	15.5 (555)
Breach probation	0.3 (4)	0.1 (3)	0.2 (7)
Breach parole	1.2 (18)	1.7 (35)	1.5 (53)
Breach community service order (CSO)	0.4 (6)	0.3 (7)	0.4 (13)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Current charges

The DUMA interview records up to 10 current charges that are listed in order of seriousness. Seriousness is determined based on the ASOC coding (see Section 3.3.4). Table 3.8 presents the three most serious charges committed by the participants. At the time of the current arrest, the majority of participants were facing one charge only (56.3%).

The first and most serious charge recorded for the older and younger group of participants was a violent offence (27.8%), followed by a property offence (20.0%). Participants were least likely to be charged with a drink driving offence (5.9%) as their first and most serious charge. The order of most serious offence remained the same for the second charge; however, when the third most serious charge was examined, property offences became the most prevalent (24.1%).

Table 3.8   Current charges by age group

	≤ 25 years of age (n=1,497)		≥ 26 years of age (n=2,062)		Total sample (n=3,569)	
	Current	**Past**	**Current**	**Past**	**Current**	**Past**
	% (n)	% (n)	% (n)	% (n)	% (n)	% (n)
First charge	*(n=1,412)*	*(n=714)*	*(n=1,934)*	*(n=676)*	*(n=3,346)*	*(n=1,390)*
Violent offences	28.0 (395)	32.8 (234)	27.6 (534)	22.8 (154)	27.8 (929)	27.9 (388)
Property offences	22.2 (313)	27.2 (194)	18.4 (356)	28.8 (195)	20.0 (669)	28.0 (389)
Drug offences	8.9 (125)	5.7 (41)	10.4 (201)	9.9 (67)	9.7 (326)	7.8 (108)
Drink driving	2.7 (38)	2.7 (19)	8.3 (161)	4.0 (27)	5.9 (199)	3.3 (46)
Traffic offences	6.0 (85)	13.7 (98)	6.8 (131)	15.7 (106)	6.5 (216)	14.7 (204)
Disorder	11.5 (162)	10.2 (73)	6.8 (131)	6.4 (43)	8.8 (293)	8.3 (116)
Breaches	12.6 (178)	3.8 (27)	14.5 (280)	8.1 (55)	13.7 (458)	5.9 (82)
Other offences	8.2 (116)	3.9 (28)	7.2 (140)	4.3 (29)	7.7 (256)	4.1 (57)
Second charge	*(n=626)*	*(n=422)*	*(n=837)*	*(n=276)*	*(n=1,463)*	*(n=698)*
Violent offences	23.3 (146)	29.4 (124)	21.3 (178)	19.9 (55)	22.1 (324)	25.6 (179)
Property offences	20.9 (131)	26.1 (110)	20.0 (167)	26.8 (74)	20.4 (298)	26.4 (184)
Drug offences	6.5 (41)	4.5 (19)	9.6 (80)	14.1 (39)	8.3 (121)	8.3 (58)
Drink driving	1.3 (8)	1.2 (5)	1.2 (10)	3.6 (10)	1.2 (18)	2.1 (15)
Traffic offences	7.8 (49)	10.9 (46)	11.7 (98)	9.8 (27)	10.0 (147)	10.5 (73)
Disorder	16.5 (103)	18.2 (77)	13.5 (113)	12.7 (35)	14.8 (216)	16.0 (112)
Breaches	10.2 (64)	3.8 (16)	10.8 (90)	7.2 (20)	10.5 (154)	5.2 (36)
Other offences	13.4 (84)	5.8 (16)	12.1 (101)	5.8 (16)	12.6 (185)	5.9 (41)

Table 3.8 cont.

	≤ 25 years of age (n=1,497)		≥ 26 years of age (n=2,062)		Total sample (n=3,569)	
	Current	**Past**	**Current**	**Past**	**Current**	**Past**
	% (n)	% (n)	% (n)	% (n)	% (n)	% (n)
Third charge	*(n=315)*	*(n=249)*	*(n=432)*	*(n=120)*	*(n=747)*	*(n=369)*
Violent offences	16.5 (52)	20.1 (50)	18.3 (79)	17.5 (21)	17.5 (131)	19.2 (71)
Property offences	23.8 (75)	27.7 (69)	24.3 (105)	30.8 (37)	24.1 (180)	28.7 (106)
Drug offences	7.6 (24)	4.4 (11)	9.0 (39)	11.7 (14)	8.4 (63)	6.8 (25)
Drink driving	0.6 (2)	2.0 (5)	0.5 (2)	1.7 (2)	0.5 (4)	1.9 (7)
Traffic offences	11.7 (37)	11.2 (28)	11.1 (48)	10.8 (13)	11.4 (85)	11.1 (41)
Disorder	16.5 (52)	17.3 (43)	13.0 (56)	9.2 (11)	14.5 (108)	14.6 (54)
Breaches	7.9 (25)	8.8 (22)	9.5 (41)	8.3 (10)	8.8 (66)	8.7 (32)
Other offences	15.2 (48)	8.4 (21)	14.4 (62)	10.0 (12)	14.7 (110)	8.9 (33)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Recent charges

Just under half of the sample (45.9%) had been charged with an offence/s in the past 12 months, in addition to the current charge/s they were facing at the time of interview. Participants aged ≤ 25 years old were more likely to be charged in the previous 12 months (53.2% vs. 40.1%).

Of those who had been charged in the past 12 months, the mean number of charges received by younger detainees (M: 2.42, SD: 5.35) was significantly higher than the mean number of charges received by the older detainees (M: 1.24, SD: 3.23, t (2106.082) = 7.114, p<0.001).

Similar to the findings in relation to the most prevalent current charge, the most serious charge received by the majority of participants in the past 12 months was for property offences (28.0%) and violent offences (27.9%), while the least common most serious offence was a drink driving charge (3.3%) (see Table 3.8).

Recent incarceration

Overall, 16.9% of participants reported serving time in prison in the past 12 months on a sentence. No statistical differences existed in the proportion of the participants from each group who had recently been to prison.

3.5 Results Part Two: Drug use and offending comparisons by drug-user group

This section will compare drug use and offending among police detainees by drug-user group. As mentioned previously, participants were grouped as either a non-illicit, cannabis-only or an other-illicit drug user.

3.5.1 Drug use history by drug-user group

Lifetime drug use by drug-user group

Significant differences between drug-user groups were found for participant's lifetime use of each drug category (with the exception of alcohol, $p<0.001$). Corresponding chi-square values can be found in Appendix G. A higher proportion of other-illicit users (95.7%) and cannabis-only users (100%) had ever used cannabis, while a higher proportion of other-illicit users had ever used each of the other drug categories presented in Figure 3.5.

Figure 3.5   Lifetime drug use by drug-user group
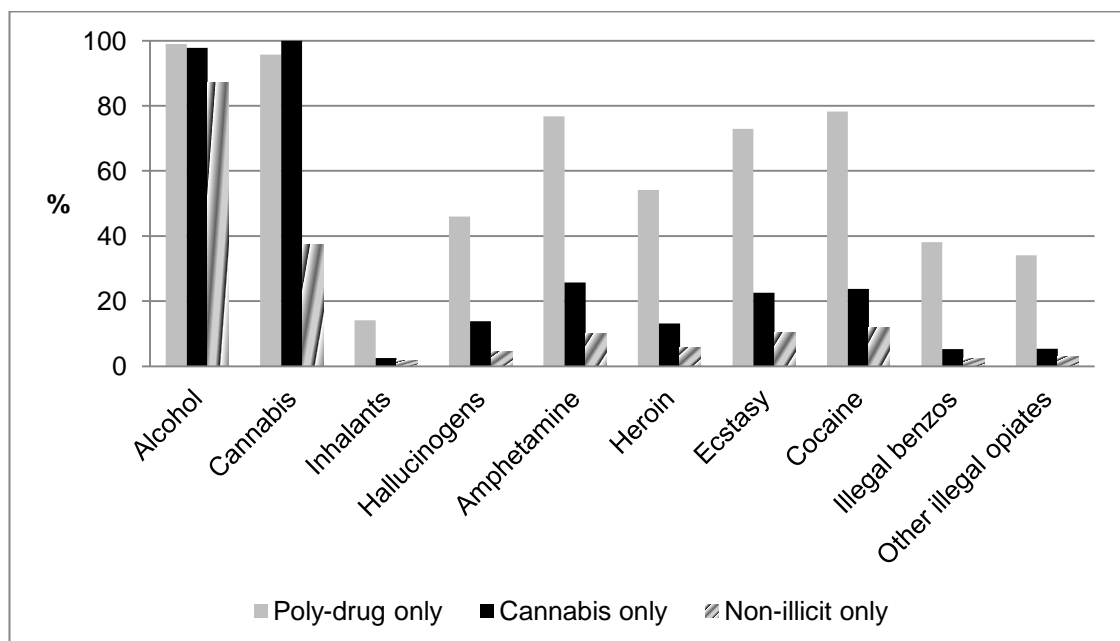
Age of drug use initiation

For each drug user group, average age of initiation of alcohl use was lower than the average age of initiation for any other drug. Overall, other-illicit users were significantly younger when they first used alcohol (F (2, 3268) = 193.217, p<0.001), cannabis (F (2, 2618) = 72.845, p<0.001) and amphetamines (F (2, 1467) = 7.503, p=0.001) than non-illicit and cannabis only users. Ages of initiation by drug user group for each drug category covered in this study is presented in Figure 3.6.

Figure 3.6   Mean age of drug initiation by drug-user group
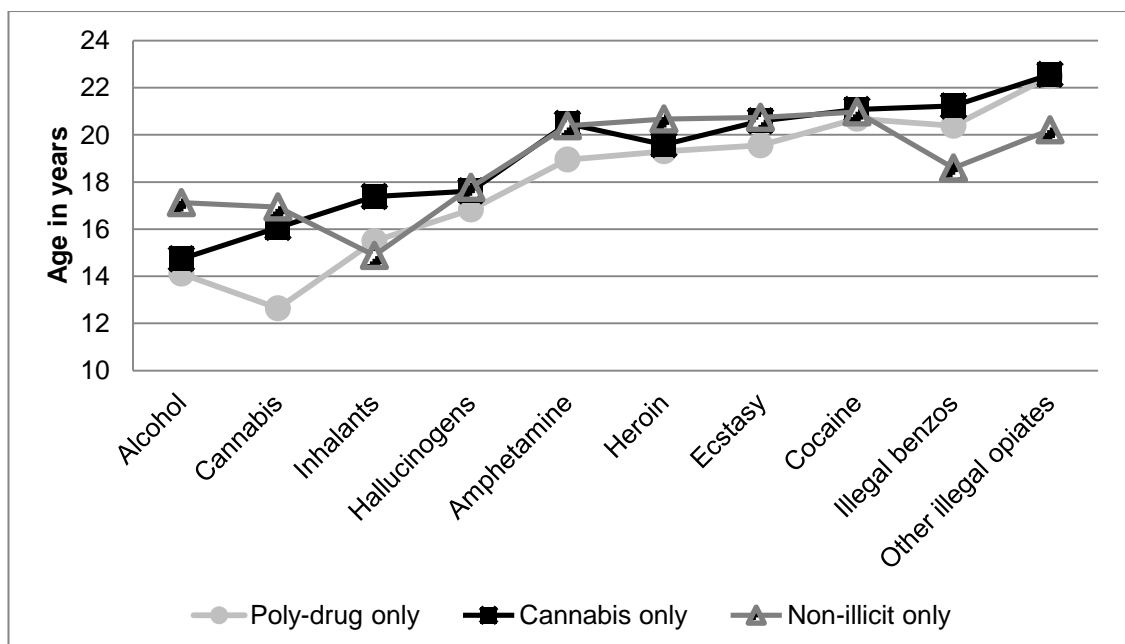
Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

3.5.4   Recent drug use by drug-user group

Given the basis on which the three drug-user groups were composed, a comparison of recent drug use between groups is almost redundant as alcohol is the only common drug used by each of the three groups, while cannabis is an additional drug used by the cannabis-only and other-illicit users. This section will therefore compare days of alcohol and cannabis use in the past month and the proportion of participants who have used each in the 48 hours prior to interview. Days of drug use in the past month for the remaining drugs/use in the past 48 hours will then be described in brief for the other-illicit using group.

Comparing past month alcohol use between drug-user groups

Other-illicit users were significantly more likely to be using alcohol on more days in the past month (median = 5) than non-illicit drug users (median = 4) and cannabis-only users (median = 3) (Mean Ranks 321.44, 288.71 and 272.64 respectively, *H* (corrected for ties) = 8.183, *df* = 2, p=0.014).

Comparing past cannabis use between drug-user groups

Other-illicit users were also significantly more likely to be using cannabis on more days in the past month (median = 15 days) than cannabis-only users (median = 6 days), *U* = 193412.00, *z* = -5.817 (corrected for ties), p<0.001. A higher proportion of other-illicit had used cannabis in the 48 hours prior to arrest (62.4%) compared to 47.3% of cannabis-only users.

Recent drug use among other-illicit drug user-groups

Among other-illicit users who had ever used each of the drug categories, over two-thirds of participants reported using amphetamines (68.0%) and illegal benzodiazepines (67.3%) in the past 12 months. Inhalants (21.9%) and hallucinogens (13.0%) were the least likely drugs to have been consumed in the past 12 months by other-illicit users (see Table 3.9).

Cannabis (median = 15) and heroin (median = 12) were the most frequently used drugs in the past month, with higher proportions of participants who had used these drugs in the past month also using in the 48 hours prior to arrest (cannabis 62.4% and heroin 53.3%).

Table 3.9   Recent drug use by the other-illicit drug-user group

	Used in the past 12 months % (n)	Median days use in the past month (range)	Used in the past 48 hours % (n)
Cannabis	77.6 (1,130)	15 (1-30)	62.4 (679)
Inhalants	21.9 (46)	2 (1-30)	27.0 (10)
Hallucinogens	13.0 (79)	1 (1-30)	10.2 (5)
Amphetamines	68.0 (794)	3 (1-30)	28.8 (208)
Heroin	61.3 (505)	12 (1-30)	53.3 (247)
Ecstasy	49.9 (552)	2 (1-30)	12.9 (126)
Cocaine	58.6 (697)	2 (1-30)	24.0 (145)
Illegal benzodiazepines	67.3 (389)	4 (1-30)	37.3 (126)
Other illegal opiates	54.7 (280)	4 (1-30)	30.9 (80)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

3.5.4   Offending history by drug-user group

Age of first arrest

Other-illicit users and cannabis-only users (median age = 16 years) were significantly younger than non-illicit drug users (median = 21 years) when they were first arrested, whether or not they had been charged (Mean Ranks 1215.95, 1279.50 and 1945.84 respectively), *H* (corrected for ties) = 481.98, *df* = 2, p<0.001).

3.5.5   Recent offending by drug-user group

Reasons for current arrest – breaches of orders and warrants served

As mentioned previously in Section 3.4.5 participants were arrested for a number of reasons; however, the most common reasons for arrest across all drug-user groups was an existing warrant being served and the breaching of bail (see Table 3.10).

A number of significant differences exist for reasons of first arrest between the groups.   Non-illicit drug users were less likely to have been arrested for

breaching bail (x^2 (2) = 24.99, p<0.001), breaching parole (x^2 (2) = 12.86, p=0.002) and having received a warrant for arrest (x^2 (2) = 17.94, p<0.001). Other-illicit users were more likely to have been arrested for breaching a drug court order program (x^2 (2) = 21.25, p<0.001).

Table 3.10   Reasons for current arrest by drug-user group – breach of orders and warrants

	Other-illicit	Cannabis-only	Non-illicit
	(n=1,523)	(n=647)	(n=1,400)
	% (n)	% (n)	% (n)
Breach periodic detention	0.2 (3)	0.3 (2)	0.1 (1)
Breach bail	13.1 (199)	12.4 (80)	7.6 (106)
Breach drug court program	1.2 (18)	0	0.1 (1)
Breach restraining order	4.7 (72)	6.6 (43)	7.0 (98)
Breach release on own recognisance	1.2 (18)	1.4 (9)	0.7 (10)
Warrant	18.3 (278)	15.6 (10)	12.6 (176)
Breach probation	0.2 (3)	0.5 (3)	0.1 (1)
Breach parole	2.3 (35)	1.2 (8)	0.7 (10)
Breach community service order (CSO)	0.2 (3)	0.9 (8)	0.3 (4)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Current charges

Participants within the other-illicit drug user group were currently facing the highest number of current charges (M: 2.01, SD: 1.73), followed by the cannabis-only users (M: 1.83, SD: 1.57). The non-illicit drug user group were facing the least number of current charges (M: 1.66, SD: 1.52). A statistically significant difference was present among the groups (F (2, 3567) = 17.018, p<0.001).

A violent offence remained the current most serious first charge among the majority of cannabis only and non-illicit drug users, while a property offence was the most serious first charge for the majority of other-illicit drug users (see Table

3.11). Significant differences between groups were found for violent, property, drug and traffic offences and drink driving charges (x^2 (14) = 244.02, p<0.001).

Table 3.11 **Most serious current and past charge committed by drug-user group**

	Non-illicit (n=1,270) % (n)		Cannabis-only (n=611) % (n)		Other illicit (n=1,465) % (n)	
	Current	Past	Current	Past	Current	Past
Violent offences	33.5 (425)	31.8 (114)	28.3 (173)	32.4 (91)	22.6 (331)	24.4 (183)
Property offences	16.3 (207)	18.7 (67)	17.2 (105)	23.1 (65)	24.4 (357)	34.2 (257)
Drug offences	2.8 (35)	3.6 (13)	10.5 (64)	6.4 (18)	15.5 (227)	10.3 (77)
Drink driving	10.2 (129)	5.6 (20)	3.8 (23)	2.5 (7)	3.2 (47)	2.5 (19)
Traffic offences	7.3 (93)	18.4 (66)	8.2 (50)	14.9 (42)	5.0 (73)	12.8 (96)
Disorder	9.4 (120)	8.9 (32)	8.0 (49)	9.6 (27)	8.5 (124)	7.6 (57)
Breaches	13.0 (165)	7.8 (28)	14.6 (89)	7.5 (21)	13.9 (102)	4.4 (33)
Other offences	7.6 (96)	5.0 (18)	9.5 (58)	3.6 (10)	7.0 (102)	3.9 (29)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

Recent charges

Compared to cannabis-only (49.0%) and non-illicit drug users (28.9%), other-illicit users (60.0%) were more likely to have received at least one charge in the past 12 months. The number of charges received in the past 12 months differed significantly between all three drug-user groups (F (2, 1403) = 3.884, p=0.021). Similar to the participant's current charges, those in the other-illicit drug user group received the highest number of charges in the past 12 months

(M: 4.21, SD: 5.87), followed by cannabis-only (M: 3.65, SD: 5.20) and non-illicit drug users (M: 3.21, SD: 5.85).

Recent incarceration

A significant difference existed between the drug-user groups and recent prison history. A higher proportion of other-illicit users (24.1%) had spent time in prison in the past 12 months compared to cannabis-only users (18.9%) and non-illicit drug users (16.9%), x^2 (2) = 108.01, p<0.001.

Income received from crime in the past month

Non-illicit drug users were significantly less likely to report any income received from crime in the past 30 days, while a higher proportion of other-illicit users reported all or most of their income came from crime (x^2 (4) = 317.689, p<0.001).

3.6 Results Part Three: Predictors of recent offending

To investigate the relationship between "the number of charges received in the past 12 months" by NSW police detainees and a number of explanatory variables and determine whether such variables and their relationship differed among non-illicit, cannabis-only and other-illicit using participants and between age groups ($\leq$ 25 years and $\geq$ 26 years), fixed negative binomial regression models were conducted.

3.6.1 Data analysis

Poisson regression models (a variety of Generalised Linear Models (GLM)) are often chosen to describe the relationship between a set of independent variables and the expected count of a dependent variable. However, when using a crime count variable, it is often the case that the data is heavily skewed to the right in addition to it being a discrete event. In such instances, the use of Poisson regression is no longer appropriate, given that this generally results in a violation of the assumption that the mean and standard deviation are equal, signalling over-dispersion of the data. Negative binomial regression is often chosen to account for over-dispersion (Berk and MacDonald, 2008; Osgood, 2000).

Prior to the current regression analyses, an examination of the mean number of charges received in the past 12 months (including those who received no charges) between participants in each drug-user group and age group was conducted. Among the drug-user groups, other-illicit users reported the highest mean (M: 2.56, SD: 5.02) — 63 was the highest number of charges received by any participant in that group. The non-illicit drug-using group reported the lowest mean (M: 0.63, SD: 3.47) — 69 was the highest number of charges received by a participant in this group. Cannabis-only users had been charged a mean of 1.81 times (SD: 4.09) in the past 12 months. Participants aged $\leq$ 25

years old reported a higher mean number of charges (M: 2.42, SD: 5.35) than participants aged ≥ 26 years (M: 1.24, SD: 3.23).

Initially for the purposes of the current analysis, a standard Poisson regression model was run to determine if over-dispersion (as determined by examining the values of the Deviance and Pearson residuals and df) was present within the data. After finding that over-dispersion existed, an over-dispersed Poisson model and the negative binomial model were subsequently run to ensure the model with the best fit was chosen for the analysis. A fixed-effects negative binomial regression model was selected as most appropriate for the current analysis.

In the current study, a model containing the overall sample was run to determine which predictors significantly contributed to the number of charges received by NSW police detainees as a whole. Each drug-user and age-group was then modelled separately because the number of charges received differed significantly between each group (as described above). Each model contained identical demographic variables, while the cannabis-only and other-illicit using groups contained an extra drug use variable "days of cannabis use in the past month" which was not applicable to the non-illicit drug user group. Explanatory variables included in the models were chosen as a result of past literature, availability of data within the DUMA dataset and the exclusion of variables that contained a large number of missing data and/or non-responses. Full model details and results of the regression analyses are presented.

3.6.2 Predictors of the number of charges received in the past 12 months among police detainees

Within the first regression model, five explanatory variables were found to significantly affect the number of charges received by participants in the past 12 months, assuming the other variables in the model are fixed (Table 3.12). Of the demographic variables, gender was not found to be a significant predictor of the number of charges received in the past 12 months within the current

sample, while age of the participant, employment status and a prior diagnosis of a mental health disorder were significant predictors. The negative parameter estimate (*B*) for age indicates that the predicted value of the dependent variable (number of charges) decreases as the participant's age increases. Similarly, current employment, when compared to non-employment in paid work, predicted a lower number of charges received in the past 12 months. The effect of a mental health diagnosis increased the expected count of the dependent variable.

The lifetime use of cannabis, heroin, illegal benzodiazepines and other illegal opiates were associated with an increase in the expected number of charges received in the past 12 months, while cocaine, amphetamines and ecstasy were associated with a decrease in the expected number of charges. None of the drug use explanatory variables, however, were found to affect the count of the dependent variable significantly.

Two further explanatory variables, income received from crime in the past month and age of first arrest significantly affected the predicted count of the dependent variable. The positive parameter estimate associated with receiving income from crime indicated a higher than expected predicted value of the number of charges, while age of first arrest was associated with a lower than expected predicted value of the dependent variable.

Table 3.12　　　　　**Negative binomial regression model used to predict the number of charges received in the past 12 months by NSW police detainees**

Explanatory variables	*B*	SE	Exp (b)
Demographic			
Male	0.260	0.239	1.296
Age	-0.014*	0.006	0.986
Employed	-0.234*	0.107	0.791
Mental health diagnosis	0.487**	0.108	1.628
Drug use			
Past 12 months			
No. drugs used	0.068	0.055	1.070
Ever used			
Cannabis use	0.142	0.166	1.153
Cocaine	-0.066	0.147	0.936
Amphetamines	-0.114	0.148	0.893
Ecstasy	-0.225	0.133	0.798
Heroin	0.071	0.165	1.073
Illegal benzodiazepines	0.261	0.155	1.298
Other illegal opiates	0.151	0.191	1.163
Drug user group			
Other-illicit user (reference)			
Non-illicit user	0.258	0.195	1.295
Cannabis-only user	0.108	0.165	1.114
Crime			
Age of first arrest	-0.046**	0.008	0.955
Past month			
Income from crime	0.650**	0.135	1.195

*$p < 0.05$, **$p < 0.001$

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

3.6.3 Predictors of the number of charges received in the past 12 months among police detainee: comparing drug user groups

Three additional fixed negative binomial regression models were run to ascertain which explanatory variables significantly contributed to the number of charges received in the past 12 months by other-illicit, cannabis-only and non-illicit, defined by their use of drugs in the past 12 months (Table 3.13).

Among the other-illicit user group, four explanatory variables contained within the model significantly affected the number of charges received, assuming all other variables in the model are fixed. The effect of having received income from crime in the past month and being unemployed was associated with an increase in the expected number of charges, while having ever used ecstasy was associated with a decrease in the expected number of charges. An increasing age of first arrest was associated with a decrease in the number of expected charges. Although not significant contributors to the model, compared to the original regression, among other-illicit users a mental health diagnosis, having ever used cannabis and ecstasy were found to decrease the expected number of charges.

Among the cannabis-only group, two explanatory variables significantly affected the number of charges received, assuming all other variables in the model are fixed. The effect of having been diagnosed with a mental health problem and using cannabis on more days in the past month was to increase the expected number of charges received in the past 12 months. Again, although not significant contributors to the model, being male and having ever used cocaine and ecstasy increased the number of expected charges received in the past 12 months among cannabis-only drug users, while having ever used amphetamines decreased the number of expected charges.

Among non-illicit drug users, five explanatory variables contained within the model were found to significantly affect the number of charges received in the

past 12 months, assuming all other variables in the model are fixed. Lifetime use of illegal benzodiazepines and a mental health diagnosis significantly increased the expected number of charges received in the past 12 months, while age, lifetime use of other illegal opiates and an older age of first arrest significantly reduced the expected number of charges, compared to their respective reference categories. Although not significant contributors to the model, among non-illicit drug users, having ever used cocaine, heroin and illegal benzodiazepines decreased the expected number of charges received in the past 12 months.

Table 3.13   Negative binomial regression model used to predict the number of charges received in the past 12 months among NSW police detainees by drug-user group

Explanatory variables	Other-illicit users			Cannabis-only users			Non-illicit users		
	B	SE	Exp (b)	*B*	SE	Exp (b)	*B*	SE	Exp (b)
Demographic									
Male	0.134	0.213	1.143	-0.417	0.425	0.659	0.429	0.255	1.536
Age	-0.011	0.012	0.989	-0.030	0.016	0.970	-0.027**	0.011	0.973
Employed	-0.343**	0.168	0.710	-0.338	0.255	0.713	-0.325	0.193	0.723
Mental health diagnosis	-0.304	0.165	0.738	1.124*	0.246	3.077	1.048*	0.214	2.851
Drug use									
Past 12 months									
No. drugs used	0.109	0.063	1.115	-	-	-	-	-	-
Ever used									
Cannabis	-0.611	0.425	0.543	-	-	-	0.254	0.227	1.289
Cocaine	-0.255	0.213	0.775	0.308	0.358	1.360	0.085	0.360	1.089
Amphetamines	0.019	0.199	1.019	-0.244	0.420	0.783	-0.587	0.397	0.556
Ecstasy	-0.436**	0.181	0.653	0.461	0.334	1.585	-0.682	0.367	0.506
Heroin	0.219	0.213	1.244	-0.775	0.569	0.461	0.393	0.424	1.481
Illegal benzodiazepine	0.257	0.175	1.293	-0.823	1.375	0.439	1.508**	0.606	4.517
Other illegal opiates	0.107	0.207	1.113	-0.145	1.278	0.865	-2.736**	1.321	0.065

Explanatory variables	Other-illicit users			Cannabis-only users			Non-illicit users		
	B	SE	Exp (b)	*B*	SE	Exp (b)	*B*	SE	Exp (b)
Past month									
Days of alcohol use	0.012	0.094	1.012	-0.005	0.016	0.995	-0.002	0.015	0.998
Days of cannabis use	-0.004	0.007	0.996	0.025**	0.010	1.026	-	-	-
Crime									
Age of first arrest	-0.038**	0.015	0.962	-0.038	0.025	0.963	-0.034**	0.013	0.967
Past month									
Income from crime	0.518**	0.172	1.679	0.600	0.364	1.822	0.483	0.367	1.621

[*]p<0.001, [**]p<0.05

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

3.6.4 Predictors of the number of charges received in the past 12 months among police detainees: comparing age groups

Two additional fixed negative binomial regression models were run to compare which explanatory variables significantly contributed to the number of charges received in the past 12 months for participants aged ≤ 25 years and ≥ 26 years old (Table 3.14).

Among the ≤ 25 year group, five explanatory variables contained within the model significantly affected the number of charges received, assuming all other variables in the model are fixed. Being a male, having a mental health diagnosis, lifetime cannabis use, a younger age of first arrest and having received income from come increased the expected number of charges received in the past 12 months. Although not significant contributors to the model, compared to the original regression, among those aged ≤ 25 years, having ever used other illegal opiates decreased the expected count of charges received in the past 12 months.

Among the ≥ 26 year group, two explanatory variables contained within the model significantly affected the number of charges received, assuming all other variables in the model are fixed. Being employed decreased the expected number of charges received in the past 12 months, while using a larger number of illicit drugs in the past 12 months increased the expected count of the number of charges received in the past 12 months. Again, although not significant contributors to the model, compared to the original regression, having used cocaine and ecstasy increased the expected number of charges, while lifetime use of illegal benzodiazepines and other illegal opiates decreased the expected number of charges received in the past 12 months.

Table 3.14   Negative binomial regression model used to predict the number of charges received in the past 12 months by NSW police detainees by age group

Explanatory variables	Aged 25 years and younger			Aged 26 years and older		
	B	SE	Exp (b)	*B*	SE	Exp (b)
Demographic						
Male	0.495**	0.220	1.641	0.055	0.285	1.057
Age	-0.032	0.038	0.969	-0.010	0.016	1.505
Employed	0.047	0.176	1.048	-0.496**	0.231	0.609
Mental health diagnosis	0.771*	0.181	2.162	0.319	0.232	1.376
Drug use						
Past 12 months						
No. drugs used	0.034	0.098	1.034	0.210**	0.102	1.234
Ever used						
Cannabis use	0.540**	0.254	1.717	0.125	0.373	1.133
Cocaine	-0.278	0.220	0.757	0.138	0.330	1.148
Amphetamines	-0.177	0.246	0.838	-0.521	0.331	0.594
Ecstasy	-0.306	0.200	0.736	0.148	0.312	1.160
Heroin	0.330	0.293	1.391	0.343	0.334	1.409
Illegal benzodiazepine	0.487	0.269	1.628	-0.230	0.350	0.795
Other illegal opiates	-0.368	0.388	0.692	-0.030	0.356	0.970
Drug user group						
Other-illicit user (reference)	-0.343	0.252	0.710	0.409	0.441	1.505
Cannabis only user	-0.118	0.291	0.889	-0.075	0.456	0.927
Non-illicit user						
Crime						
Age of first arrest	-0.165*	0.029	0.848	0.001	0.015	1.001
Past month						
No income from crime (reference)						
Income from crime (some or half)	0.844**	0.332	2.336	0.643	0.338	1.903
Income from crime (all or most)	0.641**	0.211	1.898	0.524	0.558	1.690

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

*p<0.001, **p<0.05

3.7 Discussion

In relation to involvement in criminal activity, previous research has shown that drug users are not a homogenous group; and therefore, attempting to generalise criminal behaviour across all ages and drug-user groups is far from appropriate (White and Gorman, 2000). In an attempt to recognise heterogeneity that might exist due to age, the current study used existing data collected as part of the on-going DUMA program to compare differences in drug use and offending by age group ($\leq$ 25 years and $\geq$ 26 years) and drug-user group (other-illicit, cannabis only and non-illicit drug users). The study also aimed to determine which explanatory variables significantly contributed to the number of criminal charges received over a 12 month period among NSW police detainees, as a whole and by age and drug-user group.

Drug use patterns and associated behaviours among police detainees have been routinely surveyed in Australia since 1999, the inception of the DUMA program. The DUMA program provides a unique opportunity to uncover important drug use and health information about a section of the community that are frequently forgotten — adults and young people who come into contact with the criminal justice system.

A total of 3,570 DUMA participants were included in the current study. Consistent with other research samples of offenders, the overwhelming majority of participants within the current sample were male (82.4%), with an average age of 29.73 years. Participants identified as being of predominantly Australian and Aboriginal ethnicity (37.9%), 61.7% were single and had never been married, while 28.4% reported they were currently living with dependent children. Just under half of the participants were working in paid employment. Participants aged $\leq$ 25 years were less likely to report being socially and financially stable than those in the older group, as indicated by accommodation, employment and marital status variables. Such differences across drug-user groups were less clear; although, other-illicit users did appear slightly less socially and financially stable.

Among the Australian population, cannabis is the most commonly used drug, with 35.4% of participants having ever tried it over their lifetime (AIHW, 2011). This picture is replicated within the DUMA sample; however, a much higher proportion of participants (73.6%) had ever used cannabis. Cocaine (41.3%) was the second most commonly tried drug type among the current sample, while in contrast only 7.3% of the people in the general community had ever tried this drug (AIHW, 2011). Differences in lifetime and recent drug use between offenders and those in the general community has been widely documented within Australian and international literature (Australian Institute of Health and Welfare, 2011a; Indig et al., 2011; Sweeney and Payne, 2012). Participants aged≥ 26 years, perhaps by nature of their age and therefore increased opportunity to have been exposed to and have used a greater range of drugs, were significantly more likely to have tried each of the drug types (with the exception of cannabis and ecstasy) over their lifetime compared to those aged ≤ 25 years.

Overall, heroin was the most frequently used drug in the month (12 days) preceding the current arrest for heroin users; however, was only used by 10.2% of the participants. Cannabis was the second most frequently used drug in the month (10 days) preceding arrest and was used by a much larger portion of the sample (41.1%). Additionally, of those participants who reported only using one drug in the past 12 months, cannabis (76.4%) was found to be that drug; the next highest solo drug used in the previous 12 months was amphetamines, which was used by less than 10% of participants. Regarding differences between age groups, with the exception of alcohol and amphetamines, no differences were found for days of use in the past month among participants aged ≤ 25 years and those aged ≥ 26 years. Such data again highlights issues relating to drug use progression, and as a result, associated risky behaviours and future health problems among the younger group of participants. Among other-illicit users, the two most frequently used drugs in the past month were heroin (12 days in the past month) and cannabis (15 days in the past month). Similarly, among current users of each drug, 62.4% of other-illicit users reported using cannabis in the 48 hours prior to arrest compared to 47.3% of cannabis-only users. Over half of the heroin users reported using heroin in the 48 hours

prior to arrest. Over 70% of participants aged 25 years reported using heroin in the 48 hours prior to arrest, and over 64% reported using cannabis. Extremely high rates of heroin use, particularly recent use, among participants within the sample may be reflective of policing practices. Often heroin users are highly visible on the street, are often known and therefore targeted for arrest; additionally, they often commit more acquisitive crime to finance their drug use and have a tendency to be "clumsier" at offending and consequently easier to apprehend (Bennett, Holloway and Farrington, 2008; Maher et al., 1998).

The most common reason for the participant's current arrest was an outstanding warrant (15.5%). Younger participants were most likely to have been arrested for breaching their bail conditions (indicating prior involvement with the criminal justice system), whereas the older group were more likely to have been currently arrested for a range of reasons including breaching a drug court order and breaching a restraining order. Similarly, the most common reason for current arrest among each drug-user group was due to an existing warrant, followed by a breach of bail.

Among all participants and across participant groups (age and drug-user), violent and property offences were the most common charges faced currently and in the past 12 months. Between the two age groups, no differences existed in the proportion of participants who had committed a current violent offence as their first and most serious charge; however, in the past 12 months a higher proportion of younger participants reported being charged with a violent offence as their most serious charge. Among drug-user groups, non-illicit drug users were less likely to have been charged currently and in the past 12 months with a violent offence as their first/most serious charge when compared to other-illicit and cannabis-only users. Overall, 16.9% of participants had spent time in prison on a sentence in the past 12 months. A higher proportion of other-illicit users reported spending time in prison in the past 12 months, while no differences were found between age groups. Higher rates of imprisonment among the other-illicit drug user group might in part be explained by the presence of multiple illicit drug users. Past research has shown that individuals who use multiple drugs often engage in more frequent offending (and as a

consequence, are more frequently apprehended) as a means of supporting their drug use (Bennett and Holloway, 2005a; Payne and Gaffney, 2012).

The final component of the study involved conducting a number of regression analyses to explain the differences in the number of criminal charges received by NSW police detainees overall and by age and drug-user group in the past 12 months, examining the influence of demographic, drug use and offending variables. Findings indicated that the number of charges received by NSW police detainees was influenced significantly by five explanatory variables, assuming that the other variables remained fixed. Variables that contributed to a lower number of charges in the past 12 months were: older age, employment and lifetime use of amphetamines and cocaine.

The results of this analysis are supported by findings of previous studies. Delinquency and anti-social behaviour tends to commence during adolescence, with the bulk of criminal involvement occurring during a person's teen years. Upon entering adulthood, however, involvement in crime tends to cease and coincide with the attainment of more serious relationships and financial stability via employment (Horney, Osgood and Marshall, 1995; Kazemian, Farrington and Le Blanc, 2009). Similarly, unemployment creates financial strain and can lead to lack of stability with accommodation and relationships. As a result, many crimes, particularly property offences are often financially driven (Bennett, Holloway and Farrington, 2008; Bradford and Payne, 2012; Parker, Bakx and Newcombe, 1988).

Perhaps the most unusual finding of the current study was that lifetime use of amphetamines and cocaine was associated with a lower number of criminal charges in the past year. This finding may be a result of increased experimentation among the participants with this drug, without regular use or in conjunction with other illicit substances. The link between amphetamines and cocaine and violent behaviour, especially when alcohol is involved, however, has been documented in the literature previously (Chermack et al., 2010; Indermaur, 1995).

Variables that contributed to a higher number of charges in the past 12 months included a prior diagnosis of a mental disorder, having received income from crime in the past month and age of first arrest. The prevalence of mental illnesses/disorders among drug-users and those who go on to have contact with the criminal justice system has been previously documented (Indig et al., 2011; Kenny and Nelson, 2008). Financing drug use, particularly dependent use, is expensive. Consequently, poly-drug or frequent drug users are frequent perpetrators of property offences — where items can be sold or traded in for money or drugs (Bradford and Payne, 2012). This finding is consistent with the notion that illicit drug users, particularly dependent users are frequent participators in the drug market. The selling of drugs can be a cost-effective role for users (Brunelle, Brochu and Cosineau, 2000).

When contributors to the number of charges received in the past 12 months were examined by age and drug-use group, a number of differences became apparent. The number of days of cannabis use in the past month was a significant contributor among cannabis-only users, but not among poly-drug users, despite the latter group reporting using cannabis on average every second day. Frequent cannabis use, particularly among young people, has been linked to anti-social and delinquent behaviours, which may precede cannabis use itself, or occur after a pattern of cannabis use has been established (Derzon and Lipsey, 1999). Frequent days of cannabis use may additionally be reflective of cannabis dependence, which in itself is often linked to increased crime to support use. Prior diagnosis of a mental illness was also a significant predictor for the cannabis-only and non-illciit drug user group. Mental health problems have been found to occur more frequently among heavy and dependent cannabis users (Degenhardt et al., 2012; Kuepper et al., 2011; Manrique-Garcia et al., 2012).

Being employed was found to result in a decreased number of charges received by other-illicit drug users. Employment and the association with life stability have been discussed above. Poly-drug users were often found to be unemployed (perhaps due to a chaotic lifestyle, and/or discrimination by employers). Having received an income from crime in the past month was a

significant contributor to the number of charges received. This finding may be indicative of involvement of the sample in drug dealing/selling as a way of making money to support drug use.

Lifetime use of non-prescribed benzodiazepines among the non-illicit drug user group contributed to an increased number of charges received; however, both this finding and that lifetime use of amphetamines decreased the number of charges received by cannabis-only users is slightly unusual and requires further investigation. It is also important to note that this finding may also have simply occurred by chance, as a result of a randomly occurring sample error.

3.7.1 Study Limitations

Limitations exist in every study that is conducted. This section will outline some of the key limitations related to the current study and the processes that were employed to minimise such limitations.

Self-report

The DUMA program relies primarily on self-report to determine drug use and offending by detainees who volunteer to participate in the research. This section will summarise the current debate on self-report, and will highlight the added advantage that the DUMA program carries by collecting urine as a means of increasing validity of the self-report drug use data.

Self-report studies of criminal offending and delinquency were first conducted in the mid-1940s in the US. Nye's (1958) study, which used a 23-item self-report delinquency checklist to examine delinquency and family relationships, is among the earliest (Nye, 1958 cited in Coleman and Moynihan, 1996). Since then, the value of self-report has been increasingly identified (for example, in detecting un-reported criminal behaviour and for collecting information on past events which cannot be measured through routine or administrative data); with self-report becoming a regular feature within research assessing prevalence and patterns of substance use and criminal offending.

Originally, the reliability of self-report measures was confirmed by comparisons to polygraph results, police records and peer reports among other sources. More recently, validation studies more frequently compare self-report findings to bio-chemical sources such as hair, saliva and urine (Katz et al., 1997). Some of the main advantages of including self-report items within surveys are: the ability to collect a wide range of data from various points in time, quickly, and for a low cost. Self-report has also been found to be the most effective way of obtaining information about events that are unattainable from routine administrative and judicial sources. Disadvantages of self-report include inaccuracy of responses due to recall bias, such as memory distortion and confusion about names of substances and the purposeful concealment in fear of adverse consequences or being judged for partaking in stigmatising behaviours (i.e., social desirability) (Darke, 1998; Katz et al., 1997; Mieczkowski et al., 1991; Thornberry and Krohn, 2000; Williams and Nowatzki, 2005; Winters et al., 1990). Self-reported drug use has a high concordance with biochemical measures for more socially accepted drugs such as alcohol and cannabis (Mieczkowski et al., 1991; Williams and Nowatzki, 2005).

Despite a continuous debate questioning reliability and validity, a number of reviews have indicated that self-report is a reliable and valid way of measuring patterns of behaviour. In a literature review of self-reported substance use and criminality among injecting drug users, Darke (1998) concluded that despite the occasional inconsistency between self-report and urine/official records, the validity and reliability of self-report across studies consistently proved to be a satisfactory measure of illicit behaviours. In another overview of the literature, Thornberry and Krohn (2000) came to similar conclusions. Accuracy of self-report has also been found to extend to adolescents (Agnew, 2009; Williams and Nowatzki, 2005; Winters et al., 1990; Yacoubian, 2001). Similar findings have been found among DUMA arrestees, with the majority of those with comparable self-report and urinalysis data reporting their recent drug use accurately. Those who under-reported drug use tended to lead more socially-accepted lifestyles than arrestees who frequently came into contact with the criminal justice system (McGregor and Makkai, 2003). In their critique of the

DUMA and DUCO projects, Makkai and Temple (2008) argue that until advances in measurement and data collection are made within the criminal justice field, determining the behaviour of offenders will remain largely reliant on samples and self-report data.

Sample bias

The most frequently cited limitation of the DUMA program is that those who are interviewed are not a representative sample of all offenders. This is primarily in response to the limited number of sites and the locations of the sites that have been chosen for inclusion in the program, the exclusion criteria for eligibility and the low number of juveniles participating in the research.

The widely acknowledged "dark figure of crime" concept, however, highlights that it would be extremely difficult and virtually impossible to obtain a true representative sample of the target group. The DUMA program is perhaps more representative of the majority of those who come into contact with the criminal justice system than samples of incarcerated offenders given the majority of those who come into contact with the criminal justice system do not go on to spend time in custody.

As a final issue relating to potential sample bias, the anonymity of the DUMA interview and its typical three to four week administration period each quarter leaves open the opportunity for repeat offenders to participate on more than one occasion. In the DUMA interview, participants are asked whether they had previously taken part in the research on a prior occasion, however, when they participated and the number of times they participated is not recorded on the interview. Given that the overall aim of DUMA is to monitor changes in the drug market, drug use among detainees and its impact on offending, repeat offenders taking part in the research on a subsequent occasion will not jeopardise the integrity of the research. Repeat participants will be responding to the interview with new, updated opinions and information on their drug use behaviours and subsequent changes in the drug market. Despite the limitations summarised above, the usefulness of the DUMA program needs to be re-

enforced, particularly within a climate of limited research in the area of drugs and crime in Australia.

3.7.2   Conclusions

Although limited by the type of data routinely collected as part of the NSW DUMA program, this study found a number of differences in drug use and offending between older and younger police detainees and detainees who fall into specific drug-user types. The findings highlight that cannabis remains a prominent drug in the lives of people who come into contact with the criminal justice system, particularly among young people who initiate use, use regularly at a younger age and whose past 12 months use is limited to cannabis. Younger detainees were also more likely to have been arrested at a younger age and be charged with more offences in the past 12 months. Further investigation of the contribution of cannabis on offending is therefore warranted. The following chapter will examine in further detail the role of cannabis use, particularly initiation, in the lives of at-risk young people who also commit crime. The chapter draws on data collected in a prospective follow-up study that focused specifically on cannabis use and crime.

CHAPTER 4: TEMPORAL ORDER OF CANNABIS USE AND CRIME, SOCIAL CONTEXT OF INITIATION

4.1   Introduction

Chapter 3 used an existing data source to examine whether differences in crime and drug use were present among older and younger NSW police detainees and across specific drug-user groups. Such existing, routinely collected data are useful for determining drug trends and corresponding changes in criminal offending. However, the data remain limited in content specific to cannabis use, particularly regarding initiation of cannabis use and criminal offending. Additionally the number of young people recruited and the locations of recruitment of young people are restricted.

This chapter aims to expand on the findings of the previous study by focusing specifically on young people, cannabis use and criminal offending. In particular, the current study aims to determine the temporal order of cannabis use and crime among the sample and attempts to ascertain how the order of involvement impacts on the initiation experience and later drug use and crime outcomes. The chapter will be presented in four parts that correspond to the study aims listed below.

This study aims to:

1. Establish the temporal order of cannabis use and criminal offending and to determine whether differences exist in the trajectory of subsequent drug use and offending between those who first used cannabis prior to offending, those who started offending prior to first cannabis use and those who initiated cannabis use and offending in the same year;

2. Describe a range of motivational, social and environmental aspects of cannabis and crime initiation and to determine if such factors differentiate between the temporal order of initiation to cannabis use and criminal offending; and

3. Determine whether the temporal order of cannabis use and criminal offending contributes to any differences in drug use, crime and mental health issues later in life as measured at the baseline interview.

4.2 Methods

The first half of this thesis established the theoretical context for the research, reviewed the existing literature and presented Study 1. The first study, using data from the well-known DUMA program, has provided a founding point for the second half of the thesis, where the remaining two studies (which represent a two part, sequential mixed-methods design) will narrow the research focus specifically to a number of factors associated with cannabis use among young people who offend.

4.2.1   Mixed methods research

Mixed methods research has become increasingly popular with the wide spread acknowledgement that neither qualitative nor quantitative methodologies on their own can provide all the answers. The combined use of such techniques has the potential to offer an improved and increased scope for understanding research problems (Bergman, 2008; Cresswel and Plano-Clark, 2007). Despite this, there is a lack of clarity and definition surrounding what constitutes mixed methods research. As summarised by Creswell and Plano-Clark (2007), even the name "mixed methods research", although the most commonly used term in recent times (see (Teddlie and Tashakkori, 2003), has been frequently used interchangeably with and as distinct from "multi-methods research", "multi-trait research", "hybrid research", "mixed methodology", "methodological triangulation" and so forth. The use of multiple terms, each of which may be interpreted slightly differently, has added to the confusion as to what is and what is not mixed methods research.

This thesis will use the widely accepted definition of mixed methods research by Teddlie and Tashakkori (2003), as the use of "qualitative and quantitative data collection and analysis techniques either in parallel or sequential phases" (pg. 11). More specifically, the framework of the research design is based on what Creswell et al. (2003) defines as a "sequential explanatory design" where the purpose is "to use qualitative results to assist in explaining and interpreting the

findings of a primary quantitative study" (pg. 227). Within this model, studies are conducted independently, and the first, quantitative study is generally given priority (Morse, 2003).

4.2.2   Study Design

Cohort and longitudinal studies are often viewed as the ideal research designs for determining the sequencing and causal direction of events, and for measuring change over time, particularly at an individual level (Hakim, 2000; Menard and Elliott, 1990). Most research examining the intersection of substance use and offending, however, tends to be cross-sectional in nature, due to practicality, finance and time constraints determined during study creation.

With all studies that require on-going contact with participants, the biggest obstacle is the retention of participants. High attrition can contribute to sample bias, a lack of generalisability and may jeopardise internal and external validity (Robinson et al., 2007). In a paper presenting strategies for successful retention of "hidden" populations such as substance users, Cepeda and Valdez (2010) argue that despite the known difficulties in recruiting and engaging drug-using populations, studies rarely report on ways in which to maintain low attrition rates among longitudinal, community-based research on substance users, despite the methodological value and importance of such information. Longitudinal and follow-up studies have the potential to answer a vast array of research questions relating to different aspects of the participants' life. Examples of longitudinal research that have made significant contributions to the substance use and crime debate include the Cambridge Study in Delinquent Development (1961) (West and Farrington, 1973) and the Christchurch Health and Development Study (1977).

The current study used a cross-sectional study design with a follow-up component to examine a number of factors thought to influence the initial and on-going association between cannabis use and criminal offending among a

sample of at-risk young people. This study design was selected as an appropriate means of measuring the temporal order of initiation to cannabis and crime. It allows for the measurement and documentation of change over time, but keeps within the allocated budget and timeframe of the project. The survey instrument was created to collect a range of data measuring current and retrospective aspects of cannabis use and criminal offending; survey items about current behaviours were re-administered during a follow-up interview.

Participants were interviewed at baseline and if able to be re-contacted, were interviewed again at one follow-up time point, approximately six months later.[4] The primary rationale for choosing a six month follow-up period was to maximise participant retention and accuracy of self-report at follow-up interview with respect to the time allocated and resources available to complete the study (which was unfunded), while still allowing for a substantial period of time to pass so that changes in participant's behaviour had the opportunity to occur. Previous research has shown that higher rates of participant attrition are more likely to occur as the length of non-contact periods with a participant increases (de Vaus, 2001). Shorter and/or more regular follow-up periods are more effective in counteracting under-reporting. For example, in the longitudinal Cambridge Study in Delinquent Development, Farrington (1989) found that only 42% of participants, who previously reported committing at least one of eight offences, reported "ever" doing so by the age of 32. Similarly, higher levels of under-reporting have been found for surveys administered two to three years apart in comparison to those administered only one year later (Elliott and Huizinga, 1989). For the current study, a number of difficulties were anticipated in the recruitment and retention of, the target group prior to commencement. At-risk young people are often characterised by a lack of income security (which impacts on them being able to maintain a mobile phone), high mobility and lack

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[4] *Note: Changes to the follow-up time frame*
The original study protocol intended for participants to be re-interviewed at six months post baseline. A number of difficulties were experienced, however, while trying to re-locate participants for the follow-up interview at the six month time point. As a result, the period for follow-up was extended to up to 12 months for the community recruited sample and up to 15 months for the custody recruited sample. Additional time for follow-up was allocated to the custody sample as further approval was required to be sought from Juvenile Justice New South Wales (JJ NSW) to re-interview participants who had re-entered/remained in custody over the phone on a line that was not recorded.

of a permanent residence, being estranged from family, and often take part in unlawful or delinquent activities that may result in participants "hiding" when attempts are made to find them (Indig et al., 2011; Kenny and Nelson, 2008). All of these factors were taken into account when the follow-up timeframe for the study was selected.

4.2.2   Participants

A purposive, convenience sample of 302 participants was recruited from juvenile detention centres and community youth services across the Greater Sydney Region (Airds, Bankstown, Bondi, Kariong, Lidcombe, Marrickville, Merrylands, Parramatta, St Marys and Surry Hills) and rural NSW (Armidale, Dubbo, Orange, Nowra and Tamworth). Males were intentionally over-sampled (84.1%) within the study to act as a pseudo representation of the number of young males under the supervision of the juvenile justice system on an average day in NSW. Participants were aged between 14 and 21 years (M: 16.95 years, SD: 1.87) and 36.8% identified as being of Aboriginal and/or Torres Strait Islander origin. By comparison, recent data from the Juvenile Justice National Minimum Data Set (JJ NMDS) indicate that on an average day in NSW, males represent 85.1% of the young peopled under supervision of the juvenile justice system, 38.2% identify as being of Aboriginal or Torres Strait Islander origin, and 54.0% of young people under supervision are either 16 or 17 years of age (Australian Institute of Health and Welfare, 2011c; Australian Institute of Health and Welfare, 2012).

4.2.3   Procedure

Ethical and safety considerations

AOD and criminal justice research often involves the direct recruitment of drug users and offenders who form two of the most marginalised and disadvantaged groups in society. Such research can be sensitive in nature and frequently requires participants to disclose behaviours that are often viewed as unacceptable by the general community, so some participants may be reluctant to admit to engaging in them. Research conducted in these fields therefore

poses a number of ethical issues that need to be considered. Key issues, with a specific, more in-depth focus on informed consent, will be discussed below in relation to the current study.

"Guilty knowledge" and the obligation to report

Research questions that ask participants to reveal their history of criminal offending, specifically any undetected crimes they may have committed, exposes the interviewer to potential involvement in criminal proceedings through the obligation to report if enough information about a specific, undetected crime is revealed. "Guilty knowledge" is the term Fetterman (1989) used to express the predicament when a researcher becomes aware of information that is of interest to law enforcement and others involved in criminal offending, yet at the same time needs to maintain rapport and trust with the participant without violating morals and legal reporting requirements. In an attempt to avoid such issues, the current study did not ask for specific details of each crime perpetrated by participants. Interviewers were additionally instructed to warn and stop participants from providing any unnecessary, detailed information about undetected crimes.

Confidentiality

As the current study had a follow-up component, participation was not anonymous. It was therefore of particular importance that the study upheld high levels of confidentiality in regards to participants personal contact information. A numeric code was used to distinguish individual surveys, while no identifying personal information was recorded on the survey itself. Surveys were also only linked to follow-up contact information via the numeric code. All contact details were sealed within envelopes and only opened when the follow-up interview was due. Surveys and contact details were stored securely in separate filing cabinets while all computer files were password protected. Follow-up contact information sheets were destroyed following completion of the follow-up interview or when it was deemed all avenues had been exhausted and the participant was unable to be contacted using the contact information they had provided at the time of the baseline interview.

Voluntary participation

The voluntary nature of research can potentially be jeopardised when research is conducted in institutions such as youth detention centres and prisons. Potential participants may believe they will receive additional benefits from participating and/or co-operating (such as early parole) or may find the monetary incentive enticing given their current financial situation (Maxfield and Babbie, 2005). In the current study, this was overcome by re-stating verbally to the potential participant that participation was voluntary, that it was their independent decision whether or not to take part in the study, and that whatever they decided to do would not affect their relationship with the community youth service, JJ NSW, the National Cannabis Prevention and Information Centre (NCPIC), the National Drug and Alcohol Research Centre (NDARC) or the UNSW. Participants were also made aware that they were free to withdraw from the study at any time. This information was also stated in the information and consent forms for those interviewed in custody and in the community. A copy of these forms can be found in Appendix I.

Recruitment of participants under the age of 18 without parental consent

Obtaining informed consent from each participant is a pre-requisite to conducting ethical research. Conducting research with participants under the age of 18 years is not so straightforward, particularly around the issue of informed consent. The National Statement on Ethical Conduct in Research Involving Humans issued by the Australian Governments National Health and Medical Research Council (NH&MRC) states that:

> there are at present, no clear statutory or common law requirements in Australia about a child or young person's ability to consent to, or refuse, participation in a research project. A child or young person's consent can be given whenever that person or child has sufficient competence to make a decision about participating in the research. Similarly, a child or young person can withdraw, consent or refuse to participate (http://www.nhrmc.gov.au/publications/hrecbook/01_commentary /04.htm).

Within the current research environment it remains relatively difficult to receive ethical approval to recruit and interview people under the age of 16 without additional parental consent. The primary argument is based on the belief that young people do not have the capacity to assess and understand what it means to be involved in research, or the consequences and outcomes and therefore are unable to make an informed, autonomous decision to participate. The rebuttal is that research evidence shows that young people have decision-making capacity and are capable of providing informed consent for minimal-risk research when they reach the age of 14 years, with or without the notion of a mature-minor assessment (Sanci et al., 2004).

Within the medical realm, the notion of "mature-minor" already exists. A set of guidelines were developed by the Medical Practitioners Board of Victoria (2004) that outline a number of important factors that must be taken into account when assessing the maturity and competence of a young person. Such guidelines state that to assess whether a young person is mature and competent to provide their own consent to participate in research, the interviewer must discuss with the potential participant the research aims, what is involved in the study, consequences of involvement in the study, confidentiality (and when this may need to be broken), and that they have the right to withdraw from the study at any time. At the same time, during a general discussion, the interviewer must assess age, general maturity of speech and presentation, level of schooling, and the participant's ability to explain and make judgments about their past involvement with drugs, crime and personal health.

Such guidelines have been used to form the basis of a mature-minor assessment within recent research in the AOD field. For example, the Youth Drug Reporting System Project, conducted in Victoria between 2006 and 2008, was granted ethical approval to recruit and interview participants as young as 12 years of age without the requirement of consent from a parent or guardian, by arguing for, and incorporating the use of a mature-minor screener for each participant between the age of 12 and 15 years. It was argued that the target participant group of "at-risk" young people were already making complex decisions about their lives on a daily basis, negotiating risks such as arrest and

physical injury and were often not in regular contact with their parents or guardians (MacLean et al., 2009). Such research supports the recruitment and involvement of young people in research without the requirement of parental consent.

Therefore, based on the evidence that some young people do have the capacity to make informed decisions about participating in minimal risk research, the statement within the NH&MRC research ethics guidelines that provides the grounds for a mature-minor assessment interpretation; and practices of past research, the current study included a mature-minor screener (See Appendix J) for participants aged 14 and 15 years to ensure that participants were sufficiently competent to understand what the research entailed and were therefore able to provide informed consent. As an additional measure, an information statement containing a description of the research study was sent to the parents/guardians of young people aged 14 and 15 years to inform them of the child's participation in the study and to give them the right to withdraw their child's data and state they did not want the young person participating further in the study. This measure is also known as the provision of "passive consent" by a parent/guardian and is often used within research conducting within schools to enhance classroom participation rates (Fletcher and Hunter, 2003).

Interviewer safety

As identified in Day et al. (2002) those who take part in drug and alcohol research are often considered a "high risk" to interviewer safety because they:

- are often drug dependent (some participants may display a desperation to use drugs and/or be intoxicated and may react in a threatening manner towards the interviewer);
- may lack stable employment and income but have high drug expenditure (aggression and frustration can result if some participants do not fit eligibility criteria and therefore are not eligible to legitimately obtain a monetary reimbursement for participating);
- might be participating in criminal activity (knowledge that an interviewer is carrying monetary reimbursement for study participation

and the interviewer's personal belongings may become a target for opportunistic crime);

- may be suffering from a co-morbid mental health disorder (drug withdrawal and intoxication may enhance psychotic and delusional symptoms that may induce threatening behaviour towards the interviewer); and

- have a higher chance of being positive for an infectious disease (risk of transmission can occur when bodily samples are collected and through needle stick injuries).

To combat safety concerns, while conducting the current study, the following risk prevention measures were adhered to: all interviews were conducted within the grounds of a community youth centre or detention facility with two interviewers present at each site where possible; all interviews were conducted in a space visible to agency/JJ NSW staff; appropriate casual clothing, including closed-in shoes and minimal jewellery was worn; reimbursement vouchers were stored separately within interviewing material to avoid participants seeing multiple vouchers; and if participants became aggressive or violent, participants were given their vouchers and the interviews terminated.

Ethical approval

Prior to the recruitment of participants, ethics approval was obtained from the UNSW HREC (08280), Justice Health Human Research and Ethics Committee (GEN95/09) and the Aboriginal Health and Medical Research Council (AH&MRC) Ethics Committee (691/09). Additional study approval was also received from JJ NSW. Site-specific approvals were received from community recruitment sites prior to commencing interviews. In response to the large number of Aboriginal young people involved in the juvenile justice system, a representative from the AH&MRC and the Aboriginal Drug and Alcohol Network (ADAN) was engaged in the event that any issues specific to Aboriginal and Torres Strait Islander people arose and required advice prior to response from the study's research team.

Baseline interview procedure

Study participants were recruited from two service settings: youth services situated within the community and juvenile detention centres across NSW. The two recruitment locations were chosen to access a diverse group of at-risk young people aged between 14 and 21 years with varying degrees of current or prior contact with the juvenile and criminal justice system. Interviews for the community-recruited sample occurred between the 6th April and the 7th November 2009, while interviews for the custody-recruited sample took place between the 12th January and the 24th February 2010.

Face-to-face interviews were conducted with each participant and took approximately 45 minutes to one hour to administer. JJ NSW and community youth service staff and friends/family members were, when possible, not within earshot of the interviewing site, to maintain reliability and to avoid jeopardising confidentiality of survey responses. It was a requirement, however, that all interviews took place in a location visible to community youth service and JJ NSW staff for the purposes of interviewer security and safety.

The interview was not designed for self-completion and therefore each question in the survey was read aloud to the participant and the response marked on the page by the interviewer. When administering the survey, interviewers were instructed to ensure that each participant's individual characteristics (such as literacy levels and ethnic/cultural background) were taken into account to ensure each participant understood the questions. To assist the participant with the survey, laminated cards with a number of survey responses were provided at each interview (see Appendix K). A pilot version of the interview was trialled with 10 community recruited participants prior to study commencement. Two interviewers (one of which was the author of this thesis) were responsible for administering all baseline and follow-up interviews. Interviewers were trained to ensure consistency in the administration of interviews and collection of data. Following the cessation of each day of interviewing, both interviewers would debrief and discuss any issues and/or questions arising from the interviews.

Eligibility criteria

All potential participants were screened for eligibility prior to participating in the study. Participants were deemed eligible if they were:

- aged between 14 and 21 years;
- willing to provide informed consent (Note: verbal parental consent was required for those aged 14 and 15 years under the supervision of NSW JJ);
- had a current or prior history with the criminal justice system (i.e., had spent time in custody/detention, been placed on community service order, been arrested, been to court, received police warnings and so forth);
- willing to be followed-up at six months and provide some form of follow-up contact information (or provide permission to retrieve contact information from JJ NSW or the community youth service they were attending at the time of the baseline interview).

As explained above, a mature-minor assessment for those aged 14 and 15 years formed part of their eligibility screen.

Participant information and consent

Prior to commencing the survey, all participants were provided with an information statement to read, with key points re-iterated out loud and explained in more detail by the interviewer to ensure that the participant understood that the study was voluntary, the purpose, and what was involved in the study. As described in detail above, extra caution needed to be exercised when screening participants under the age of 16 to ensure they had the capacity to and did understand what their participation involved. See Appendix I for information and consent forms.

The comprehension and consent capacity of the young person was also monitored throughout the survey, if the status or behaviour of the young person changed, there was the option of ending the interview early, by skipping to the last question of the survey and explaining to the participant that the rest of the

survey was not relevant or by asking if they would like to continue at another time. Likewise if the participant was ineligible, they were advised and thanked for their interest in the study. To assist with being declined participation, participants were also told that the survey was quite long, potentially boring and not relevant to their experiences as advised within the interviewer safety protocol written by Day et al. (2002).

Additional consent procedure for those under the care of JJ NSW

Despite the ethical clearance, JJ NSW requested that additional verbal parental consent be obtained for all potential participants aged 14 and 15 years under their supervision. Therefore, prior to commencing the study, the interviewers were required to explain to the young person that it was a requirement of JJ NSW that we seek additional consent from their parent or guardian before determining whether they were eligible to take part in the study. Although there was no requirement by JJ NSW to assess the young person as a mature-minor (as they were receiving additional parental/guardian permission), it was an ethical requirement that we do so. Researchers first needed to follow the process outlined in Appendix J to assess the mature-minor status of the young person. If considered a mature-minor, the researchers then needed to obtain permission and contact details from the young person to call their parent or guardian. A copy of the study information sheet (Appendix I) was then mailed to a parent or guardian of the participant.

Follow-up interview procedure

Follow-up interviews were primarily conducted over the phone. Contact information including the participant's name, address and phone number were collected from each participant at the time of the baseline interview, in addition to the contact details of at least one parent/guardian, friend or family member who would be likely to know where the participant was in six months' time. Participants were encouraged to provide more than one contact person and give permission for interviewers to recontact the community youth service/NSW JJ to assist with locating them at follow-up.

When the follow-up interview was due, all participants were first contacted on the phone number/s they had provided for themselves. If they were unable to be reached using this number/s, their nominated contacts were subsequently called. If contact was again unsuccessful via the phone, a reminder letter was posted and an email sent to those who provided email addresses. A mean of 5.66 attempts were made to contact participants for the follow-up component of the study. Contact attempts included phone calls and reminders sent via email and the post. Follow-up interviews took place between October 2009 and June 2011. A total of 135 participants were re-interviewed, with 19 participants being re-interviewed while in custody.

Participant reimbursement

All participants were reimbursed with a $15 gift voucher to Kmart[5] for their time and out-of-pocket expenses at the end of the baseline interview. Alternate reimbursement, such as $15 vouchers to Big W[2] were issued to participants interviewed at Dubbo Juvenile Justice Centre (as Kmart was not located within the area) and $15 prepaid phone recharge cards were provided to those participants interviewed while in custody but who normally resided in more remote locations within NSW where neither department store was located. If an interview was terminated or was not finished due to safety reasons or at the request of the participant, reimbursement for their time was still provided. A variety of mixed lollies (candies) were also supplied at each interview to keep the participants interested in the survey.

The following sections will describe the recruitment procedures for both locations; supplementary information can be found in the appendices cited in the relevant sections.

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[5] Kmart is a department store that is located at numerous locations across the state. Kmart was selected not only for its wide accessibility but also as participants would not be able to use the voucher to purchase alcohol. Vouchers for this store are valid for two years. Big W is an alternate department store, also widely located across the state.

Recruitment at youth services located within the community

Youth services located within the general community that primarily worked with disadvantaged, at-risk and more vulnerable young people were targeted as potential recruitment sites, in addition to a few more mainstream youth centres. The majority of participants were recruited via services within the greater Sydney region (n=5) and, three services within rural NSW were added to increase the diversity of participants and their behaviours.

Two key websites — the Youth Action and Policy Association (YAPA) (http://www.yapa.org.au/) and the Youth Accommodation Association (YAA) NSW (now known as Yfoundations, http://www.yaa.com.au/) were used in conjunction with a snowball referral technique to identify youth services whose clientele would be most likely to fall into the "at-risk youth" category. Once identified, the manager of each service was contacted directly; if the service was interested in assisting with the study recruitment, a key contact person was nominated to assist with the recruitment of participants.

Given the mobility and transient nature of the young people attending the targeted services, no "set" or regular days were established for interviewing. Rather, the interviewers would either call the service at an agreed time or email one day in advance to let the workers know that they would be attending the service and to check: 1. whether any young people were at the service on that day (at some services, potential participants were required to express an interest in taking part before researchers came out to the service on that particular day); and 2. If any conflicting events/appointments were scheduled for that day (i.e., a visiting general practitioner (GP) or day excursions). Please refer to Appendix L for a list of the participating youth services.

Recruitment at juvenile detention centres

Gaining access to young people and actioning the study within NSW juvenile detention centres was a challenging and lengthy process. Contributing factors (which have been outlined previously) included the sensitive nature of conducting research with young people under the age of 16 years; the illegal nature of activities for which some of the participants had not yet been

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sentenced and the over-representation of Aboriginal and Torres Strait Islander young people within juvenile detention centres. Once all required approvals and ethical clearance had been achieved, the implementation of the study and research timeframe for each centre was co-ordinated by a research psychologist at JJ NSW Head Office.

Recruitment of participants occurred at six of the major justice centres (with the exception of one centre located on the north coast of NSW which was excluded due to staffing issues) across NSW, three of which were located outside of the greater Sydney region. A key contact person within each centre was responsible for generating a list of detainees interested in taking part in the study prior to the interviewers arriving. Interviewers were allocated two to three days at each centre to conduct the required number of interviews. Please refer to Appendix L for specific details of each juvenile justice centre, including numbers of detainees interviewed each day/average daily number of detainees in each centre (including centres where recruitment did not occur).

4.2.4　　Data measures

The survey instrument consisted of quantitative and short response qualitative questions. The survey was entirely self-report and each question was read aloud to the participant by the interviewer. Standardised instruments were included where possible in addition to questions from existing questionnaires. These are described below. Participants interviewed while in custody were asked to recall their experiences of recent/current substance use and offending prior to their current period of incarceration. A copy of the baseline and follow-up instrument can be found in Appendix M and Appendix N, respectively.

Section A:
Demographic information
Socio-demographic information including age, sex, country of birth, Aboriginal and/or Torres Strait Islander status, parental status, usual living arrangements, usual place of accommodation and main source of income were collected using direct or modified items from the Alcohol and Other Drug Treatment Services

National Minimum Data Set (AODTS NMDS) 2008-09 (Australian Institute of Health and Welfare, 2008).

Participants were also asked about their schooling experiences, including whether they had left school and the age that they had left.

Juvenile justice history and access of community located youth services

In this section, participants were asked to specify their recent contact with the juvenile and criminal justice system. For the six months prior to interview, participants were asked to report the number of police warnings and/or cautions they had received, the number of times they had been arrested, and the number of days they had spent in a custodial setting. Participants were also asked to report the total number of days they had spent in custody over their lifetime.

Those interviewed in custody

Participants were asked to report the number of days they had spent in custody during their current episode of incarceration and to specify whether they were currently on remand or had been sentenced.

Section B:

Substance use

This section of the interview gathered detailed information on the participant's use of tobacco, alcohol and illicit substances. Data was collected using a number of modified items compiled from a number of well-known, regularly administered surveys such as the IDRS (Hando et al., 1998) and DUMA (Gaffney et al., 2010).

Participants were first asked to nominate their main drug of choice (or their favourite) from the following list: tobacco, alcohol, cannabis, heroin, other opioids/opiates, inhalants, hallucinogens, cocaine, ecstasy, amphetamines and methamphetamines.

For each substance listed above, participants were then asked to specify:

- if they had ever tried the substance;

- the age of first use;
- the age they began using the substance at least three times a week (i.e., regular use); and
- the number of days of use in the past month.

If participants had ever injected any drug, they were asked to indicate when this last occurred from a set of responses: in the last three months, more than three but less than 12 months ago and more than 12 months ago. This item was taken from the AODTS NMDS 2008-09 (Australian Institute of Health and Welfare, 2008).

Section C:

Cannabis specific

The first half of this section was designed to elicit detailed information on the environmental context where first cannabis use occurred and the motivations behind such use. The second half focuses on obtaining information for recent use. Recent use was defined as use in the six months prior to interview or six months prior to custody for those interviewed while incarcerated.

Cannabis initiation

Participants were asked to recall specific details about the context of their first cannabis use including: where they first used cannabis, whom they first used cannabis with, whom they got their first cannabis from and how they paid for their first cannabis. Response categories for these items were adapted from the NDSHS 2007 questionnaire (Australian Institute of Health and Welfare, 2008) and Australian Secondary Students' Alcohol and Drugs (ASSAD) Survey 2005 (White and Hayman, 2006). Please refer to the survey instrument (Appendix M and Appendix N) for specific questions and response categories.

To further assist in determining the influence of friends and family on first cannabis use, participants were asked: whether they had tried cannabis the first time they saw someone else use it, and why or why not; whether they were the first among their peer group to cannabis; and whether they actively sought out someone they knew who used cannabis so they could try it for the first time.

Participants were asked to select all of the motivating factors that they felt contributed to their first cannabis use from a list of responses. The response list of motivations for cannabis use was adapted from the Marijuana Motives Measure (MMM) (Simons et al., 1998) — a 25 item scale assessing motives in the dimensions of enhancement (e.g., to get high and the positive effects of cannabis), coping (e.g., dealing with negative emotions), social (e.g., facilitation of socialisation), conformity (e.g., group association) and expansion (e.g. perceptual enhancement). Additional items (experimentation, activity enhancement, rebellion and relaxation) were elicited from a qualitative study on young people's reasons for using cannabis and added to the motives from the MMM (Lee et al., 2007; Simons et al., 1998). Participants were also asked to rank the top three reasons for initial and regular cannabis use.

Participants were asked to rate their first cannabis experience as positive, neutral or negative and how confident they felt about remembering the details of their first cannabis use on a Likert scale ranging from 0 (not at all confident) to 10 (very confident).

Recent cannabis use

To examine the environmental context and motivations of cannabis use in the past six months, participants were re-administered items (which asked them to specify their location of use, whose company they were in when they used, whom they obtained their cannabis from, how they paid for it) from the cannabis initiation section as outlined above. Items were re-phrased to now read "How much of the time in the past six months..." rather than in reference to the participant's first cannabis use. Ordinal response scales ranging from "none of the time" to "all of the time" were used to rate the participant's agreement with the specified response category.

The Severity of Dependence Scale (SDS) (Gossop et al., 1997) was used to assess the participant's psychological dependence on cannabis. The scale is comprised of five items used to examine how the participant has been thinking and feeling about their own cannabis in the three months prior to interview. The SDS has been found to be a reliable and valid measure of adolescent cannabis

dependence, with a cut-off score of four indicative of dependence (Martin et al., 2006).

Substance use among family and friends

To further assess the participant's immediate environmental influence on their use of cannabis and other illicit drugs, a range of items were developed to identify parental/guardian and friends use of illicit drugs, including whether they thought they lived with someone who used drugs and if they had recently used illicit drugs in front of younger siblings or their own children.

Section D:

Criminal activity

This section was designed to capture a snapshot of the participant's criminal offending history, including contextual and motivational details of their first offence and recent offending (in the six months prior to interview or custody); and whether any family and/or friends have previously been involved with the criminal justice system.

Offending history

This component of the survey was based on items from the NSW Young Offender Survey (Salmelainen, 1995) and was expanded to gather additional information on first and regular offending.

For each of the five major crime categories (drug-related, property, fraud, violence and traffic-related), participants were asked to specify:

- if they had ever committed the offence;
- the age they committed the offence;
- the types of substances they were using at the time of the offence;
- the age of first arrest for the offence;
- the age of regular offending of the offence;
- their definition of regular offending for the offence;

- the number of times the offence was committed in the six months prior to interview;

- the types of substances used at the time of offences committed in the six months prior to interview; and

- the number of days the offence was committed in the past month.

First offence

Details of the participant's first offence (i.e., the type, age, arrest history and whether the participant had used drugs or alcohol at the time) were captured in the previous subsection. Without obtaining specific details about past offending, the following items were included to further understand the context of the participant's first offence including: the relationship to the person with whom they committed their first crime and outcome of their first arrest.

Participants were also asked to recall their motivations for committing their first criminal offence. Response categories for this question were compiled from items within the IDRS survey (Hando et al., 1998) and the NSW Young Offenders Survey (Salmelainen, 1995). Further data items asked participants to rate how they felt after they had committed their first offence (positive, neutral or negative). Please refer to Appendix M and Appendix N for a full copy of the survey instrument including specific questions and response categories.

Recent offending

To examine the environmental context and motivations for offending in the past six months, participants were re-administered items (which asked them to specify the company they were in when they committed recent offences and their motivations for committing recent offences) from the crime initiation section as outline above. Similar to the cannabis use section, items for this section were re-phrased to now read "How much of the time in the past six months...". Ordinal response scales ranging from "none of the time" to "all of the time" were used to measure the participant's agreement with each of the response categories listed. Again the response categories were compiled from the IDRS (Hando et al., 1998) and NSW Young Offenders Survey (Salmelainen, 1995).

Criminal offending among family and friends

The last questions within the crime section, were included to further understand the influence of the participants immediate environment on their criminal offending and anti-social behaviour through exposure of friends and family to the criminal justice system and processes (i.e., ever arrested, ever been to prison).

Section E:

Health and treatment experiences/exposure to cannabis-related health information

Health

Items taken from the IDRS (Hando et al., 1998), the Medical Outcomes Study (MOS), 36 Item Short Form Health Survey (SF-36) (Brazier et al., 1992) and Youth Drug Reporting System (YDRS) (MacLean et al., 2009) were included to assess physical and mental health and participant's access to health services in the past six months. Items included: whether the participant had visited a health professional in the past six months, the participant's perception of their physical health, and whether the participant had been diagnosed with a mental illness.

The Kessler 6 (K6) (Furukawa et al., 2003; Kessler et al., 2002) assessed the participant's level of psychological distress in the 30 days prior to interview. The K6, a short form version of the Kessler 10 (K10), has been found to have good psychometric properties including excellent internal consistency and reliability (Furukawa et al., 2003; Kessler et al., 2002; Swartz and Lurigio, 2006).

Treatment experiences

Participants were asked to report whether they thought they or others had thought that they had a problem with, and needed treatment for their cannabis use.

Using an item adapted from the YDRS (MacLean et al., 2009), participants were asked to report their lifetime and recent attendance at a variety of AOD

treatment types (detoxification/withdrawal management, residential rehabilitation, AOD day programs, counselling – in community or detention, support groups such as Alcoholics Anonymous (AA), methadone/buprenorphine or visiting a doctor) and to indicate which substances they had sought help or treatment for over their lifetime and in the past six months.

4.2.5 Data analysis techniques

Prior to analysis, data was screened for outliers, missing data and distribution normality (using Kolmogorov-Smirnov tests) where appropriate. Pearson chi-square (x^2) tests followed by an examination of standardised residuals were used to compare categorical data while Mann-Whitney U and Kruskall-Wallis tests were used to compare non-normally distributed data. The Wilcoxon Signed Rand test determined whether changes occurred over time among paired samples. To account for any significant effects based on chance alone, a more conservative p-value of 0.01 has been chosen to avoid claiming statistically significant differences when no such differences exist.

A number of Cox regression survival analysis models were conducted to compare temporal order groups on survival time between cannabis initiation and the initiation of a range of other illicit drugs, between initiation and regular use of a range of illicit drugs, between property crime and violent crime, between property crime initiation and regular property crime, and between violent crime initiation and regular violent crime incorporating censored data and adjusting for age as a potential confounder. The presence of age differences between temporal order groups is documented in Section 4.3.1. An additional life year was added to the age of regular drug use to ensure that regular drug use had occurred by the stated age and to account for regular drug use that potentially occurred within the same year as initiation (Payne, 2006). Hazard ratio's (HR) were interpreted to determine whether differences in time to event existed between temporal order groups.

Survival analysis is a collection of statistical methods that includes Cox regression, used to analyse the time to an event. When an event occurs it is typically referred to as a failure, while time before the event is termed the survival time. Although simpler descriptive analyses can be performed to calculate time between events, such analyses are unable to take into account the censored data. Censoring occurs when the exact time of an event is unknown. The inclusion of censored data allows for a more realistic survival time estimate to be calculated. Within the current study for example, censored data existed as a result of an event (such as not initiating a drug) not occurring within the observation period (i.e., years since birth). Other reasons include loss to follow-up and withdrawal from a study prior to the conclusion of the study (Chan, 2004; Kleinbaum and Klein, 2005; Payne, 2006). All statistical analyses were performed using PASW Statistics 18 for Windows (PASW, 2009).

The results of the current study are presented in four parts, following a description of the socio-demographics, lifetime drug use and offending behaviours of the sample. The first section examines the difference in drug use and crime progression based on the temporal ordering of cannabis use and crime. The second section builds on these findings by going back to the experience of first cannabis use and first criminal offence to determine if the difference in the temporal ordering of cannabis use and crime can be attributed to by some aspects of social, motivation and environmental aspects of the initiation experience. The third section attempts to determine whether the temporal ordering of cannabis use and crime affects participants later in life by examining differences in current drug use, offending and health measures. A discussion of the findings is presented at the end of each results section, with an overall summary of results appearing at the end of the chapter.

4.2.6 The temporal order of cannabis use and crime

The temporal ordering of drug use and crime has been a point of contention raised repeatedly throughout the literature. The emphasis on the order of events is to clarify temporal ordering in the exploration of causal relationships

where the behaviour in question must precede the occurrence of the other behaviour. In the past, the bulk of the literature (although not all, one exception here is Elliott er al., 1989) has not tended to focus on the temporal ordering of one specific type of drug and crime, but rather on the ordering of any drug use/crime. The current study specifically examines the temporal ordering of the onset of cannabis use and criminal offending. Both behaviours are based on self-report data to enable an accurate portrayal of the age of first criminal offence, rather than what is recorded through police records (as discussed in Section 3.7.1).

Participants in the current study were divided into three groups based on the temporal order of their self-reported initiation of cannabis and criminal offending. The three groups were defined as and are referred to as those who:

- first used cannabis prior to offending ("cannabis-first");
- committed an offence prior to first cannabis use ("crime-first"); or
- first used cannabis and committed an offence in the same year ("concurrent").

Comparisons between these three groups will be made in the subsequent socio-demographic and lifetime drug and crime descriptions of the sample.

4.3 Results: Sample description

4.3.1 Sample characteristics

The majority of the total sample was male (84.1%) with a mean age of 17.0 years (SD: 1.87, range: 14-21 years). Participants were predominantly born in Australia (88.7%), and over one-third of participants (36.8%) identified as being of Aboriginal and/or Torres Strait Islander origin. A range of ethnicities were nominated by the sample; however, the participants primary ethnic backgrounds were within the Oceanic region (76.9%) which included the geographic locations of Australia, New Zealand, Melanesia, Micronesia and Polynesia (excluding Hawaii) (see Table 4.1).

Participants who commenced offending first (M: 16.6 years, SD: 1.72) were found to be significantly younger at the time of interview than those who began using cannabis prior to offending (M: 17.7 years, SD: 1.93) and those who began using cannabis and offending at the same age (M: 17.0 years, SD: 1.98, F (2, 299) = 9.285, p<0.001). A full presentation of socio-demographic comparative data between temporal order groups is in Appendix O; only significant differences between the groups will be mentioned here.

Participants most commonly reported they were living with a parent(s) (58.9%) in their family home (54.6%), while one-tenth of participants (22.8%) lived in a home rented or owned by someone other than their parent(s). Perhaps as a reflection of the age of the sample and the location of where participants were recruited, a government allowance (39.8%) was the most commonly reported source of income, while a quarter of participants (25.8%) were financially dependent on others.

Just fewer than 10% of participants reported giving birth to or fathering at least one child. The vast majority of participants (70.9%) had formally left mainstream school at a mean age of 15.2 years (SD: 1.57) with no intention of returning.

Participants who had used cannabis first were more likely to have reported having formally left school (84.5%) at the time of the baseline interview (x^2 (2) = 10.857, p=0.004). Overall, 86.7% of participants had spent at least one whole day in custody. Of those participants, the median time they had spent in custody over their lifetime was 120 days (range: 1 day–6 years). At the time of the baseline sample, just over half of the participants (50.3%) were interviewed while in custody. Of those, 55.3% had been sentenced to serve time while 44.7% of participants were interviewed while on remand and had not yet received a sentence.

Table 4.1   Socio-demographic characteristics

	All participants (n=302) % (n)
Sex	
Male	84.1 (254)
Mean age (SD)	17.0 (1.87)
(Range)	(14-21)
Country of birth	
Australia	88.7 (268)
Aboriginal and/or	
Torres Strait Islander	36.8 (111)
Ethnicity	
Oceanian	76.9 (216)
North-West European	4.3 (12)
Southern and Eastern European	6.4 (18)
North African and Middle Eastern	7.8 (22)
Asian (South-East, North-East, Southern and Central)	3.2 (9)
Sub-Saharan Africa	1.4 (4)
Usual accommodation	
Parent/family home	54.6 (165)
Home other than parents (i.e. relatives/friends/partners family home)	22.8 (69)

	All participants (n=302) % (n)
Refuge	10.3 (31)
Other (i.e. renting own place, homeless)	12.3 (37)
Usual living arrangement	
Parent/s	58.9 (178)
Other relatives (i.e. grandparents, aunty/uncle, cousins)	13.6 (41)
Alone	5.3 (16)
Other (i.e. partner with/out child(ren), refuge, friends)	22.2 (67)
Usual source of income	
Employed (i.e. casual, part or full-time)	14.6 (44)
Government payments (i.e. pension, temporary or student allowance)	39.8 (120)
Dependent on others	25.8 (78)
Other (i.e. no income, income from crime)	19.8 (60)
Formally left school	70.9 (214)
Mean age left school (SD)	15.2 (1.57)
Has a child or children (%)	8.9 (27)
Location of baseline interview	
Custody	50.3 (152)
Community	49.7 (150)
Custody status	
Sentenced	55.3 (84)
On remand	44.7 (68)
Ever spent time in custody[*]	86.1 (260)
Median days in custody	120.0
(Range)	(1-2,160)

[*]Only participants who had spent at least one whole day in custody

4.3.2   Lifetime drug use and criminal offending

Overall, alcohol (97.7%) and tobacco (94.7%) were the drugs most commonly ever used by participants, while cannabis (94.1%) was by far the most likely illicit drug to have ever been used. Just over half (54%) of the sample reported

ever using ecstasy. Participants were least likely to have ever used other opioids (7.3%) and specifically heroin (9.6%) (see Figure 4.1).

A number of statistically significant differences in lifetime use of drugs were found between groups. When compared to the cannabis-first and concurrent groups, participants in the crime-first group were significantly less likely to have ever used tobacco (x^2 (2) = 12.26, p=0.002), cannabis (x^2 (2) = 20.65, p<0.001) and ecstasy (x^2 (2) = 10.50, p=0.005). Participants who reported first using cannabis prior to committing crime were more likely to have ever used hallucinogens, methamphetamines (x^2 (2) = 16.61, p<0.001) and cocaine (x^2 (2) = 12.12, p=0.002). Corresponding pairwise comparisons can be found in Appendix P.

Figure 4.1   Lifetime drug use
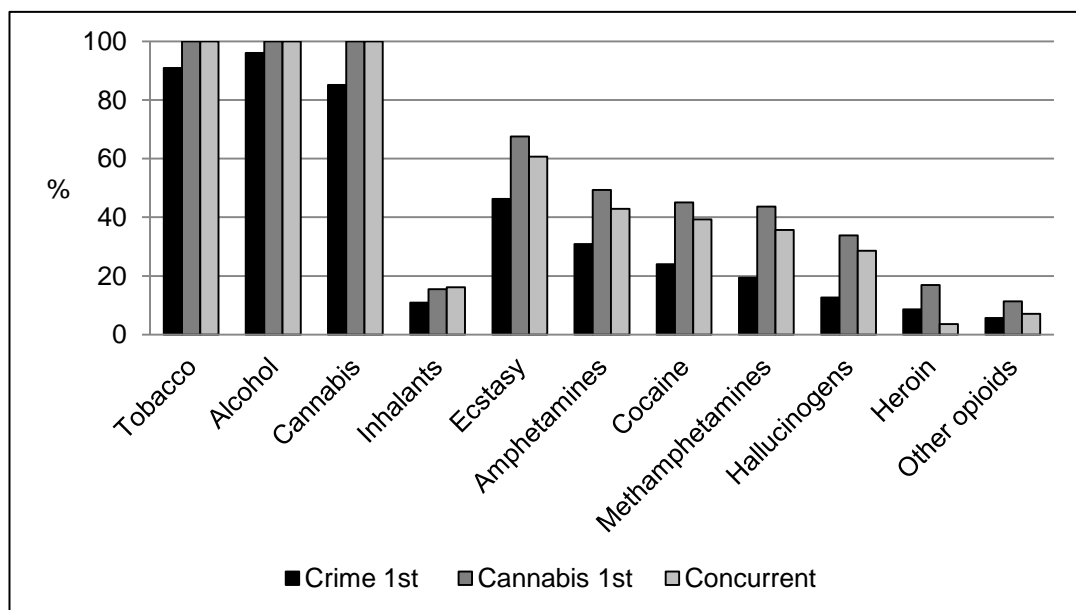
The most common type of crime committed by the participants was a property offence (90.7%). As described earlier for the purposes of the current study, a property crime primarily constituted an act of vandalism, shoplifting and theft, break and enter and car theft. The second most common type of crime ever committed was a violent offence (79.1%) (i.e. robbery/robbery with a weapon, aggravated/common assault, murder/manslaughter and sexual assault) (see

Figure 4.2). No differences in lifetime criminal offending existed between the groups.

Figure 4.2   Lifetime criminal offending
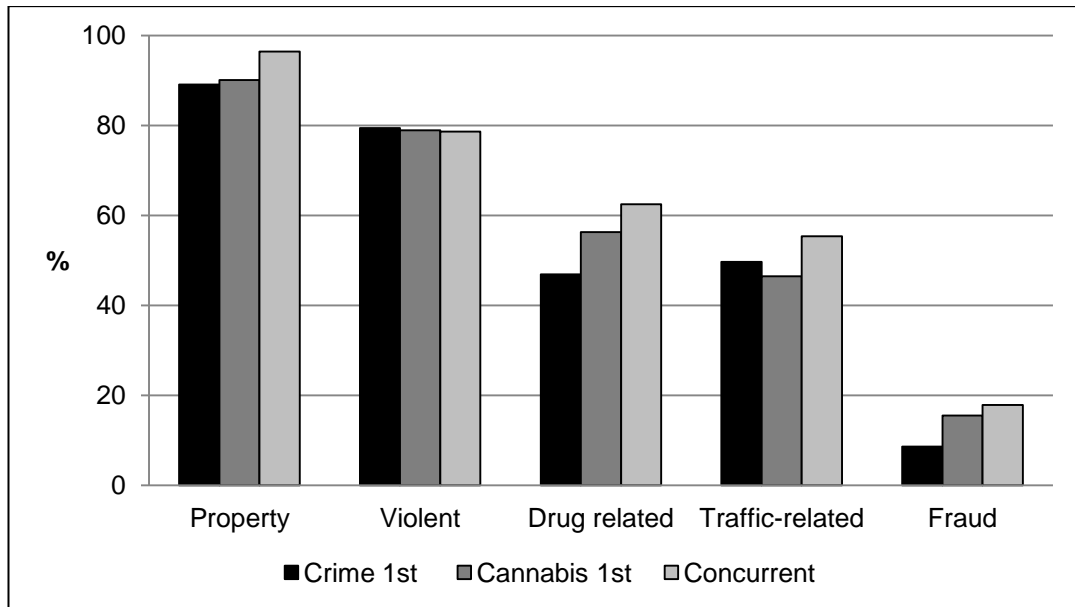
4.4 Results Part One: Examining differences in drug use and crime progression based on the temporal order of cannabis use and criminal offending

4.4.1 What is the temporal ordering of cannabis use and offending initiation among the sample?

To determine the order in which first cannabis use and first criminal offence occurred, the youngest (or earliest) age that participants reported they had committed any crime from the four major offence categories (i.e., drug-related, property, violent, traffic-related or fraud) was compared to their age of first cannabis use. Participants who had not yet used cannabis and had committed a crime were grouped into the "crime-first" group for descriptive purposes in the previous section; however, these participants (n=26) have been removed from this group for further analyses relating to drug use progression unless otherwise stated.

Over half of the sample (54.0%, n=175), reported they had committed an offence prior to first using cannabis while just over a quarter of the participants (25.7%, n=71) reported first using cannabis prior to committing their first offence. The remaining 20.3% (n=56) of participants reported committing their first crime at around the same age as first using cannabis. Figure 4.3 presents a frequency distribution of the age of initiation for cannabis and crime, presenting a visual depiction of the age of onset of cannabis and crime among the sample.

Figure 4.3 Age distribution of first cannabis and first criminal offence
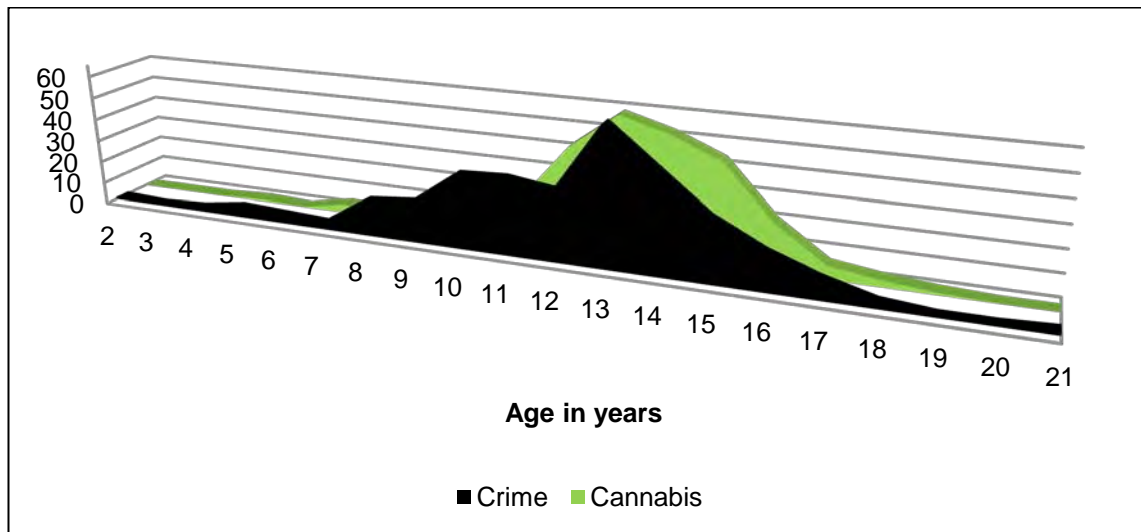
Age of initiation to cannabis use and crime, differences between the temporal order groups

Based on the temporal order groups, statistically significant differences were found between the groups for age of first cannabis use and first criminal offence indicating that the split of the sample based on the temporal order was justified.

Participants in the cannabis-first group were significantly younger (median: 12 years, range: 7–17 years) than the crime-first (median: 14, range: 7–19 years) and concurrent (median: 13, range: 5–18 years) temporal order groups when they first tried cannabis. Additionally, participants in the concurrent group were significantly younger than the crime-first group (x^2 (2) = 35.405, p<0.001).

Participants in the crime-first group were significantly younger (median: 11, range: 4–17 years) than the cannabis-first (median: 14, range: 6–21 years) and the concurrent (median: 13, range: 2–18 years) temporal order groups when they committed their first crime; the concurrent group was also significantly younger than the cannabis-first group at the time of their first offence (x^2 (2) = 61.407, p<0.001). Pairwise comparisons for age of cannabis and crime initiation for each group can be found in Appendix Q.

The remainder of this section will examine the differences in drug use and crime trajectories (including age of initiation, progression to other drugs/crime, and progression from initiation to regular use/involvement) between the three temporal order groups.

4.4.3   Age of drug use initiation

Among the sample as a whole, the licit drugs tobacco (median: 12, range: 3–18 years) and alcohol (median: 13, range: 2–17 years) were used prior to the use of any illicit drug. Cannabis (median: 13, range: 5–19 years) was the first illicit drug used, followed by inhalants (median: 14, range: 7–18 years), ecstasy (median: 15, range: 6–19 years) and amphetamines (median: 15, range: 8–20 years). Overall, with the exception of cannabis, the median age of initiation for the eight other illicit drug categories was between 14 and 16 years — a relatively short time span (see Figure 4.4).

Figure 4.4   Age of drug initiation and order of progression by temporal order group
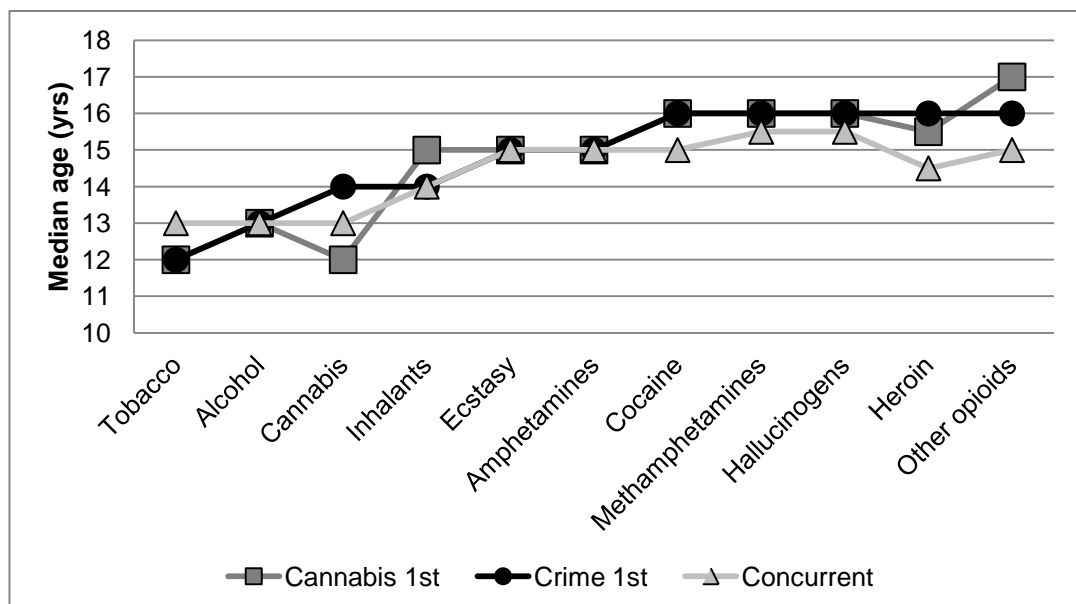
Cannabis was the first illicit drug used by the vast majority of participants (79.4%), while 4.7% reported using another illicit drug prior to cannabis and

15.9% using another illicit drug for the first time at the same age they used cannabis for the first time.

As reported previously, a significant difference in age of cannabis initiation was found between the temporal order groups. No other statistically significant differences between groups were found in age of initiation for the remaining 10 drugs.

4.4.4 Drug use — Progression

Using survival analysis methods, this section of the study will determine whether there is a difference in survival time (progression) from cannabis initiation to the initiation of other illicit drugs and from initiation to regular use between the temporal order groups. The cannabis-first group acted as the reference group for the subsequent analyses. Only those participants who initiated cannabis prior to the initiation of other illicit drugs were included within analyses that examined progression from cannabis. The same method was applied to the progression from other drugs.

To streamline this section, only analyses that resulted in a significant difference between groups will be discussed; all other analyses including figures can be found in Appendices S and T. For the analyses appearing in the Appendices, it is important to note that some diagrams may not produce significant results but do appear to indicate a real difference between the groups.

Progression from first cannabis use to first amphetamines use
Figure 4.5 compares the cumulative survival time in years between first cannabis use and first amphetamines use among the three temporal order groups. Results of the Cox regression indicate that after controlling for participant age, participants in the crime-first and concurrent groups did not progress from first cannabis use to first amphetamines use at different rates than the cannabis-first group. Age of the participant, however, was found to be

significant (HR: 1.161, p=0.006, 95% CI: 1.043–1.293), with younger participants progressing more slowly from use of cannabis to amphetamines.

Figure 4.5   Cumulative survival time between first cannabis use and first amphetamines use
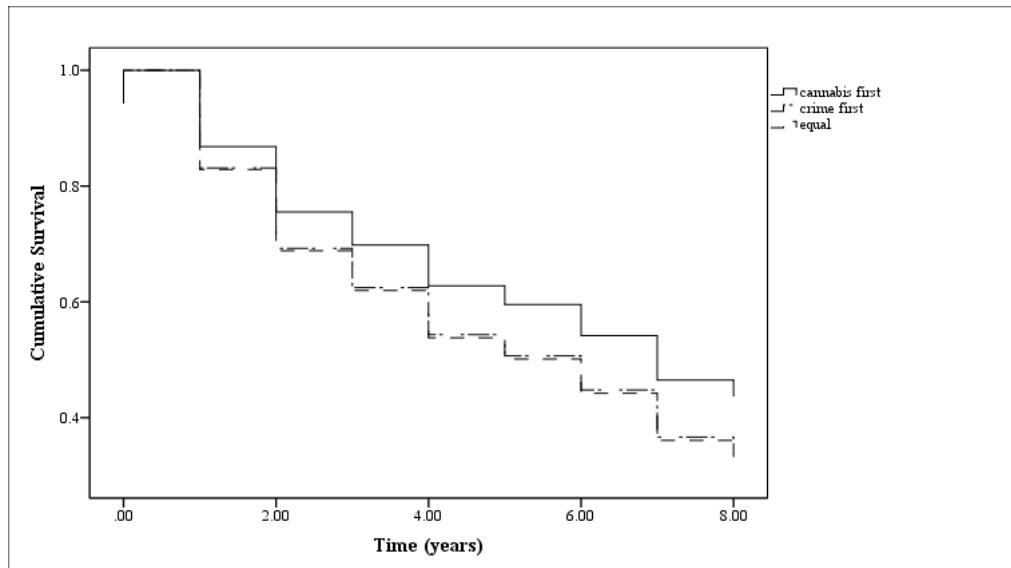
See Appendix S for the following additional analyses: progression from first cannabis use to first ecstasy use, progression from first cannabis use to first cocaine use, progression from first cannabis use to first methamphetamines use, and progression from first cannabis use to first heroin use.

4.4.5   Drug progression: Initiation to regular use

Progression from first to regular cannabis use

Results of the Cox regression indicate that after controlling for participant age, participants in the crime-first and concurrent groups did not progress from first cannabis use to regular cannabis use at different rates than the cannabis-first group.

Figure 4.6 compares the cumulative survival time in years between first cannabis use and regular cannabis use among the three temporal order groups.

Figure 4.6   Cumulative survival time between first and regular cannabis use
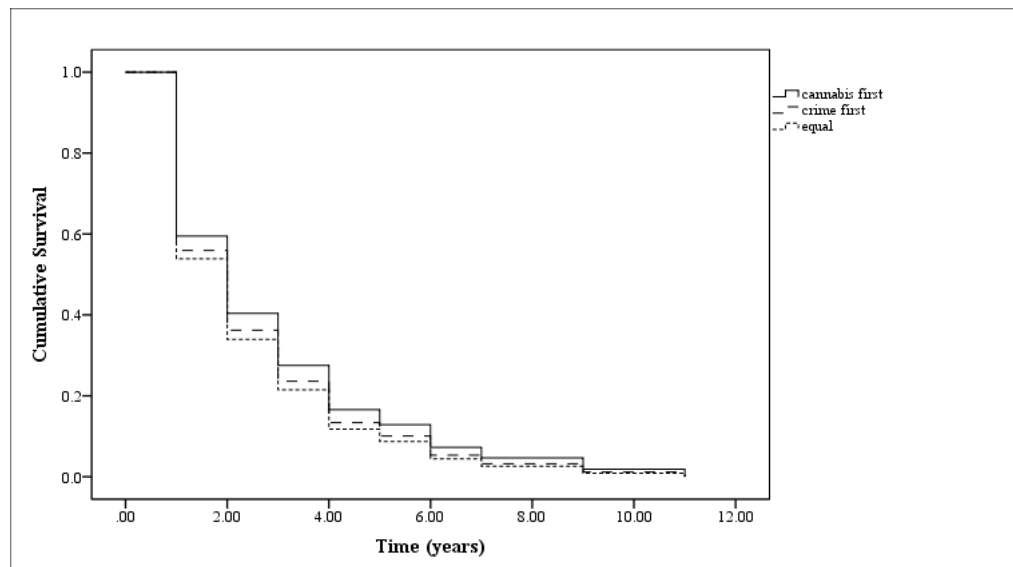
See Appendix T for the following additional analyses: progression from first ecstasy use to regular ecstasy use and progression from first amphetamines use to regular amphetamines use.

4.4.6   Age of crime initiation

Among the sample as a whole, participants reported their first criminal offence, regardless of whether they had been arrested or not, to be a property crime (median: 13, range: 4–19 years), followed by a violent crime (median: 14, range 6–18 years).   Drug-related (range: 10–20 years), traffic-related (range: 8–21 years) and fraud (range: 11–19 years) crimes were each committed a median age of 15 years (see Figure 4.7).

Figure 4.7   Age of crime initiation
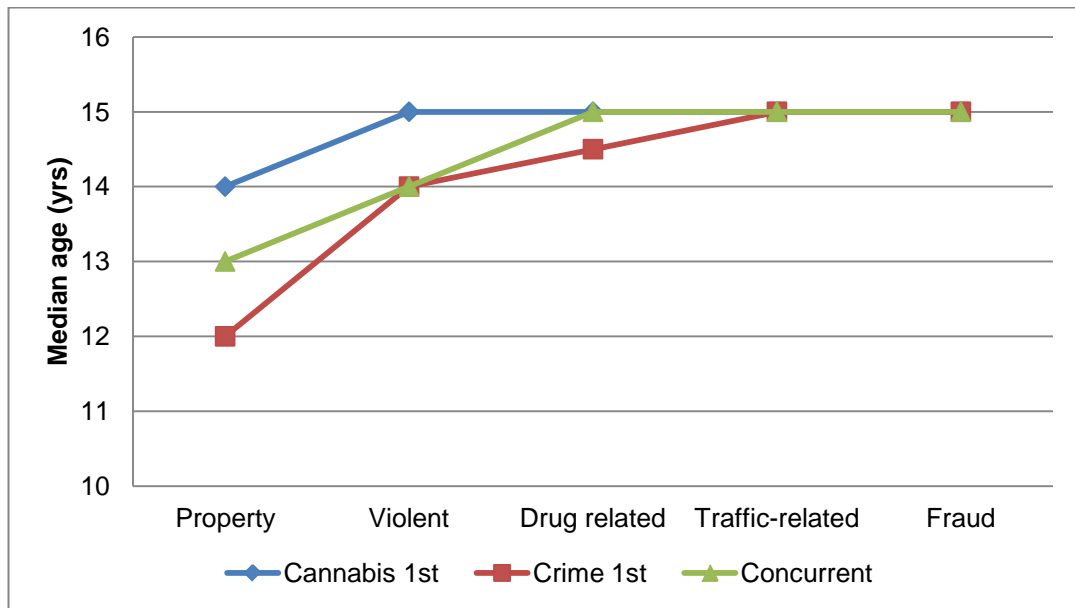
Property crime was the first crime committed by the majority of participants (60.1%), while 22.3% reported committing a crime from one of the other three major crime categories first and 17.6% reporting committing another crime at the same age they first committed a property offence.

As reported in Section 4.4.1, a significant difference was found between temporal order groups for age of first crime. Specific differences were also found between groups for age of first property (x^2 (2) = 52.569, p<0.001) and violent offence (x^2 (2) = 13.619, p=0.001). Participants in the crime-first group were significantly younger (median: 11, range: 4–17 years) than the cannabis-first (median: age 14, range: 10–19 years) and concurrent groups (median: 13, range: 5–18 years) at the time of their first property offence. Participants in the crime-first group were also significantly younger (median: 14, range: 6–18 years) than the cannabis-first group (median: 15 years, range: 6–18 years) at the time of their first violent crime, while participants in the concurrent group were also significantly younger (median: 14, range: 10–17 years) than those in the cannabis-first group.   Data describing pairwise comparisons between groups can be found in Appendix Q.

Non-cannabis users committed their first property crime at a median age of 13 years (range: 9–17 years, n=15) and first violent crime at a median age of 15.5 years (range: 11–17 years, n=16). Comparisons were not made for the three temporal order groups due to the small number of participants reporting such offences.

4.4.7 Criminal offending — progression

Using the same survival analysis technique within the drug use section above, this section of the study will determine whether there is a difference in survival time (or progression) from first perpetration of one criminal offence to the next and from first criminal offence to regular offending within the same offence category between the temporal order groups. The cannabis-first group will act as the reference group for the subsequent analyses. Only those participants who initiated crimes in the order of the progression nominated were included in the survival analysis.

Progression from first property offence to first violent offence
After controlling for participant age, participants in the crime-first group took longer to progress (or had an increased survival time) from their first property offence to first violent offence (HR: 0.553, p=0.003, 95% CI: 0.377–0.813) when compared to the cannabis only group. No difference in survival time was found between the concurrent and cannabis-first group.

Figure 4.8 compares the cumulative survival time in years between first property offence and first violent offence among the three temporal order groups.

Figure 4.8   Cumulative survival time between first property offence and first violent offence
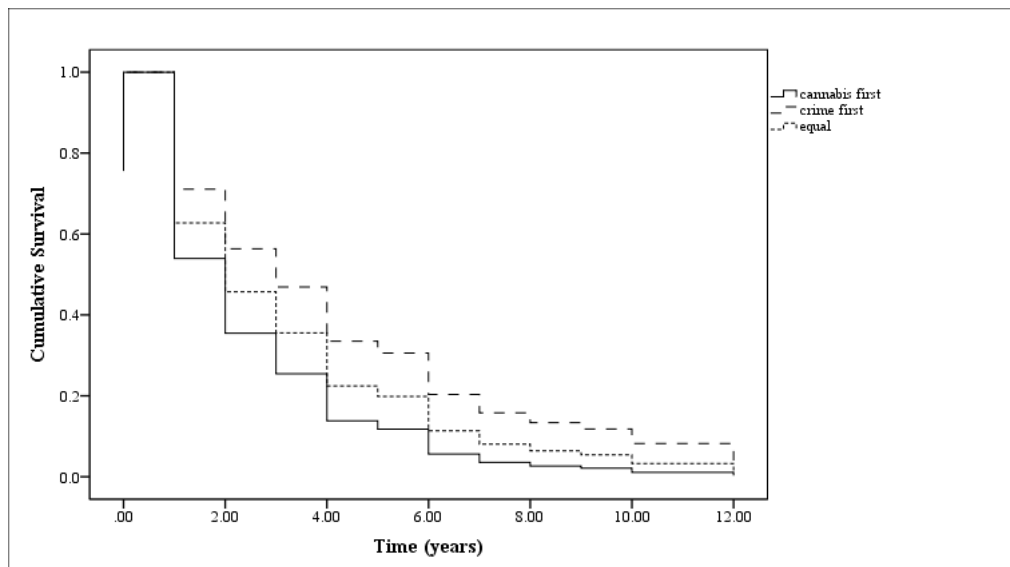
4.4.8   Crime progression — initiation to regular crime

Progression from first property crime to regular property crime

After controlling for participant age, participants in the crime-first group took longer to progress (or had an increased survival time) from their first property offence to regular property offending (HR: 0.532, p=0.004, 95% CI: 0.346–0.817) when compared to the cannabis-first group. No difference in survival time was found between the concurrent and cannabis-first group. Age of the participant was significant (HR: 0.847, p=0.001, 95% CI: 0.767–0.936), with younger participants progressing more slowly from first property offence to regular property offending.

Figure 4.9 compares the cumulative survival time in years between first property offence and regular property offending among the three temporal order groups.

Figure 4.9   Cumulative survival time between first property offence and regular property offending
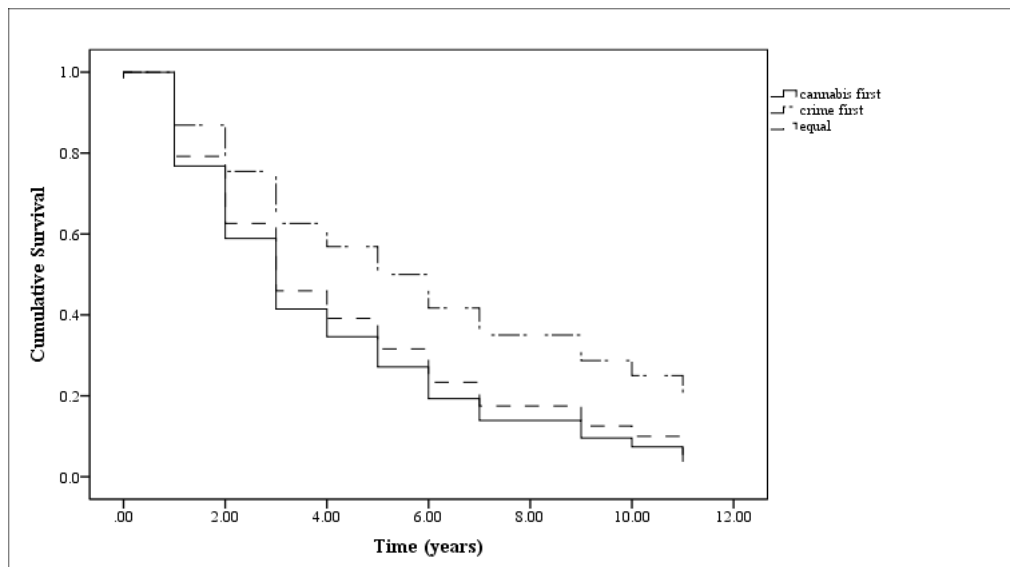
Progression from first drug-related offence to regular drug-related offending

After controlling for participant age, participants in the crime-first group took longer to progress (or had an increased survival time) from their first drug-related offence to regular drug-related offending (HR: 0.488, p=0.008, 95% CI: 0.287–0.829) when compared to the cannabis only group. No difference in survival time was found between the concurrent and cannabis-first group.

Figure 4.10 compares the cumulative survival time in years between first drug-related offence and regular drug-related offending among the three temporal order groups.

Figure 4.10 Cumulative survival time between first drug-related crime and regular drug-related crime
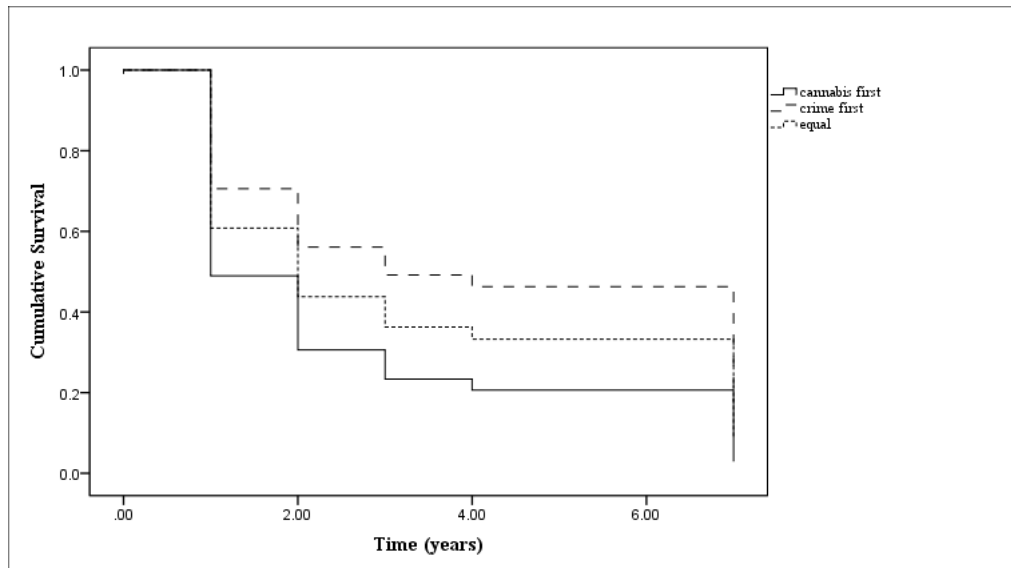
4.4.9   Progression – Drug use and offending

This final section examines the progression between first drug use and first criminal offence. Figure 4.11 presents a plot of the median ages and order of first drug use and first criminal offence for the four major crime categories. This figure shows that based on the median ages of initiation, tobacco use occurred prior to the occurrence of the first crime committed — property crime, which was followed shortly by first alcohol use and first cannabis use prior to the commission of any further crimes. Violent crime, drug-related and traffic-related crimes all occurred at the same median age to each other and for first ecstasy and amphetamines use.

Figure 4.11   The temporal order of drug use and criminal offending
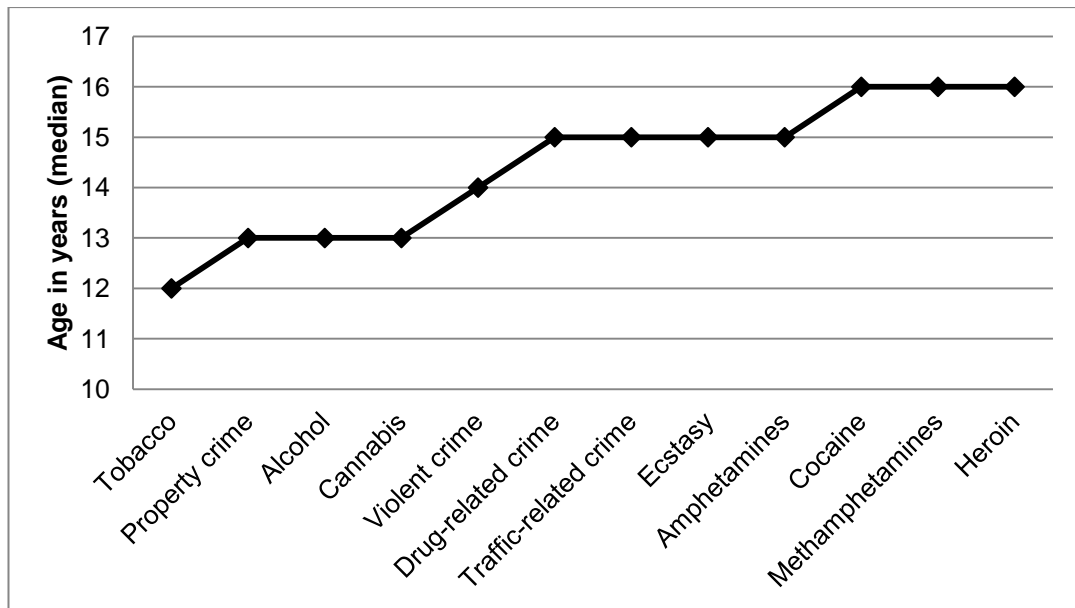
Progression from first property crime to first cannabis use

Figure 4.12 compares the cumulative survival time in years between first property offence and first cannabis use among the three temporal order groups. Results of the Cox regression indicate that after controlling for participant age, given the nature of the grouping, participants in the concurrent group progressed from first property offence to first cannabis use at a faster rate than participants in the cannabis-first group (HR: 5.803, p<0.001, 95% CI: 2.585–13.024).

Figure 4.12 Cumulative survival time between first property crime and first cannabis use
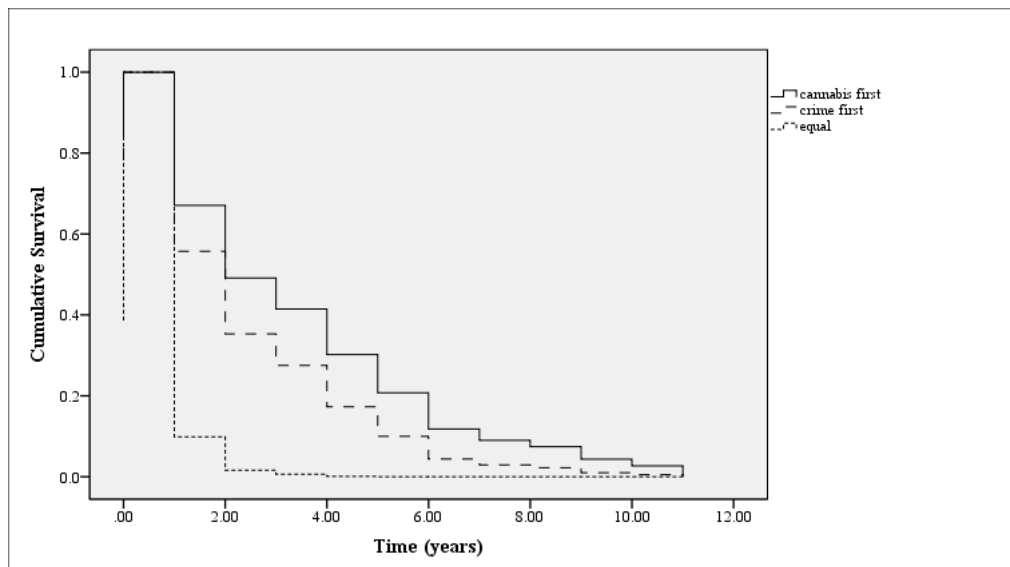
Progression from first cannabis use to first violent offence

Figure 4.13 compares the cumulative survival time in years between first cannabis use and first violent offence among the three temporal order groups.

Figure 4.13 Cumulative survival time between first cannabis use and first violent offence
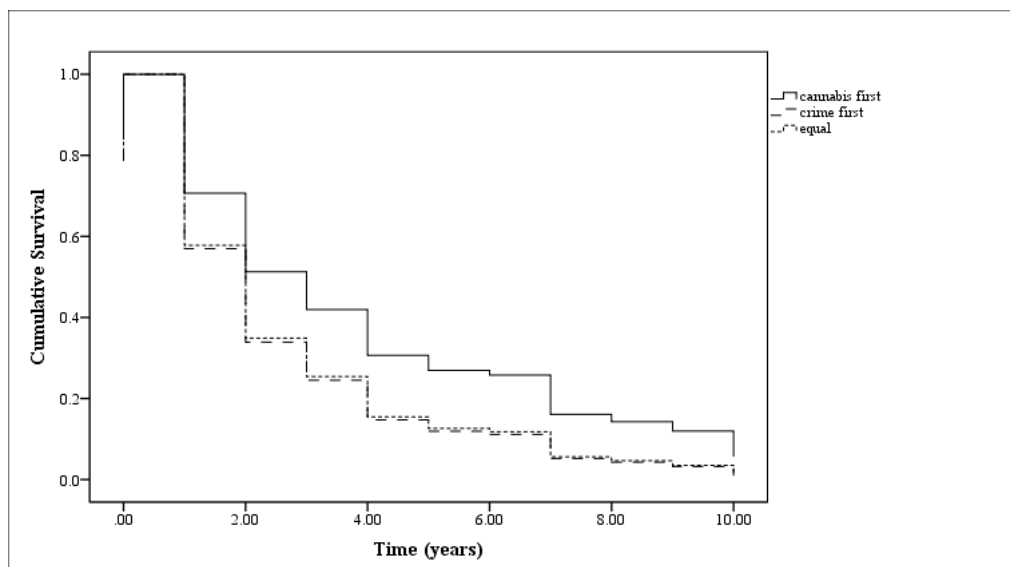
Progression from first cannabis use to first drug-related offence

After controlling for participant age, the concurrent (HR: 1.799, p=0.012, 95% CI: 1.138–2.845) and crime-first (HR: 1.701, p=0.011, 95% CI: 1.132–2.55)

groups were found to progress faster from first cannabis use to first drug-related offence than participants in the cannabis-first group.

Figure 4.14 compares the cumulative survival time in years between first cannabis use and first drug-related offence among the three temporal order groups.

Figure 4.14   Cumulative survival time between first cannabis use and first drug-related offence
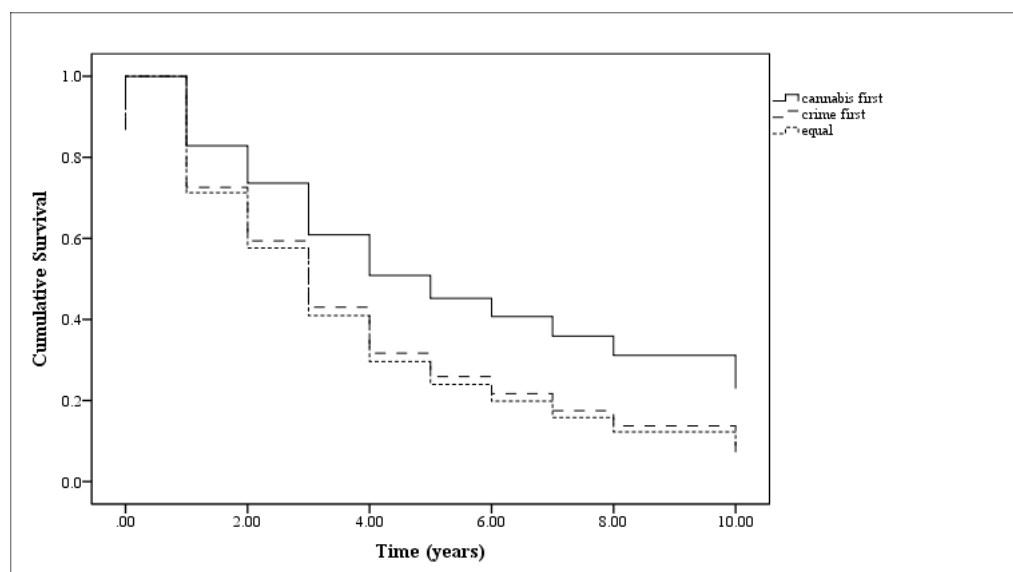
4.4.10   Results Part One: Discussion

Early onset of delinquency has been found to usually signify the beginnings of a life of "cascading negative consequences" (Thornberry and Krohn, 2005, pg. 296). This is a term developmental theorists use to describe the flow on effect and consequences (such as family conflict, weakened emotional bonds, increased affiliation with deviant peers) that results from the initiation of delinquency earlier than what is viewed as normative (Bacon, Paternoster and Brame, 2009; Moffitt, 1993). The temporal ordering of initiation of more serious delinquent activities such as drug use and criminal offending have often been examined to determine the causal influence of one on the other. The current evidence within the literature is inconsistent, although the onset of minor offending has been most frequently reported to precede the onset of drug use, with regular drug use occurring prior to regular offending (D'Amico et al., 2008; Torok, Darke and Kaye, 2012; Prichard and Payne, 2005).

Within the current study, similar to what has been found previously, over half of the sample (54.0%) initiated crime prior to first cannabis use, with just over a quarter of participants (25.7%) using cannabis for the first time prior to the onset of offending. A further 20.3% of participants reported using cannabis and committing crime for the first time during the same year. Statistical differences between age of onset for cannabis and crime were found between the groups. Participants within the cannabis-first group were significantly younger when they initiated cannabis (median: 12 years), while the crime-first group were significantly younger (median: 11 years) when they first committed crime. Those who initiated cannabis and crime in the same year were younger than the crime-first group when they first used cannabis and were younger than the cannabis-first group when they first committed a crime. Overall, participants within the crime-first group were significantly younger than those in the cannabis-first and concurrent groups.

With the exception of age, the socio-demographic characteristics of the three temporal order groups were comparable. Compared to the other two groups,

participants within the cannabis-first group were less likely to have formally left school. The vast majority of participants had already left mainstream school at a mean age of 15.2 years. Attending school was compulsory for all young people under the school leaving age (16 years) who were interviewed in juvenile detention centres.

Over one-third of participants (36.8%) within the sample identified as being of Aboriginal and/or Torres Strait Islander origin. The relatively high proportion of Aboriginal and Torres Strait Islander participants within the study is consistent with the current over-representation in the Australian criminal justice system. In 2010–11, Aboriginal and Torres Strait Islander young people in NSW were 15 times more likely than non-Indigenous young people aged between 10 and 17 years to be under supervision, 24 times more likely to be in detention and 14 times more likely to be under community-based supervision (Australian Institute of Health and Welfare, 2012).

A high level of lifetime drug use among the current sample was not unexpected. The relationship between drug use and crime has been widely documented, with previous research on adolescent offender samples noting the almost trademark characteristic of high level licit and illicit drug use. Within the current sample, over 94% of participants had used tobacco, alcohol and cannabis, with ecstasy being the next most common illicit drug ever used by over half of the sample. Such patterns of use are reflective of Kandel's stages of drug use research, which found that the majority of those using illicit drugs had first used tobacco and alcohol, in addition to finding pills to be the next illicit drug in line after cannabis (Kandel, 1975; Kandel, Yamaguchi and Chen, 1992). Compared to the general Australian population of the same age range, such figures indicate a substantial drug use problem among young people who go on to become involved with the criminal justice system (Australian Institute of Health and Welfare, 2011a; White and Smith, 2009). When comparing the temporal order groups, participants within the crime-first category were less likely to have ever used tobacco, cannabis and ecstasy, while participants within the cannabis-first group were more likely to have tried "harder" drugs such as methamphetamines and cocaine. This finding is consistent with studies that

have found those who initiate drugs such as cannabis earlier are more likely to progress onto other drug use. Such findings have been explained by the influence of the environment, whereby increased use of drugs for recreational purposes results in the increased exposure to a wider range of drugs and drug networks (Golub and Johnson, 2001; Pudney, 2002; Rey, Martin and Krabman, 2004).

Similarly, given the eligibility criteria of the study, the participant's level of involvement in crime was not unexpected. Property crimes were the most likely (90.7%) to have ever been committed among the sample, followed by violent crimes (79.1%). Likewise, public order offences (not measured within the current study), followed by acts intended to cause injury and harm were the offences adolescents were most frequently charged with in Australia during 2010-11 (Australian Bureau of Statistics, 2012). The high prevalence of violent crime among the sample may be an artefact of the study's selection criteria, whereby half of the sample was recruited from juvenile detention centres, which in turn may have inflated the occurrence of this type of crime, as more serious crimes are more likely to result in incarceration. Overall, unlike lifetime drug use between the temporal order groups, no differences were found for lifetime offending (median days spent in custody = 120 days).

A primary focus of the current study was to determine whether there were any differences in drug use and crime progression between the three temporal order groups. To examine the rate of progression from first cannabis use to first use of a range of other illicit drugs, the difference in time between first cannabis use and first use of ecstasy, amphetamines, cocaine, methamphetamines and heroin was calculated in separate models. Previous research has stated that the earlier an illicit drug is initiated, the greater the likelihood of progressing on to another illicit drugs. Within the current sample, however, no differences were found in survival time between the temporal order groups and any of the illicit drugs mentioned above, indicating that the temporal order of cannabis use and crime does not influence the rate of progression from first cannabis use (generally first illicit drug use) to the first use of other illicit drugs. Age of the participant affected the rate of progression from first cannabis use to first

amphetamines use, with findings indicating that younger participants were slower at initiating amphetamines use following first cannabis use.

Similar findings were found for rate of progression from first use to regular use of cannabis, ecstasy and amphetamines, where no differences were found in the rate of progression between temporal order groups. Such findings indicate that, for example, despite an earlier age of cannabis onset among the cannabis-first group they did not progress to regular use of cannabis any faster than those who used cannabis for the first time after committing crime (on average two years later).

Despite no differences being apparent between the temporal order groups for drug use progression, significant differences were present when crime progression was examined. When compared to the reference group (cannabis-first), the crime-first group was found to progress more slowly from first property crime to first violent crime, from first property crime to regular property crime and from first drug-related crime to regular drug-related offending. These findings provide further support for the notion that drug use exacerbates involvement in, and frequency of, criminal offending. The current study highlighted the particular influence of cannabis on the speed of progression from first to regular offending. Furthermore, the additional analyses revealed that the cannabis-first group were the slowest to progress from first cannabis use to first violent and drug-related offences. These findings indicated that early involvement in crime, such as property crime, seems to be more influential than early cannabis use in the speed of progression to subsequent criminal offending. Cannabis can therefore be seen to play a stronger role in the overall frequency of offending, rather than the type of offending.

Although outside the scope of the present analyses, further research into the role of environmental factors such as delinquent peers and networks, on the speed of progression between drug types and between crime and drug use, and whether such factors play a differential role for those who initiate crime or cannabis use first, is warranted.

In summary, Part One has examined whether any differences exist in the trajectories of drug use and crime between temporal order groups. The following section will determine whether any difference existed among a range of social, environmental and motivational aspects of cannabis and crime initiation that may have led to one event occurring prior to the other.

4.5 Results Part Two: Comparing motivational, social and environmental aspects of cannabis and crime initiation between temporal order groups

This results section aims to describe a range of motivational, social and environmental aspects of cannabis and crime initiation and to determine if such factors differentiate between the temporal order of initiation to cannabis use and criminal offending. The current section will first present findings relating specifically to first cannabis use.

4.5.1 Cannabis initiation

As described in Section 4.3.2, the overwhelming majority of participants (91.7%) within the sample reported they had used cannabis at the baseline interview. The section will describe a range of potential social, motivational and environmental contributors to cannabis initiation, and will highlight any differences present between the temporal order groups.

Exposure to cannabis by family and friends prior to first use

The majority of participants (63.4%) within the sample had witnessed someone use cannabis prior to their first cannabis use. Of those who did not use the first time they saw someone else use, the primary reasons given included: being and/or feeling too young (including didn't know what cannabis was), not liking the look or smell; thinking that it was bad/wrong/silly/disgusting; not liking the effects it had on family members; not being offered it and simply not being interested.

Exposure to other illicit drugs by family and friends

Participants within the current sample were asked about illicit drug use within their current living situation and among their friends and family. Responses to such questions included responses such as "don't know" and "prefer not to say"

so that participants had the choice to keep this information private. Of those who responded, almost all participants (91.6%) thought their friends used illicit drugs, while 40.3% thought their siblings and 27.5% thought their parents were users of illicit drugs. Over one-third of participants (39.7%) reported currently living (or normal living situation when out of custody) with illicit drug users. Cannabis (n=282) and ecstasy (n=154) were by far the most commonly used drugs by friends and family, followed by cocaine (n=99), amphetamines (n=96) and methamphetamines (n=80). No differences in family and friends drug use were found between temporal order groups.

Opportunity to use illicit drugs offered by a family member

Although not directly related to the participant's first cannabis experience (and featuring as an optional question, similar to the drug exposure question discussed above), just under one-third (32.4%) of participants reported an immediate family member had offered them an illicit drug on at least one occasion in the past. A further 17.9%, had themselves used an illicit drug in front of their younger siblings and/or own children. When asked specifically about cannabis, just over 40% of participants believed most of their friends used the drug. The temporal order of age of cannabis and crime initiation did not differentiate participants on this measure.

Age of cannabis initiation

Participants first tried cannabis at a mean age of 13.20 years (SD: 2.14), with 96.4% of participants having used by 16 years and just under one-third of the sample (32.2%) having used by 12 years. Overall, cannabis was the first illicit drug to be used among the sample. The temporal ordering of drug use and the differences in age of initiation between the temporal order groups have been discussed earlier (Section 4.4.3).

Location of first cannabis use

A friend's house was the most common place (53.6%) for participants to first try cannabis, while less than one-fifth of participants (17.8%) first used cannabis in a public place such as a street or park. The least likely place to first use cannabis was at a dealer's home (0.7%) (see Table 4.2). No differences in

location of first cannabis use were found among the cannabis-first, crime-first or concurrent temporal order groups.

Table 4.2   Location of first cannabis use

	Cannabis 1st (n=71) % (n)	Crime 1st (n=149) % (n)	Con-current (n=56) % (n)	Total (n=276) % (n)
Own home	12.7 (9)	14.1 (21)	12.5 (7)	13.4 (37)
Friend's home	50.7 (36)	51.0 (76)	64.3 (36)	53.6 (148)
Public place (i.e. street, park)	16.9 (12)	18.8 (28)	16.1 (9)	17.8 (49)
Educational facility (i.e. university, TAFE, school)	2.8 (2)	4.7 (7)	1.8 (1)	3.6 (10)
Party	1.4 (1)	2.7 (4)	0	1.8 (5)
Car or other vehicle	2.8 (2)	0.7 (1)	1.8 (1)	1.4 (4)
Dealer's home	0	1.3 (2)	0	0.7 (2)
Other (i.e., hotel room, house had broken in to, other relatives)	12.7 (9)	6.7 (10)	3.6 (2)	7.6 (21)

Company kept during first cannabis use

First use of cannabis typically occurred with people who were well-known to the participants (see Table 4.3). Three-quarters (75.4%) of the sample reported they first used cannabis with friends, while one in ten (10.5%) reported first using cannabis with members of their extended family (which included cousins, aunties or uncles). A further 8.0% of participants reported first using with an immediate family member, such as a parent or sibling. It was rare for participants to report first using with someone they had only just met or an acquaintance (2.2%). No differences were found between the temporal order groups.

Table 4.3   Company kept during first cannabis use

	Cannabis 1st	Crime 1st	Con-current	Total
	(n=71)	(n=149)	(n=56)	(n=276)
	% (n)	% (n)	% (n)	% (n)
Alone	7.0	1.3	0	2.5
	(5)	(2)		(7)
Friend(s)	67.6	78.5	76.8	75.4
	(48)	(117)	(43)	(208)
Boyfriend/girlfriend	1.4	0	5.4	1.4
	(1)		(3)	(4)
Immediate family	8.5	8.7	5.4	8.0
	(6)	(13)	(3)	(22)
Other relatives	15.5	8.7	8.9	10.5
	(11)	(13)	(5)	(29)
Acquaintance/someone just met	0	2.7	3.6	2.2
		(4)	(2)	(6)

Source of first cannabis supply

One-fifth of the sample (20.0%) reported actively seeking out someone they knew who used cannabis so that they could try it themselves for the first time. Participants were also asked how they obtained cannabis for the first time. Just over half of the sample (53.1%) obtained their first cannabis via friends, while just under one-quarter (23.6%) of the sample reported approaching a dealer so they could try cannabis for the first time. It was also common for participants to obtain their first cannabis from other relatives and immediate family members (16.7%). Securing cannabis for the first time from a boyfriend or girlfriend (0.7%) or growing it (0.4%) was unusual. Source of first cannabis supply did not differentiate between the temporal order groups.

Method of payment for first cannabis

The majority of participants (69.2%) did not report paying for cannabis they first time they used. Among those who did pay, 14.5% used their own pocket money, while 6.5% reported committing some form of criminal activity to obtain

the cannabis. A small percentage (4.0%) reported stealing cannabis from others so they could try for the first time.

Reasons for first cannabis use

Of the 14 possible responses, participants selected a mean of 5.82 (SD: 2.94) reasons/motivations they felt contributed to their first cannabis use. The most common reasons for first trying cannabis included for experimentation (86.2%), enjoyment (75.4%) and boredom (64.4%), while the least common reasons included dealing with the effects of other drugs (13.0%), increased confidence and sociability (18.1%) and being under the influence of alcohol (21.7%) (see Table 4.4). No motivational differences for first trying cannabis were found between the temporal order groups.

Table 4.4   Motivations for first using cannabis

	Cannabis 1st (n=71) % (n)	Crime 1st (n=149) % (n)	Con-current (n=56) % (n)	Total (n=276) % (n)
Fun	70.4 (50)	75.2 (112)	82.1 (46)	75.4 (208)
Curious and wanted to experiment	88.7 (63)	85.2 (127)	85.7 (48)	86.2 (238)
Fit in with friends	38.0 (27)	37.6 (56)	41.1 (23)	38.4 (106)
Feel more self-confident and sure of self	21.1 (15)	16.8 (25)	17.9 (10)	18.1 (50)
Help forget about problems and worries	43.7 (31)	36.9 (55)	40.0 (22)	39.1 (108)
Deal with effects of other drugs	14.1 (10)	11.4 (17)	16.1 (9)	13.0 (36)
Easy and cheap to obtain	50.7 (36)	44.3 (66)	42.9 (24)	43.7 (126)
Bored	56.3 (40)	68.2 (101)	64.3 (36)	64.4 (177)

	Cannabis 1st (n=71) % (n)	Crime 1st (n=149) % (n)	Con- current (n=56) % (n)	Total (n=276) % (n)
Peer pressure	15.5 (11)	22.8 (34)	12.5 (7)	18.8 (52)
Feel cool	39.4 (28)	31.5 (47)	30.4 (17)	33.3 (92)
Feel and see things differently	50.7 (36)	41.6 (62)	42.9 (24)	44.2 (122)
Help relax	53.5 (38)	63.8 (95)	57.1 (32)	59.8 (165)
It was illegal	28.2 (20)	26.2 (39)	12.5 (7)	23.9 (66)
Was drunk	16.9 (12)	24.2 (36)	21.4 (12)	21.7 (60)

Rating of first cannabis experience

Approximately half of the sample (50.7%) rated the first time they tried cannabis to be a positive/good experience, while 21.0% of participants reported their first experience to be negative/bad. The remaining 28.3% of participants did not feel their first use of cannabis was either good or bad (see Table 4.5).

Table 4.5   Rating of first cannabis experience

	Cannabis 1st	Crime 1st	Concurrent	Total
	(n=70)	(n=146)	(n=56)	(n=272)
	% (n)	% (n)	% (n)	% (n)
Positive	50.0 (35)	48.6 (71)	57.1 (32)	50.7 (138)
Negative	12.9 (9)	28.1 (41)	12.5 (7)	21.0 (57)
Neutral	37.1 (26)	23.3 (33)	30.4 (17)	28.3 (77)

4.5.2   Crime initiation

To be eligible to participate in the study, all participants were required to admit to having committed some sort of criminal offence, even if they had not yet been apprehended for it. As with cannabis initiation, this section will describe some social, motivational and environmental aspects of participants' first criminal offence and will report any significant differences that were found to exist between the three temporal order groups. Since participants were asked to specify information about their first crime regardless of whether they had been arrested for it, limited information regarding the social context of the participant's first crime was able to be collected. This was to preserve the confidentiality of survey responses and in effect safeguard against receiving specific details about a specific crime that may be subjected to reporting requirements, and to meet the condition of ethics approval for the study.

Exposure to crime and/or the criminal justice system via family and friends

Participants were asked about their exposure to criminal behaviours within their current living situation in addition to their family and friends experiences with the criminal justice system. A quarter of the participants (25.2%) reported currently living with someone (or normally living when out of custody) who committed crime. Past (or current) involvement with the criminal justice system among the

participants family was common. Over half of the sample reported at least one parent/guardian (58.5%) and sibling (51.3%) had previously been arrested, while 41.1% of parents and 34.5% of siblings had also spent time in detention or prison. The proportion of participants who reported a close friend having been arrested (94.9%) or incarcerated (84.9%) was extremely high. A significant difference between temporal groups existed for the proportion of participants whose close friends had spent time in detention or prison. Participants within the crime-first group were less likely to have close friends who had spent time in detention or prison (x^2 (2) = 10.140, p=0.006).

Given the potential sensitivity of the questions relating to family and friend involvement with the criminal justice system, participants could elect to answer "prefer not to say and don't know" as a responses.

Age of first criminal offence

Overall, participants reported committing their first crime at a median age of 13 years (range: 2–21 years), with 96.3% of participants having committed their first crime by 16 years and 46.5% having committed their first crime by 12 years. More specifically, participants were the youngest when the first committed a property offence (median: 13, range: 4–19 years), followed by a violent offence (median; 14, range: 6 – 18 years). A median of 15 years of age was reported for first drug-related offence (range: 10–20 years), similarly for a first fraud offence (range: 11–19 years) and traffic related crime (range: 8–21 years). The temporal ordering of criminal offending and the differences in age of initiation between the temporal order groups were discussed in Section 4.4.6.

Age of first criminal arrest

Among those who had been arrested for any crime, the first arrest was for a property crime (n=200, median: 14, range: 4–21 years), while the most recent arrest (excluding fraud offences) was for a drug-related crime (n=33, median: 16, range: 12–20 years). These figures highlight the young age this sample began coming into contact with the criminal justice system (see Table 4.6). No differences in age of first arrest were found between temporal order groups.

Table 4.6   Age of first arrest

	Cannabis 1st Age (range)	Crime 1st Age (range)	Concurrent Age (range)	Total Age (range)
Drug-related (n=33)	16[*] (14-20)	16 (12-20)	16[*] (15-17)	16 (12-20)
Property crime (n=200)	14 (8-21)	14 (4-17)	13.5 (8-20)	14 (4-21)
Fraud (n=3)	17[*] (-)	19[*] (-)	16[*] (-)	17[*] (16-19)
Violent crime (n=200)	16 (12-20)	15 (10-17)	15 (10-18)	15 (10-20)
Traffic-related (n=59)	15 (13-20)	15.5 (11-18)	15 (12-21)	15 (11-21)

[*]n<10

Company kept during first criminal offence

The overwhelming majority of participants reported they had committed their first crime with friends (66.7%), while 12.9% were in the presence of an immediate or extended family member. A further 15.0% stated they were alone when they committed their first crime (see Table 4.7). No differences were found between temporal order groups and the company they kept during their first crime.

Table 4.7   Company kept during first criminal offence

	Cannabis 1st	Crime 1st	Concurrent	Total
	(n=66)	(n=166)	(n=54)	(n=286)
	% (n)	% (n)	% (n)	% (n)
Partner	0	1.8	5.6	2.1
		(3)	(3)	(6)
Sibling/s	7.6	4.2	1.8	4.5
	(5)	(7)	(1)	(13)
Other relatives	4.5	9.0	7.4	7.7
	(3)	(15)	(4)	(22)
Friend/s	68.2	66.9	77.8	66.7
	(45)	(111)	(42)	(198)
Parent/s	1.5	0.6	0	0.7
	(1)	(1)		(2)
Acquaintance	1.5	0.6	0	0.7
	(1)	(1)		(2)
By self	16.7	16.9	7.4	15.0
	(11)	(28)	(4)	(43)

Reasons for committing first criminal offence

Of the 12 possible responses, participants selected a mean of 4.65 (SD: 2.62) reasons/motivations they felt contributed to their first criminal offence. The most common reason participants gave for committing their first offence was for enjoyment/fun (61.0%), followed closely by excitement/thrill (59.0%) and as a means of easing boredom (52.2%). The least common response selected by participants was because they needed money to repay debt (18.3%) (see Table 4.8).

Table 4.8   Motivations for committing first criminal offence

	Cannabis 1st (n=69) % (n)	Crime 1st (n=170) % (n)	Con-current (n=56) % (n)	Total (n=295) % (n)
Bored	49.3 (34)	54.7 (93)	48.2 (27)	52.2 (154)
Thrill/excitement	62.3 (43)	52.9 (90)	73.2 (41)	59.0 (174)
Fun	63.8 (44)	60.0 (102)	60.7 (34)	61.0 (180)
Peer pressure	24.6 (17)	30.6 (52)	28.6 (16)	28.8 (85)
Lost temper	42.0 (29)	42.4 (72)	37.5 (21)	41.4 (122)
Needed money to repay debt	21.7 (15)	14.1 (24)	26.8 (15)	18.3 (54)
Needed money to buy AOD's	43.5 (30)	28.2 (48)	39.3 (22)	33.9 (100)
Under influence of AOD's	52.2 (36)	37.1 (63)	50.0 (28)	43.1 (127)
Payback/revenge	26.1 (18)	23.5 (40)	21.4 (12)	23.7 (70)
Feel cool	21.7 (15)	25.3 (43)	25.0 (14)	24.4 (72)
Fit in	27.5 (19)	34.7 (59)	23.2 (13)	30.8 (91)
Someone's idea*	31.8 (21)	41.9 (70)	43.1 (22)	39.8 (113)

*N=263

Drug use before, during and after first offence

For each crime category, participants were asked to nominate if they had used drugs before, during or after their first offence and if so, which ones. The participants' first drug-related crime was the most likely to have been first committed in conjunction with drug use (68.6%), followed by a fraud offence

(66.7%). A property crime was the least likely (31.3%) to have been first committed in conjunction with drug use (see Table 4.9).

Table 4.9   Proportion of participants using drugs before, during and after each first offence type

	Participants who reported using drugs
	% (n)
Drug-related	68.6
(n=157)	(107)
Property	31.3
(n=276)	(81)
Fraud	66.7
(n=36)	(24)
Violent	45.0
(n=239)	(109)
Traffic-related	54.2
(n=151)	(78)

Cannabis was the most likely drug to have been used before, during or after the participant's first drug-related crime (75.7%), property (58.0%) and fraud (62.5%). Alcohol was the most likely drug to be used in the participants' first violent (67.0%) and traffic-related (80.8%) offences (see Table 4.10). No participants reported using inhalants and hallucinogens at the time of any first offence.

Table 4.10   Drug use before, during and after first offence

	Alcohol	Cannabis	Ecstasy	Amphetamines	Cocaine	Methamphetamines	Heroin
Drug dealing (n=107)	30.8 (33)	75.7 (81)	26.2 (28)	8.4 (9)	6.6 (7)	8.4 (9)	1.9 (2)
Property (n=81)	55.6 (45)	58.0 (47)	4.9 (4)	4.9 (4)	2.5 (2)	3.7 (3)	1.2 (1)
Fraud (n=24)	41.7 (10)	62.5 (15)	25.0 (6)	0	0	12.5 (3)	0
Violent (n=109)	67.0 (73)	45.9 (50)	8.3 (9)	4.6 (5)	2.8 (3)	6.4 (7)	1.8 (2)
Traffic (n=78)	80.8 (63)	34.6 (27)	5.1 (4)	6.5 (5)	0	3.8 (3)	1.3 (1)

Rating of experience of first crime

The majority of participants (41.3%) rated the first time they committed any crime to be a negative/bad experience. One-quarter (25.1%) rated the first time they committed crime to be a positive/good experience, while just over one-third of participants (33.6%) did not feel either good or bad. No difference was found in the participants rating of their first crime between temporal order groups (see Table 4.11).

Table 4.11   Rating of first criminal offence experience

	Cannabis 1st (n=67) % (n)	Crime 1st (n=170) % (n)	Concurrent (n=56) % (n)	Total (n=272) % (n)
Positive	25.4 (17)	24.1 (41)	23.2 (13)	24.2 (71)
Negative	29.9 (20)	47.1 (80)	46.4 (26)	43.0 (126)
Neutral	44.8 (30)	28.8 (49)	30.4 (11)	32.8 (96)

4.5.3　　　Results Part Two:　　Discussion

The literature suggests that those whom young people are close to, or spend the most time with, such as peers and family, play a strong role in the acceptance and normalisation of anti-social behaviours (Goulden and Sondhi, 2001; Fergusson, Swain-Campbell and Horwood, 2002). The initiation event or first use of cannabis (and drugs in general) and criminal offending occur not only as a result of motivation but also as a response to an interaction between access and opportunity, and the overall social environment in which a young person is exposed. This section attempted to examine a number of social, environmental and motivational aspects thought to contribute to the initiation of first cannabis use and criminal offence to determine whether any differences existed between those whose temporal ordering of cannabis and crime initiation differed.

Participants were often exposed to drug use and offending (especially by family members) prior to the time they became involved in either. Although no differences were found between temporal order groups, over one-third of participants (39.7%) were currently living with people who used drugs, while one-quarter of participants (25.2%) were living with someone who engaged in criminal behaviour (excluding drug use). Close to one-third of the participants' immediate family members had offered illicit drugs to the participant at some point. Over half of the participants' family members had been arrested and incarcerated and over one-third had immediate family who used drugs. Such findings are consistent with previous research that has found parental and sibling use of drugs to be predictive of adolescent involvement in drug use and crime (Gouldent and Sondhi, 2001; Highet, 2004; Prichard and Payne, 2005).

Similar to drug use among the more general population, a friend's house (53.6%) was the most common place in which cannabis was used for the first time, while a public place, like a street or a park was the next most common (17.6%) (Australian Institute of Health and Welfare, 2011a). Cannabis was typically first used with people well-known to the participants such as friend

(75.1%) and immediate or extended family (18.4%). Given the high proportion of participants who knew someone who used drugs, it was not surprising to find that one-fifth of participants actively sought out someone they knew who used drugs so that they could try for the first time. No differences were observed among temporal order groups.

The most frequently endorsed reason for first trying cannabis was being curious and wanting to experiment (86.0%), followed closely by using for fun (82.5%) and to relieve boredom (64.9%). Such motivations for first using cannabis are not dissimilar to other samples of young offenders and college students (Beck et al., 2009; Indig et al., 2011). Motivations for first use of cannabis were not found to differ among temporal order groups.

Similar to first cannabis use, participants often committed their first crime with someone they knew relatively well, such as friends (66.3%) and family (18.2%). Just fewer than 15% were alone when they committed their first crime. The most endorsed reason participants gave for their first offence was that their first crime was committed for fun (63.5%), for the thrill or excitement (60.9%) or as a result of boredom (53.3%). Such motivations are also not dissimilar to the motivations for first cannabis use, indicating that both behaviours are potentially the result of a similar combination of background and social contributors. Again, no differences were found between temporal order groups.

The most common first offence to be committed in conjunction with alcohol or other drugs was a drug-related offence (68.6%), with the most common drug used before, during and/or after this offence being cannabis (75.7%). As mentioned previously, frequent users of cannabis are known to participate in the drug market as a means of subsidising the costs of the drug. However, relatively little research has reported involvement in the drug market among first time/ inexperienced users. The least likely offence to be committed in conjunction with alcohol and/or other drugs was a property crime. Although an acquisitive crime is often associated with raising money for drugs, in this instance the lack of association can perhaps be explained by the fact that this is

generally the first offence committed by young people and their first offence typically occurs before their first use of drugs.

Overall, few statistically significant differences were found between temporal order groups, which suggests that the type of factors examined within this study played a little or insignificant role in the order of which cannabis and crime were first taken up among the current sample. Alternatively, the lack of difference between groups may be a result of the sample being too homogeneous. Participants were recruited from two primary locations — juvenile detention centres and community youth services whose clientele were young people who had spent time in detention centres, therefore in a sense limiting the diversity of the overall sample. However, that even if the temporal ordering of cannabis use and crime initiation did not play a major role in differentiating the sample, the young people involved in this study still reported initiating cannabis and other drugs and becoming involved in crime at an extremely young age, and often reported immediate social environments that expose them to drug use and offending even before they become involved themselves, in effect producing a normalising and accepting attitude to such events.

4.6 RESULTS PART THREE: INFLUENCE OF TEMPORAL ORDER OF CANNABIS AND CRIME INITIATION ON DRUG USE, CRIME AND HEALTH LATER IN LIFE

Part Two examined whether social, motivational and environmental aspects of first cannabis use and first criminal offence differed between temporal order groups. This next section will build on these findings by verifying whether such differences result in differences across recent drug use, criminal offending and health. On average these measures were taken four years after the participant's first cannabis use and first criminal offence.

4.6.1 Drug use

Among the sample, the most frequently used drugs in the past month were tobacco (n= 174) and cannabis (n=194). Users of each reported using both every day (median=30 days) in the past month (range 1–30 days). Heroin was the third most frequently used drug (median: 12 days, range 1–30 days); however, only nine participants reported using this drug in the past month. Hallucinogens (n=18) and ecstasy (n=72) were least frequently used with a median of 1.5 days of use in the past month (range 1–30 and 1–12 days respectively) (see Table 4.12). No statistically significant differences were found in days of drug use in the past month between temporal order groups. Data was calculated for participants who reported using each drug category in the past month, hence the range of use started from at least one day per month.

Table 4:12 Median days of drug use in the past month (baseline)

	Cannabis 1st Median (range)	Crime 1st Median (range)	Concurrent Median (range)	Total Median (range)
Tobacco	30	30	30	30
(n=174)	(1-30)	(1-30)	(2-30)	(1-30)
Alcohol	6.5	8	7	7
(n=228)	(1-30)	(1-30)	(1-30)	(1-30)
Cannabis	30	30	30	30
(n=194)	(1-30)	(1-30)	(1-30)	(1-30)
Inhalants	12	3	2	1.5
(n=11)	(-)	(1-8)	(-)	(1-12)
Ecstasy	1.25	3	3	3
(n=72)	(1-18)	(1-30)	(1-30)	(1-30)
Amphetamines	6	12	7	10
(n=30)	(1-30)	(1-30)	(1-15)	(1-30)
Cocaine	2	2	4	2
(n=29)	(1-15)	(1-20)	(1-15)	(1-20)
Methamphetamines	10	3	18	5.5
(n=26)	(1-30)	(1-30)	(1-30)	(1-30)
Hallucinogens	1.5	2	1	1.5
(n=18)	(1-15)	(1-30)	(1-3)	(1-30)
Heroin	20	12	4	12
(n=9)	(10-24)	(1-30)	(-)	(1-30)
Other opioids	2.5	2.5	10	3
(n=11)	(1-30)	(1-21)	(-)	(1-30)

Cannabis dependence and lifetime use of alcohol and other drug treatment services at baseline

Over two-thirds of the cannabis-first group (67.2%) were classified as cannabis dependent at the time of the baseline interview, while just over half (53%) of the crime-first group and 59.5% of the concurrent group were also cannabis dependent. A score of four on the SDS within an adolescent population has been found to indicate cannabis dependence (Martin et al., 2006).

Participants scored a median of four (range: 0–15) on the cannabis SDS. Participants in the cannabis-first group scored a median of five (range: 0–15), while the other two groups scored four (range: 0–15). There were statistically significant differences between groups.

At the time of the baseline interview, just over 40% of the sample reported having ever received AOD treatment. A smaller proportion of the crime-first group (39.2%) reported ever receiving AOD treatment, compared to 45.1% of the cannabis-first and 47.4% of the concurrent groups. These differences, however, were not statistically significant.

Location of recent cannabis use

Although similar in nature to what was asked of participants regarding their initiation experience, participants were asked instead to rate how much of the time they had used cannabis in each location and with whom in the past six months. For the purposes of comparison between the three temporal order groups, these responses were recoded into yes and no categories. Multiple responses were accepted for all six month measurements.

Similar to first cannabis use, cannabis use in the past six months occurred most often at a friend's house (94.3%). Use at a party (74.3%) was the next most commonly endorsed location, followed by the participant's own home (77.3%) and in a car or other vehicle (68.1%). Participants were least likely to report using at work (7.0%) and a youth or community centre (10.0%) (see Table 4.13).

Table 4.13   Location of recent cannabis use

	Cannabis 1st (n=59) % (n)	Crime 1st (n=119) % (n)	Con-current (n=52) % (n)	Total (n=230) % (n)
Own home	78.0 (46)	60.5 (72)	75.0 (39)	77.3 (157)
Partner's home	44.1 (26)	37.8 (45)	61.5 (32)	44.8 (103)
Friend's home	93.2 (55)	95.0 (113)	94.2 (49)	94.3 (217)
Public place (i.e., street, park)	55.9 (33)	63.0 (75)	63.5 (33)	61.3 (141)
Youth or community centre	6.8 (4)	10.1 (12)	13.5 (7)	10.0 (23)
Educational facility (i.e., university, TAFE, school)	23.7 (14)	26.9 (32)	32.7 (17)	27.4 (63)
Party	72.9 (43)	76.5 (91)	71.2 (37)	74.3 (171)
Car or other vehicle	72.9 (43)	65.5 (78)	68.6 (35)	68.1 (156)
Work	8.5 (5)	3.4 (4)	13.5 (7)	7.0 (16)
Dealer's home	67.8 (40)	56.3 (67)	65.4 (34)	61.3 (141)

Company kept during recent cannabis use

In the six months prior to interview, the majority of participants used with friends (96.5%). Unlike first use of cannabis, over three quarters of participants (76.5%) reported recently using cannabis by themselves, while participants were least likely to use with their immediate family (37.4%) (see Table 4.14). The temporal order groups did not differ significantly with whom they recently used cannabis with.

Table 4.14   Company kept during recent cannabis use

	Cannabis 1st	Crime 1st	Con-current	Total
	(n=59)	(n=119)	(n=52)	(n=230)
	% (n)	% (n)	% (n)	% (n)
Alone	81.4	70.6	84.6	76.5
	(48)	(84)	(44)	(176)
Friend(s)	94.9	97.5	96.2	96.5
	(56)	(116)	(50)	(222)
Boyfriend/girlfriend	42.4	41.2	59.6	45.7
	(25)	(49)	(31)	(105)
Immediate family	39.0	35.3	40.4	37.4
	(23)	(42)	(21)	(86)
Other relatives	44.1	42.9	38.5	42.2
	(26)	(51)	(20)	(97)
Acquaintance/someone just met	59.3	52.1	57.7	55.2
	(35)	(62)	(30)	(127)
Dealer	69.5	60.5	65.4	63.9
	(41)	(72)	(34)	(147)

Motivations for recent cannabis use

The most common reason reported was that they like the feeling and/or effect of cannabis (94.8%). Other frequently endorsed reasons for recent cannabis use included for fun (83.9%), to relieve boredom (75.1%) and to be more social at a party for example (57.4%) (see Table 4.15). Similar proportions of each temporal order group endorsed each motivation with the exception of using cannabis recently due to being drunk. In the six months prior to interview, participants were least likely to report using cannabis as a consequence of peer pressure (16.1%). Participants in the cannabis-first group were less likely to report being drunk as a reason for using in the past six months (x^2 (2) = 9.403, p=0.009).

Table 4.15   Motivations for recent cannabis use

	Cannabis 1st (n=59) % (n)	Crime 1st (n=119) % (n)	Con-current (n=52) % (n)	Total (n=230) % (n)
Fun	76.3 (45)	88.2 (105)	82.7 (43)	83.9 (193)
Liked the feeling/effect	96.6 (57)	95.0 (113)	92.3 (48)	94.8 (218)
Fit in with friends	32.2 (19)	41.2 (49)	34.6 (18)	37.4 (86)
To be more social	47.5 (28)	58.8 (70)	65.4 (34)	57.4 (132)
Help forget about problems and worries	74.6 (44)	62.2 (74)	75.0 (39)	68.3 (157)
Deal with effects of other drugs	37.3 (22)	30.3 (36)	40.4 (21)	34.3 (79)
Easy and cheap to obtain	62.7 (37)	63.0 (75)	53.8 (28)	60.9 (140)
Bored	72.9 (43)	76.3 (90)	75.0 (39)	75.1 (172)
Peer pressure	13.6 (8)	18.5 (22)	13.5 (7)	16.1 (37)
Feel cool	27.1 (16)	31.1 (37)	17.3 (9)	27.0 (62)
Feel and see things differently	55.9 (33)	52.1 (62)	51.9 (27)	53.0 (122)
Felt addicted	67.8 (40)	58.0 (69)	71.2 (37)	63.5 (146)
Help relax	94.9 (56)	93.3 (111)	96.2 (50)	94.3 (217)
Was drunk	37.3 (22)	60.5 (72)	59.6 (31)	54.3 (125)

4.6.2   Criminal offending

Given that reporting the perpetration of a crime is often a sensitive issue that many people may be reluctant to admit, two measures of recent criminal offending by participants (days of offending in the past month and in the past six months) were recorded to assist in improving reliability.

In the month prior to interview/custody, participants were committing drug-related offences (median: 7, range: 1–30 days) more frequently than any of the other offences. Property offences (median: 5, range: 1–30 days) and fraud type crimes (median: 5, range: 2–8 days) were the second most frequently committed. Violent offences (median: 1, range: 1–30 days) were the least likely to have been committed in the past month (see Table 4.16 below).   No statistically significant differences were found between the three temporal order groups.

Table 4.16   Median days of offending in the past month (baseline)

	Cannabis 1st		Crime 1st		Concurrent		Total	
	Median (range)		Median (range)		Median (range)		Median (range)	
	Past month	Past 6 months	Past month	Past 6 months	Past month	Past 6 months	Past month	Past 6 months
Property	8.75	11.0	4.5	10	5	9.5	5	10
	(1-30)	(1-72)	(1-30)	(1-100)	(1-30)	(1-90)	(1-30)	(1-100)
							(n=171)	(n=106)
Violent	1	3	1	2	2	4	1	3
	(1-30)	(1-52)	(1-14)	(1-100)	(1-15)	(1-90)	(1-30)	(1-100)
							(n=143)	(n=77)
Drug related	17.5	19.5	7	6	6.5	17	7	14
	(2-30)	(1-100)	(1-30)	(1-105)	(1-30)	(1-90)	(1-30)	(1-105)
							(n=87)	(n=47)
Traffic related	3.5	2	3	5	6.5	4	3.5	3.75
	(1-30)	(1-50)	(1-30)	(1-150)	(1-30)	(1-48)	(1-30)	(1-150)
							(n=92)	(n=46)
Fraud	5	1	8	6	2	1	5	5.5
	(-)	(-)	(-)	(1-48)	(-)	(1-10)	(2-8)	(1-48)
							(n=14)	(n=3)

The number of days participants committed crimes within each major offence category in the past six months resulted in a similar pattern of offending to what was noted for past month offending. Again the most frequent offences committed were drug-related crimes (median: 14, range: 1–105 days) and property crimes (median: 10, range: 1–100 days), while the least likely crimes committed were of a violent nature (median: 3, range: 1–100 days). Table 4.16 presents the differences in days of offending by temporal order group. Similar to what was found with days of drug use in the past month and days of crime in the past month, the order in which cannabis and crime were first initiated did not impact on recent drug use and offending among the current sample.

Company kept when recent crime was committed

In the six months prior to interview, crime was most recently committed with friends (87.2%), although a high proportion of participants also admitted to committing crime by themselves (70.2%). Participants were least likely to report committing crime recently with their partner (or boyfriend/girlfriend). No significant differences were found between the temporal order groups (see Table 4.17).

Table 4.17   Company kept when recent crime was committed

	Cannabis 1st	Crime 1st	Concurrent	Total
	(n=70)	(=175)	(n=56)	(n=301)
	% (n)	% (n)	% (n)	% (n)
Partner	22.4	17.9	37.0	22.6
	(11)	(25)	(17)	(53)
Family	20.4	15.9	21.3	13.3
	(10)	(20)	(10)	(40)
Friend/s	83.7	87.1	91.3	87.2
	(41)	(122)	(42)	(205)
Acquaintance	42.9	30.9	26.1	32.5
	(21)	(43)	(12)	(76)
By self	75.5	68.6	69.6	70.2
	(37)	(96)	(32)	(165)

Motivations for recent crime

The most commonly reported reasons for committing crime in the six months prior to interview were for fun (73.0%), for the thrill and excitement (69.2%), to relieve boredom (69.1%) and as a result of being under the influence of alcohol or other drugs (65.7%) (see Table 4.18). Participants were least likely to have committed any recent crimes as a result of peer pressure (27.5%), trying to fit in (26.6%) and feeling cool (25.8%). No differences were found based on the temporal order of cannabis and crime initiation.

Table 4.18   Reasons for recent crime

	Cannabis 1st (n=49) % (n)	Crime 1st (n=138) % (n)	Con-current (n=46) % (n)	Total (n=233) % (n)
Bored	63.3 (31)	69.6 (96)	74.0 (34)	69.1 (161)
Thrill/excitement	79.6 (39)	65.2 (90)	65.2 (30)	69.2 (159)
Fun	79.6 (39)	70.3 (97)	73.9 (34)	73.0 (170)
Peer pressure	26.5 (13)	28.2 (39)	26.1 (12)	27.5 (64)
Lost temper	51.0 (25)	52.9 (73)	47.8 (22)	51.5 (120)
Needed money to repay debt	34.7 (17)	26.1 (36)	32.6 (15)	29.2 (68)
Needed money to buy AOD's	61.2 (30)	48.6 (67)	52.2 (24)	51.9 (121)
Under influence of AOD's	69.4 (34)	63.8 (88)	67.4 (31)	65.7 (153)
Payback/revenge	42.9 (21)	34.8 (48)	21.7 (10)	33.9 (79)
Feel cool	24.5 (12)	26.8 (37)	23.9 (11)	25.8 (60)

	Cannabis 1st (n=49) % (n)	Crime 1st (n=138) % (n)	Con-current (n=46) % (n)	Total (n=233) % (n)
Fit in	28.3 (13)	26.8 (37)	26.1 (12)	26.6 (62)
Someone else's idea	40.4 (19)	49.6 (67)	52.3 (23)	48.2 (109)

4.6.3 Health

A number of measures of health status were included to determine whether the temporal order of cannabis use and offending resulted in differences in health later in life.

Visiting a doctor within the six months prior to interview was common among the participants (59.3%). On comparing the temporal order groups, no differences were found in the proportion of participants who had visited a doctor within the cannabis-first group (66.2%), crime-first (54.4%) or concurrent groups (63.2%).

The median total score obtained on the K6 was 11 (range 6–30) falling just below the cut off for very high risk of non-specific psychological distress. When examined using a cut-off of 19 as very high risk, 13.9% of participants fell within this category. Total K6 scores did not differentiate between the three temporal order groups.

Just under one-third of participants (30.4%) reported they had previously been diagnosed with a mental illness. No differences between temporal order groups were found. However, participants often reported behaviour disorders such as attention deficit disorder (ADD) and attention deficit hyperactivity disorder (ADHD) and conduct disorders. Specific mental disorders that were reported included bi-polar, schizophrenia, depression and anxiety.

Participants were also asked an additional question to uncover the level of support they had in relation to any drug and alcohol problems or queries they might have. Overall, 82.8% of participants reported they felt they had someone they could turn to if they needed to talk about any concerns relating to drug and alcohol. No differences were found between the temporal order groups (cannabis-first: 85.9%, crime-first: 81.6% and concurrent: 86.7%).

4.6.4　　　Results Part Three:　Discussion

Results Part Two compared the three temporal order groups on their cannabis and crime initiation experiences to determine if social, environmental and motivational aspects of initiation might provide some explanation regarding the ordering of first cannabis use and first crime.　The current results section expanded on this work by comparing recent drug use, crime and health among the three groups to determine whether participants could be distinguished by the temporal order in which they first used cannabis or first offended.

In the month prior to interview (prior to custody), the majority of participants were using tobacco (57.6%), alcohol (75.5%) and cannabis (64.2%) and less than 10% of the sample reporting the use of any other illicit drug (with the exception of ecstasy — 23.8%).　By comparison, 37.1% of Australian secondary school students aged 12–17 years reported using alcohol in the past month, 6% reported using cannabis in the past month, and 3–4% of 16–17 year old students reported past month use of ecstasy, with the recent use of other illicit drugs extremely rare (White and Smith, 2009).　Although the majority of the current sample no longer attended mainstream school, such data indicates some stark differences between the current sample and that of the general community of the same age, which have implications for longer-term health impacts.

In terms of days of use among the current sample, tobacco and cannabis were used every day in the month.　Heroin (median: 12 days) and amphetamines (median: 10 days) were the next most frequently used drugs in the past month; they were used by a smaller number of participants (n=9 and n=30 respectively).　The data again shows that regardless of the order participants first engaged in cannabis or offending, no differences were found for days of recent drug use.　The small number of participants reporting recent use of some of the illicit drugs may have played a role in the non-significant findings.　Additionally, overall and within each group of participants, total SDS scores indicated that at the time of interview, participants were most likely cannabis

dependent. Such figures are quite alarming and pose a number of concerns around the longer-term health outcomes of the participants. For example, recent longitudinal studies have found problematic cannabis use during adolescence is associated with adult anxiety, continued problematic cannabis use, drug and property related crimes in addition to frequent interactions with the criminal justice system (Degenhardt et al., 2008; Green et al., 2010; Swift et al., 2008).

Not unlike their first cannabis experience, recent cannabis use among the participants primarily occurred at a friend's home (94.3%), with a party being the next most common location (74.3%). Participants in the crime-first group, were less likely to use cannabis in their own home when compared to the cannabis-first and concurrent groups. Although friends were the most likely people with whom participants used cannabis with during the past six months (96.5%), over three quarters of participants (76.5%) reported using cannabis alone. Changing patterns of cannabis use, particularly when use frequently happens alone often signifies a range of other issues — for example cannabis no longer remains a purely social activity (instead becoming routine prior to going out and being social). Changing patterns of use could also represent aspects of dependence.

The most common reasons provided for cannabis use in the six months prior to interview centred around enjoyment from using cannabis — for fun (83.9%), they like the feeling/effect from using (94.8%) and for entertainment when bored (75.1%). Peer pressure (16.1%) was the least likely reason for recent cannabis use. The only difference that appeared between the three temporal order groups was that the cannabis-first group were less likely to report using cannabis due to alcohol intoxication.

In the month prior to interview, just over half of the participants (56.6%) reported committing a property crime, while just under half of the participants (47.4%) reported committing a violent crime. Recent data on behaviour was collected on the days of criminal offending in the past six months and in the past month (prior to custody) to account for withheld information about any recent, undetected crimes. Drug-related offences, such as dealing were the most

frequently committed crimes in the past six months (14 days) and past month (7 days). Property offences were the second most frequently committed (10 days in the past 6 months, and 5 days in the past month). Again similar to what was found for recent drug use, the temporal order of cannabis use and crime initiation resulted in a difference in the days of recent crime among the sample.

As was reported for first criminal offence and recent drug use, recent offending predominantly occurred with friends (87.8%). However, a large proportion of participants reported committing crime alone (72.1%). The primary reasons provided for recent offending included: reducing boredom (68.9%), for the thrill or excitement (154) and for fun (74.8%). Participants were least likely to report offending in the past six months was a result of attempting to feel cool (25.8%), to fit in (25.7%) and as a result of peer pressure (26.6%). Such findings are consistent with those found in the recent NSW health survey of young people in custody (Indig et al., 2011).

Overall, participants who differed in the order in which they first initiated cannabis and crime did not differ significantly in regards to current drug use, offending and across a number of health indices. Non-significant differences may have resulted from a small sample size or a lack of variance among the sample, where very few socio-demographic differences existed between the temporal order groups. Alternatively, given the high levels of drug use and criminal involvement, the role of temporal order may have become insignificant and therefore measurement of drug use and crime at an earlier time point may reveal different findings.

4.7　　Results Part Four: Baseline to follow-up comparison

Sophisticated analyses were originally planned to use the follow-up data in a more meaningful way, however, difficulties resulted in a limited number of successful follow-up interviews being conducted. The aim of this final is to outline and interpret the follow-up data that was available. Differences between temporal order groups at follow-up cannot be conducted due to small number of participants within each group. The sections below will expand on these issues, and will provide an overview of the follow-up sample demographics and differences between those successfully followed up and those lost to follow-up.

4.7.1　　Follow-up sample: Demographics and differences

This first section will provide an overview of the participants who were successfully re-interviewed to determine whether the follow-up sample differed significantly from the sample lost to follow-up across a range of core demographic, drug use and offending characteristics. Full data can be found in Appendix V. Attrition rates and reasons for an unsuccessful interview will also be summarised below.

Status at follow-up

A total of 135 participants (44.7%) were successfully re-interviewed at follow-up. This represents 50.7% (n=76) of the community-recruited baseline sample and 38.8% (n=59) of the custody-recruited baseline sample. Of those who were not re-interviewed, around three quarters (72.5%) of participants and their relatives/friends could not be contacted using the contact information provided by the participant at baseline. Disconnected phone numbers, phone unavailability, and incorrect mailing and email addresses were the primary factors.

Overall, and across the community and custody-recruited samples, 14% of those not re-interviewed choose to not participate. A further 12.6% of

participants were unable to be interviewed due to being held within an institution such as an adult prison (10.8%), a forensic hospital (0.6%) or an AOD rehabilitation facility (1.2%). One participant was found to be deceased. The maximum number of follow-up attempts recorded for an individual was 29.

Comparison of socio-demographic characteristics between those followed-up and those lost to follow-up

Participants interviewed at follow-up did not differ significantly from those lost to follow-up on core demographic characteristics such as age, sex, proportion that were born in Australia, or the proportion who identified as Aboriginal and Torres Strait Islander. Additionally, no difference was found for whether they had a prior diagnosis of a mental illness.

Comparison of core drug use variables between those followed-up and those lost to follow-up

No differences were found in lifetime use of each drug category: tobacco, alcohol, cannabis, inhalants, ecstasy, amphetamines, cocaine, methamphetamines, hallucinogens, heroin or other opioids/opiates. Additionally, no differences were found in age of initiation for any of these drugs.

With the exception of cannabis and methamphetamines, no differences were found for mean days of past month drug use at baseline between those followed-up and those lost to follow-up. Successfully followed-up participants used cannabis (U=9132.000, p=0.003) on fewer days in the past month at baseline.

Comparison of core criminal offending variables between those followed-up and those lost to follow-up

Participants who were successfully followed-up were less likely to have participated in drug-related offending in their lifetime (43.7% versus 58.7%, x^2 (1) = 6.710, p=0.010), with no differences found between groups for lifetime participation in the other crime categories (property, violent, fraud and traffic-related offending).

Additionally, no differences were found between groups for age of first crime for any of the offence categories, nor were any differences between groups found for days of past month involvement in each offence category at baseline.

Participants lost to follow-up were more likely to have spent a longer period of time in custody over their lifetime than participants who were successfully followed-up (U=8814.000, p=0.003).

4.7.2 Individual participant changes from baseline to follow-up

A number of participants who were re-interviewed in custody (n=19) had not left custody since being interviewed for the first time at baseline. Data on recent drug use and recent crime, therefore, was not collected from those participants. This limited the number of valid responses for each question surveyed and consequently limited the types of analyses that could be performed on the dataset.

The following section will examine changes in drug use, crime and health between baseline and follow-up for those individuals who took part in both surveys.

Baseline to follow-up drug use

Drug use

Using Wicoxon Signed rank test for paired data (measuring individual change); median days of drug use for tobacco, alcohol, cannabis and ecstasy were compared between baseline and follow-up. No statistically significant changes from baseline to follow-up were observed; however, from baseline to follow-up, days of tobacco use remained the same (median: 30, range: 0–30 days), while days of alcohol increased from a median of four to a median of five days (range remained 0–30 days); cannabis use increased from a median of one to 11 days (range remained 0–30 days); and ecstasy use increased from a median of zero to two days.

Dependence

Participants' level of dependence on cannabis at baseline and follow-up were compared among those who reported using cannabis in the past six months at the baseline and follow-up interviews (n=44). A decrease in the proportion of participants classified as cannabis dependent was noted from baseline to follow-up (50.5% vs. 40.0%). Additionally, although a difference in SDS scores was observed from baseline (median: 4) to follow-up (median: 3), the difference was not found to be statistically significant.

Baseline to follow-up criminal offending

Number of police warnings

The number of police warnings received by participants in the six months prior to the follow-up interview was significantly lower than the number of warnings they had in the six months prior to their baseline interview (median: 1, range: 0–300 warnings vs. median: 0, range: 0–180 warnings, z=-3.396, p=0.001).

Number of arrests

Similarly, the number of times participants reported being arrested in the six months prior to the follow-up interview was significantly lower than the number of arrests received in time leading up to the baseline interview (median: 1, range: 0–30 arrests vs. median: 0, range: 0–30 arrests, z=-3.240, p=0.001).

Number of days spent in custody in six months prior to interview

In the six months prior to the follow-up interview, participants were more likely to have spent more days in custody than in the six months prior to the baseline interview (median: 0, range: 0–180 days vs. median: 1, range: 0–510 days, z=-4.416, p<0.001).

Days of crime in the past six months

Wilcoxon Signed Rank Tests (for paired samples) were conducted to examine individual changes over time in the number of criminal offences committed in the six months prior to baseline and follow-up. Similar to what was found for drug use, no statistically significant changes were observed for criminal offending; however, from baseline to follow-up, days of property crime

increased from a median of two to 5.25 days and days of violent crime increased from one to two days.

Baseline to follow-up health

Participants' level of psychological distress measured by the K6 at baseline and follow-up were compared (n=130). Although a small difference in K6 scores were observed from baseline (median: 11) to follow-up (median: 10) the difference not significant.

Overall, participants reported their physical health to be better at follow-up (rating of "very good") compared to baseline (rating of "good"); this difference, however, was not statistically significant.

4.7.4 Results Part Four: Discussion

Concluding the results section for Study 2, Part Four explored data collected during the follow-up component of the study.   As was made clear at the beginning of this section, a number of difficulties were experienced during data collection that hindered the successful completion of approximately half of the follow-up surveys.   Difficulty in following-up samples of offenders, particularly young offenders is not uncommon, even by well-resourced studies.   For example the recent NSW Justice Health survey of young people in custody achieved a 46% follow-up rate at 12 months post baseline with all the resources of the government department brought to bear on the study compared with this unfunded project (Justice Health, 2012).   Young offenders, specifically those who spend time in custody are often characterised by their lack of stable accommodation and finances, which contributes to difficulties in successfully re-locating them for a follow-up interview.

On examination of the characteristics of participants lost to follow-up, a larger proportion of those recruited from custody than from the community were unable to be re-interviewed.   Similarly, those who used more cannabis, committed more drug-related offences in the past month and had spent longer in custody over their lifetime at baseline were also less likely to have successfully completed a follow-up interview.   It is important to bear this in mind when interpreting the results of this section.   The period of time between baseline and follow-up differed among participants, primarily due to access and re-locating difficulties.

At follow-up, participants reported an overall reduction in their contact with the criminal justice system (police warnings and arrests), with the exception of the number of days spent in custody, which were found to increase.   An increase in the number of days spent in custody in the six months prior to interview may be influenced by half the sample having been interviewed while in custody at baseline; therefore, this finding needs to be interpreted with caution.   No statistically significant changes were found for self-reported offending for any of

the crime categories between baseline and follow-up. Similarly, no statistically significant differences in baseline to follow-up drug use or cannabis dependence were found. Failure to reach statistical significance may have been a consequence of the small sample size.

4.8   Study limitations

A number of limitations need to be taken into account when considering the findings of this study. This section will outline some of the key limitations of the study and the processes employed to minimise such limitations.

Self-report

The current study relied entirely on self-report data collected via researcher-administered interviews that occurred face-to-face. As explained in more detail in Section 4.2, baseline interviews were conducted at either juvenile detention facilities or on the grounds of youth services located within the community. Follow-up interviews were conducted face-to-face where practical or over the phone.

Limitations and issues and relating to self-report, particularly of criminal and drug use behaviours, were discussed in Section 3.7.1.

Sample bias

The current study aimed to recruit young people who had a diverse range or prior/current level of involvement with the juvenile justice system, from young people who have had minimal contact with the system to those who have spent a period of time in a detention centre. Partly in response to the "dark figure of crime" concept (as discussed in Section 1.3 and Section 3.7.1), a convenience sampling method was applied to the current study. Recruitment sites in Sydney and more rural NSW (such as community youth services outreach agencies that provided a range of services including accommodation) were chosen to capture a diverse range of at-risk young people and to overcome some of the geographic limitations of sample recruitment. Purposive sampling of hard-to-reach and specialised populations has been formally recognised as an appropriate form of sampling (Neuman, 2000). In addition, interviewing days and times for youth services located within the community were varied to include daytime, evening, weekends and school holidays to ensure a large

proportion of the young people attending each service during the period of interviewing had a chance to participate.

Regarding the sample of young people interviewed while in custody, where possible, demographic data will be compared to findings from larger studies such as the recent 2009 NSW Young People in Custody Health Survey (Indig et al., 2011) to ensure that those who participated in the current study are not unlike the general population of those in custody. The total number of participants at each juvenile justice centre on the days the survey was conducted, and the average daily number for all young people in custody for the period the survey was conducted has also been obtained from JJ NSW (please see Appendix L). Although a non-representative sample poses issues regarding generalisability of findings, participants in this study are not unlike the average young person who is supervised by Juvenile Justice NSW in terms of age, sex and Aboriginal and/or Torres Strait Islander origins (refer to Section 1.4 and 1.4.3). The sample may not be representative of all at-risk young people who attend or do not attend youth services in the community.

Loss to follow-up

A high rate of attrition at follow-up time points to the core disadvantage associated with longitudinal and repeated measures survey research. Loss to follow-up poses questions about the reliability of results, particularly if the follow-up group is not representative of the original sample. The current study involved the recruitment of young, at-risk people who are known to be fairly transient in nature, often do not complete the programs they may have been involved in at youth services and do not always have a family home, therefore adding enormously to the risk of being unable to be followed-up. However, including participants who may be harder to follow-up has been identified as an important way of obtaining data on more difficult to reach groups and very problematic drug users (Bennett and Holloway, 2007).

4.9   Conclusions

As highlighted in the previous chapter, cannabis use among criminally involved young people and the impact it may have on offending behaviour remains a significant area of concern. The current study found that the temporal order of cannabis use and crime initiation could not significantly differentiate between the overall initiation experiences (in terms of motivations, social and environmental contributors) and recent drug use and crime behaviours of those who used cannabis first, became involved in crime first or began behaviours in the same year. Findings suggest that those in the cannabis-first group progressed more quickly from first to regular drug-related and property crimes and from first property crime to first violent crime than did the other two groups.

Although limited by the number of participants able to be successfully followed-up, the current prospective follow-up study is one of only a few studies that has been conducted specifically with at-risk/criminally involved young people in Australia, particularly with a cannabis focus. Findings of the study have suggested that regardless of the order of first involvement in cannabis use or crime, the links between early crime and cannabis use and social and family environments where such behaviours are normative are clear. Understanding the role that immediate environments and social contributors play on initiation and subsequent involvement is therefore essential for addressing such behaviours from an early intervention perspective. The following chapter will endeavour to explore this association further through the use of in-depth qualitative interviews.

CHAPTER 5: CANNABIS AND CRIME – A QUALITATIVE PERSPECTIVE

5.1 Introduction

The preceding empirical chapter examined primarily whether the temporal order of cannabis use and criminal offending could be differentiated between the social context of the initiation experience among a sample of at-risk young people. In the chapter, it was also determined whether the temporal order of involvement in such behaviours impacted on later drug use, criminal offending and health status. Overall findings of the previous study did not find temporal order to plays a significant role, rather that early exposure to drug use and offending via the participant's immediate social environment while growing up, may play an important role.

This chapter will expand on such findings through the in-depth interviews with a group of targeted young people with the aim of gathering a more comprehensive insight into the thoughts, feelings, experiences and perspectives leading up to the initiation of cannabis use and first criminal offence. Additionally, the study aims to uncover which factors contributed to continued involvement in and cessation of regular cannabis use and offending.

This final empirical chapter aims to further examine the relationship between cannabis use and criminal offending among at-risk young people, particular the initiation experience, from a qualitative perspective.

More specifically, the current study aims to:

1.   Determine the role that social and environmental influences play in the initiation of cannabis use and criminal offending among at-risk young people;

2. Elicit which factors contribute to the on-going relationship between cannabis use and criminal offending from the perspective of at-risk young people; and

3. Explore the factors that contribute to the cessation of involvement in cannabis use and criminal offending from the perspective of at-risk young people.

Similar to the previous chapters, the results of Chapter 5 (Study 3) will be presented in two parts determined by these three primary study aims.

5.2 Methods

Study Three uses a qualitative research approach to further understand and expand on the findings of Study Two — primarily a quantitative study. Although qualitative and quantitative studies differ in many ways they are complementary. Consistent with the aim of the current study, the primary focus of qualitative research is to explore the experiences and perspectives of individuals or groups (who are selected purposively) and the meanings, beliefs and interpretations that they attach to them (Cresswell, 2009; Hakim, 2000). The true emphasis ultimately lies in describing and explaining a specific social context and the social actions that take place within that context (Hakim, 2000; Neuman, 2000). The current study used in-depth, semi-structured interviews with the aid of an interview guide to collect the data. The main advantage of using an interview guide was that it allowed for the interview to remain focused on the selected topics yet was also flexible enough to allow for the researcher to decide whether to manipulate the order and wording of questions depending on the participant's responses. Using probes within qualitative interviewing can be crucial for obtaining further, more in-depth data (Creswell, 2009; Neuman, 2000).

5.2.1 Participants and sampling procedures

Within the current study, participants were selected on the basis of three main criteria:

1. They were a regular cannabis user or had used cannabis regularly in the past;

2. They had a current or prior history of contact with the juvenile and/or criminal justice system; and

3. They were aged between 16 and 25 years.

Originally, participants were identified to take part in this study through participation in Study Two (as described in Section 4.2.2). Participants who met the above criteria and were identified as chatty and willing to provide their own perspectives and experiences on the topic were later invited to take part.

Cresswell (2009) states that such strategic selection of participants is the key to helping researchers best understand the problem at hand. Later recruitment of participants into the study relied on a referral from youth workers at youth services located in the community and through the direct recruitment by the interviewer at these services. As explained in Study Two, these organisations provide services for at-risk young people (See Appendix J).

A total of 20 semi-structured, in-depth interviews were conducted during April and October 2010 and May and June 2011. A pilot interview was also conducted to ensure the interview guide and research topics were suitable for obtaining the anticipated data. Following the interview, participants were asked to complete a brief demographic profile (i.e. sex, age, ethnicity, main source of income, accommodation status, highest level of schooling achieved and interview location). Each participant was provided with an information statement and required to sign a consent form prior to participating in the research study. A copy of the consent form is located in Appendix I.

5.2.2   The interview guide

An interview (or research) guide was developed to help focus the semi-structured interviews. This allowed for individual experiences and perspectives to emerge without concepts and categories being introduced to the subjects (Patton, 1990; Wright and Bennett, 1990). The interview guide contained a set of themes (listed below) along with a number of probes to assist the participants elaborate and explain their ideas in more detail. A pilot interview was conducted to assess the appropriateness of the interview topics and to ensure the key topic areas were covered. A full copy of the interview guide can be found in Appendix V.

Interview guide themes included:
- Perceptions of the drug-crime/cannabis-crime relationship;
- History of cannabis use, including initiation and changes in use over time;

- History of criminal offending, including first crime and changes in offending over time;

- The place/role of cannabis and crime in the participant's current life situation;

- Experiences with other illegal substances and their relationship to cannabis; and

- Experiences with juvenile/criminal justice system, AOD treatment.

5.2.3   Data recording and transcription

Prior to the interview commencing, participants were asked to provide consent to the audio recording of the interview. No participant refused to have his or her interview recorded. Interviews were recorded to increase the accuracy of the information conveyed by the participant. To ensure privacy and confidentiality, each participant and any other person that was mentioned during the interview was given a pseudonym. All names were changed during transcription of the interviews and only the pseudonym is mentioned in the results of this study. Each interview was transcribed verbatim.

5.2.4   Participant reimbursement

Participants were reimbursed with a $30 gift voucher to the department store Kmart for their time and out-of-pocket expenses at the end of the interview. Please refer to Section 4.2.3 for further details regarding participant reimbursement.

5.2.5   Ethical considerations and approval

Ethical approval for the current study was granted by the UNSW HREC (08280). Further details regarding ethical considerations have been discussed in Section 4.2.3.

5.2.6   Data analysis

An inductive approach was used to analyse the data within this qualitative study. Such an approach involves analysing the data in a systematic way, while at the same time being guided by the objectives of the research, and allowing the research findings to emerge from the raw data (Creswell, 2009; Thomas, 2006). This type of analysis is very similar to that of a grounded theory approach (Strauss and Corbin, 1998), another popular method of analysis within qualitative research. The primary difference between these two approaches lies within the coding process, where axial and open coding within the grounded theory approach occur separately (Thomas, 2006). Inductive analysis of qualitative data is frequently used within the health and social sciences.

For the current study, each interview transcript was read over several times to ensure familiarity with the data and to identify major emerging themes. Coding — a procedure that involves both "data reduction and interpretation" (Cresswell, 1994, pg. 154) then occurred where segments of text were identified and grouped under a descriptive category or topic heading. Major categories/themes were guided by the research objectives in conjunction with those themes that had arisen from the raw data. Text falling under each category and sub-category was then compared to highlight contrasting and complimentary perspectives of participants. Quotes were used throughout to support the findings. The final step in the analysis involved the revision and refinement of categories and themes, where the most important were presented in the results section of this study (Thomas, 2006). Data saturation was achieved. Thomas (2006) provides a concise summary of the process of inductive data analysis in Figure 5.1 below.

Figure 5.1   The coding process in inductive analysis

The Coding Process in Inductive Analysis				
Initial reading of text data	Identify specific text segments related to objectives	Label the segments of text to create categories	Reduce overlap and redundancy among the categories	Create a model incorporating most categories
Many pages of text	Many segments of text	30-40 categories	15-20 categories	3-8 categories
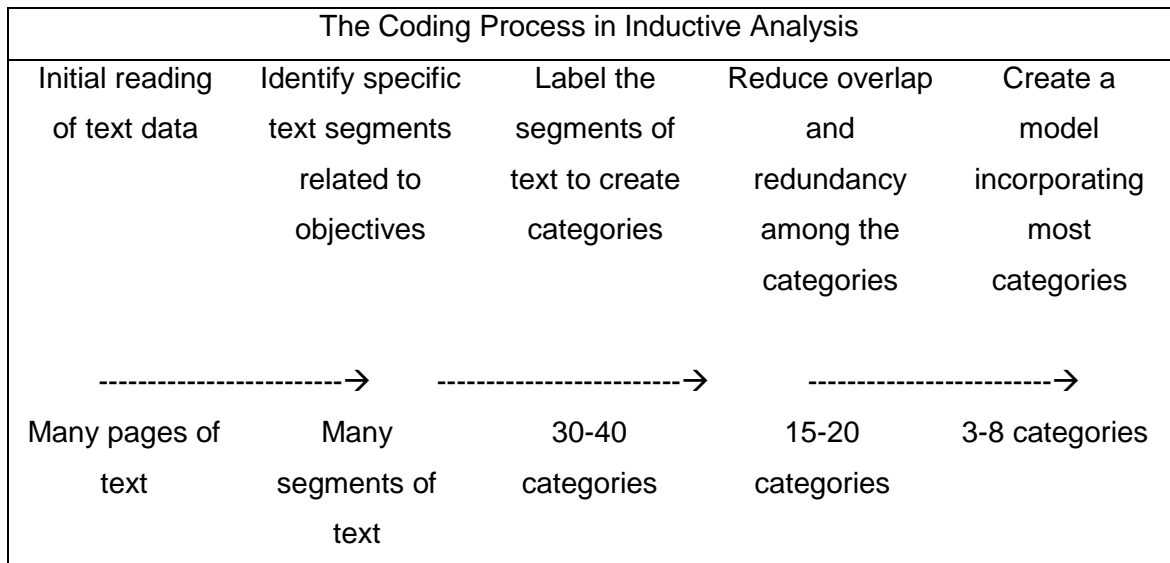
Source: (Thomas, 2006) Adapted from Creswell (2002, pg. 266, Figure 9.4)

5.2.8   Participants

Twenty young people recruited from youth services took part in an in-depth, semi-structured qualitative interview.   Participants were predominantly male (65%) and were aged between 16 and 23 years. Two-thirds of the sample were aged 20 years or younger, while 40% were aged between 16 and 17 years. Three-quarters of participants (75%) identified as being Australian or Aboriginal Australian.

Of those who provided relevant demographic information (n=19), 75% were currently receiving government benefits (Centrelink) as their main source of income; three participants did not receive any income, while one participant was employed in part-time work.

The majority of participants (70%) had completed at least Year 8, 9 or 10 at school (n=13), one participant was still attending school, while another had completed the final year of schooling (Year 12).   Four participants did not provide information on school achievement.   Four participants were now attending TAFE or university.

5.3 Results Part One: The initiation experience

The results of this study will be presented in two parts based on the study aims. Each section will be structured according to the major themes and sub-themes arising from the data.

Cannabis initiation

5.3.1 Normalisation of cannabis use

For the majority of participants, while growing up cannabis use was viewed as a normalised and accepted behaviour engaged in by many family members, friends and even those down the street (i.e., those in the neighbourhood). Ella (22 years old) in particular, proclaimed her perception of the widespread use of cannabis within the community to be: *"I reckon half the population probably smokes weed. I reckon at least one person knows someone that smokes cannabis, you know what I mean?"* Such perceptions were viewed as being re-enforced by familial cannabis use. Ella explained further:

> *Seeing someone, you know, smoking a bong's[6] normal to me. My mum and dad, you know, used to smoke it. All my, like, I had nine brothers and sisters that used to smoke it. My mum would take me to her friend's house [and] they'd be smoking it. Everyone was smoking weed in the neighbourhood, it was just normal to me.* (Ella).

Exposure to cannabis use within the immediate social environment during adolescence was an experience shared by many of the participants.

> *I pretty much grew up with it [i.e. cannabis]. My uncle was a dealer, my mum always smoked, so from a young age I was always really comfortable around it. It seemed like a very familiar thing for me, so it*

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[6] Bongs are the most common method of using cannabis in Australia, especially among young people. They can be made from a variety of materials such as glass, plastic and aluminium. The cannabis is packed in a 'cone' and burned, and water is used to cool the smoke before it is inhaled. Source: http://cannabisaur.us/word/bong/

wasn't like all big and new, 'cos I just always grown up with it, I've always seen it, so it wasn't all that exciting. (Becca, 21 years old)

My dad smokes pot, but like I've grown up with him smoking pot for like all of my life and I'm just used to it. He'd do it in front of me, but like I wouldn't go near him. I knew what it was and that but he didn't say nothing about it. (Alex, 17 year old)

5.3.2 Influence of the family

Desire to mimic the behaviour of family members

Being in the presence of drug use while young (in addition to deterring the participants from use, which will be explored later), played a role in the promotion of drug use by creating a desire to copy/model the behaviour of family members. Witnessing drug use was described as arousing a curiosity about the drug and the effects it produced.

Wanting to mimic the behaviour of family members was, for some participants, the main reason they wanted to try cannabis. Becca explained: *"It seemed like a very familiar thing for me. 'Cos I just always grown up with it, it wasn't all that exciting, I just wanted to do what mum did."*

A few of the participants also mentioned the idolisation of older siblings, their actions and behaviours. Sarah (16 years old), in defence of her older brother stated: *"Not to make my brother look bad, but I started using pot 'cos he gave me my first cone and I wanted to be just like my big brother".* Koby (18 years old) who was Sarah's older brother, whom she wanted to be just like, felt the same way about his older brother's use of cannabis. Koby described how he didn't actually know what it was that his brother was doing at first, except that he thought he looked cool while doing it.

> *Yeah I copied my older brother. When I was 7, my brother had a cone and left a bit of smoke in the bong, I didn't know what it was, so like he put the bong down and I just run over and grabbed it and sucked it and coughed by guts up, nearly died and shit. And then I was about 9 or 10, I*

saw him smoking again and they were only having a joint, so I had a couple of puffs. Seeing him blowing smoke out of his mouth, [I thought] that's cool and shit, I want to do that. (Koby)

Similar to how Koby wanted to be cool like his older brother, image enhancement was also identified by Richard (17 years old) as the main reason he first tried cannabis: *"I thought it was cool, you know. Like everyone was doing it, why not, you know what I mean."* Richard related his first use of cannabis to also wanting to fit in with his friends. The influence of peers will be explored in more detail in a later section.

Witnessing family members use cannabis, enhanced curiosity

The curiosity of watching family members use cannabis while young was enough to prompt Mya (16 years old) at the age of seven to ask her mum directly what it was like to smoke cannabis. Her mum in response offered her some:

I was sitting there and I was like "does that taste good?" and my mum was like "here try it", you know, she's like "do you like that shit?" and I was like "yeah, I feel really tired right now" and she used to always give it to me to go to sleep at first. (Mya)

A number of participants, although they saw or knew of family members who used cannabis, their parents and/or other family members would attempt to hide the drug and drug-use paraphernalia from them. Becca explained how despite her mum's attempts at hiding what she was doing, curiosity got the better of her and resulted in her trying cannabis with her friend when her mum wasn't around.

So even though they made attempts to hide it from me, you know you're a kid, as soon as they're out of the room you want to go looking and see what it is. I first tried it when I was 12 out of my mum's bong when she wasn't home. (Becca)

The frequent and almost obsessive focus on using cannabis as described by Shannon (21 years old) of her older sister and sister's boyfriend's use, enticed her to try cannabis. Shannon, however, at the time didn't see what the fuss was all about until later on.

> *I just expected something great 'cos they did it every day and it was, you know, their be all and end all for their life. But I was just like whatever, nah, you know, one cone and I didn't get addicted, didn't plan to do it again, and yeah.* (Shannon)

Curiosity to try cannabis stemmed not only from witnessing people use, but also from what seems to be a generalised interest in trying out drugs to feel their effects. Nick (18 years old) recalled: *"I was just more like, I wanna give it a go and see what it was like."* Similarly, Luke (17 years old) described how he had an interest in trying cannabis but also how curiosity had now turned into an eager desire to try a whole range of other illicit drugs. Neither Nick nor Luke reported being exposed to drug use in their home environments.

> *The first bong I had, I was curious, 'cos I wanted to try it, I want to try every drug except ice, heroin any of that stuff. Like I wanna try acid, but don't want to get stuck in a trip, definitely want to try "shrooms".* (Luke)

Prior to trying varieties of drug themselves, word of mouth was the primary way participants knew of how certain drugs would make them feel. Talk of drug use was a popular topic of conversation among many of the participants.

Witnessing family members use cannabis acted as a deterrent
Witnessing or having knowledge of family drug use, including cannabis use and the subsequent effects within the home as a child and/or young person resulted in drug use promotion among some participants and as a short-term deterrent among others. Shannon recalled:

> *I thought it was stupid, because I know having two older sisters who both done it and at the time when my mum would talk to me about it. They did*

it, you know, every week and I would always say to my mum "No, no that will never be me mum, that's stupid, I'll never do it." And even after the first time I tried it, I didn't do it for like at least 3 years and then I started doing it every day. (Shannon)

Mya also explained how at first she was very against her mum using drugs and the effect that cannabis had on her mum's life, however, as time passed Mya began to understand what being addicted meant and how hard it is to overcome.

What's funny right, I was so anti cigarettes, anti-drugs, so anti-alcohol. I used to full sit there with my mum when I was five and shit, "you better quit by the time I'm in high school" and "you better stop that before I do this" and shit, like full anti-cigarettes. I used to always hide my mum's cigarettes and be like I wanna see how long she survives without a cigarette, but she'd just go buy a new packet. I was full like "don't smoke or you'll choke", like I made like little shit up and full drew like things all over the house for my mum. (Mya)

Like watching my mum sit there and get stoned and like rot herself away it was like just enough to like... But then when you start doing it yourself, you seem to understand why people do it, like that's why a lot of people are so anti-that and that's because they've never tried it and then they try it and like "oh now I get why people get so addicted to this, is because it's so fucking easy to just do it." (Mya)

Liz (18 years) shared a very similar experience to Mya after witnessing the effects cannabis and heroin had on her dad. Even though Liz tried to stay away from using drugs as much as she could, in the end, she felt she almost had no choice.

My dad was on heroin and pot, so I hated it. I tried to stay away from it as much as I could, 'cos it was in my family home, I tried to stay away from that as much as I could. Then it came to the point when, you know,

he gave me that first bong and said "smoke it, it's good for you". I sort of just gave up and was like, "oh I might as well." (Liz)

5.3.3   Deception and the influence of peers

Deception and recruitment into drug using circles

A number of participants expressed how they felt deceived and in some ways betrayed by being introduced to cannabis and also to the associated drug lifestyle. Dylan (22 years old) expressed how he felt about the way he was introduced into the drug-using world by older, more entrenched users. He felt he was able to relate to why they may have acted in this way, because he admitted that he in the past he had also recruited others into the scene for the same reasons.

When you were around older boys when you're younger, they were already smoking and that and they knew how naive we were, they remember when they were young. So they kind of wanted us to smoke it and were a bit sly about it, not telling us the real things 'cos they were chucked in it themselves. I think a lot of people, and I've been one of those people as well, it makes them feel good to know other people are stuck in the same thing, they feel like they've got a bit of family or something. (Dylan)

Jessie (20 years old) is another participant who admitted to taking a younger more naive friend under his wing who he subsequently introduced to both drug use and crime:

I met him when he was 12 and he started smoking pot. I used to get him to smoke pot every day, um took him out stealing stuff everyday 'cos he was my little gangsta mate. (Jessie)

Encouragement to use cannabis and benefits of cannabis re-enforced

Participants were often re-assured by their close friends (whom they trusted) that their decision to first use cannabis was the right one: *"It's always close*

friends, because they're that close, you think it's alright" (Adam, 23 years old). Similar feelings were expressed by Dylan who reflected on his past decisions and the ultimate consequences they had.

> *It was like there was all good things talked about it around my social group, my age, I was naive, I was too young to have realised the real dangers or overseeing what it had done to my family life and my dad and other people.* (Dylan)

One participant, Jo (17 years old) stood out from the sample because her younger brother introduced her to cannabis. She recalled her prior fears of using cannabis, before being re-assured by her brother that the fears were uncalled for.

> *My younger brother, he is a year and a half younger than me, he was doing cannabis, inhaling butane, he was doing drugs at the age of, I think 13 14, and um I was always scared to try it. Thought I'd die if I smoked pot. He's like no you're not gonna die, you can't overdose on marijuana. I'm like oh, ok then.* (Jo)

Peer pressure

The influence of peers (or peer pressure) on the first use of cannabis was prominent among the sample.

> *I was only drinking, but they're full calling me "I'm a bitch" because I didn't, I wasn't pulling a cone and then I just feel shit. So I go, "fine, I'll pull a cone then", and I started smoking pot since then.* (Frankie)

Some of the participants explained how it wasn't always simply direct pressure from peers that led them to using cannabis as Frankie (18 years old) experienced after: *"hanging out with the wrong people",* but also the awkwardness that was felt from not fitting in with the rest of the social group, Alex elaborated further:

I used to say no, like and all, but then I just started smoking. Like it's a bit hard if like all your friends pretty much smoke pot and you go hang out with them and they go have a chop and they're all smoking, they're all stoned and you're the only one, like the odd one out. (Alex)

Peer pressure to use drugs, not just cannabis, was often exaggerated when peers lived and congregated together at youth refuges for example. Jessie felt strongly about the role of peer pressure within this type of environment; he believed the two in combination contributed strongly to drug use initiation and progression.

It's just bad, bad influences, peer pressure, that's what most people get caught up with. 'Cos most kids when they first arrive here at [the refuge], they're good people, 7 months down the track, they're a junkie, an ice-head, alcoholic, speed freak, whatever mate, this place is a criminal breeding ground. They get caught up with it, the bullshit, it's just a process, I've lived here and it was shit. (Jessie)

For the entertainment of older siblings

A number of participants were introduced to cannabis for the first time for what seems to be for the purposes of entertaining older siblings. Sarah and Shannon were among those who recalled how their older siblings thought it would be quite amusing to witness them use cannabis for the first time at such a young age.

My sister's boyfriend was a dealer, and she thought it would be funny. One day she's like "let's give her a cone and see how she acts" and her boyfriend even though he's an idiot was like "no that's stupid, she's only a kid, let's not start her on it." (Shannon)

Sarah experienced a something similar; however, trying cannabis for the first time while very young, seemed to result in an elevation of status among her brother and his friends: *"They thought it would be funny for me to have one, to*

see how I'd react. Him and his mates were like, "ah what a hectic one", you know, "she's smashed." (Sarah)

5.3.4   Internal influences

Periods of vulnerability

Outside influences, such as peer pressure, were not the only contributors to the participant's first cannabis use. Periods of vulnerability resulting from family and parental deaths, being removed from the family home by Department of Community Services (DOCS) and/or being kicked out of home were situations the participants believed also contributed to their uptake of cannabis. Lawrence (18 years old) attributed the reason he starting using cannabis to the death of his parents.

> *When me mum and dad passed away, it's probably one of the reasons I started smoking pot, it's one of the reasons I started smoking ciggies. 'Cos I asked my biggest brother why he was smoking ciggies, like the day after, and he goes "It just helps with the stress and shit." So when I move[d] to Sydney I started buying ciggies and smoking and shit.* (Lawrence)

Dylan explained how a vulnerable period of his life, resulting predominantly from a number of deaths in the family led him into a downward spiral, where he eventually found himself involved in a life of drugs and crime.

> *For me, I went through a lot of deaths. I was at a really vulnerable state. I was looking for some happiness, didn't really fit in with all the other kids who didn't understand what I was really going through at such a young age. I think that um I mainly got into it because I was feeling lost and everything was topsy-turvy at home. I was kind of able to run astray a little and then I found myself in a circle, where you know it was fun and before you know it I found myself, ah addicted to drugs, and that would have been around 13.* (Dylan)

Many spoke about being kicked out of home, but Jessie was the only participant who mentioned being removed from his home by community services. He consequently attributed using cannabis for the first time partly to this event, despite also enduring the death of his own father: *"Cos I got taken away by DOCS from my Nan's house and the youth workers [at] the refuge give me pot, we had a session in the laundry."* He implied that the workers at the refuge provided him with cannabis as a way to cope with what had just happened to him.

A vow to never use drugs

As mentioned above, being exposed to and witnessing drug use among close family/friends was reported by the participants to produce a temporary deterrent effect. Prior to using cannabis, most of the participants possessed a negative attitude and an often a determined view that they would not succumb to using drugs. Dylan stressed he once held a determination that he would not try drugs, and reflected in the regret that he succumbed to using:

> *I thought it was really bad. I used to tell myself I would never do drugs when I was a kid, I'd never, ever do drugs, you know. And then once I was kind of, my curiosity got the better of me, temptation and then I gave it a go, ah it's not that bad. But I hadn't seen the later on effects yet, I was too young to have realised the real dangers, or overseeing what it had done to my family life and my dad and other people.* (Dylan)

Other participants described how they were often told of how "bad" cannabis was by authority figures such as teachers while at school, but also expressed how they felt mislead by the information that had been fed to them.

> *But yeah growing up, being told it's bad, all of that and then you find out it's not as bad as it is, but long term use it is, but it takes a while to get there, before you realise.* (Steve, 17 years)

Lawrence shared a similar experience:

I wasn't interested in it, oh mate, fuck man, like PE [physical education] teachers and shit they say like "oh you can die off it if you do this." Like fuck, you cannot die off a cone, no matter how much you smoke, you'll pass out before you die. (Lawrence)

As mentioned earlier, a fear of using cannabis for the first time generally stemmed from not knowing what to expect and this was sometimes fed by misleading information received about the effects.

I was actually freaked out the first time I tried it. I was wary of trying it 'cos I didn't know what was going to happen. "oh if I have this cone, what's going to happen, my heart is going to stop or something, I'm gonna die from it..." (Koby)

Crime Initiation

Compared to first cannabis use, participants spoke about a more diverse range of influences they felt contributed to their first involvement in criminal offending. This may be a result of participants speaking about not only the first time they ever committed a crime, but also the first time they committed (progressed onto) other types of crimes.

5.3.5   Influence of peers and encouragement to participate

Peers and peer pressure

Similar to the reports of the participants regarding first cannabis use, some participants also reported modifying their behaviour to fit into a peer group. Adam explains: *"It's kind of peer pressure, you know, you want to fit in with the group."* Frankie experienced something similar:

Nah like, yeah, like I've done stuff in the past I didn't really want to do them, but the only reason why I was doing it was I hang around with my mates and like yeah. (Frankie)

Changing friendship groups was quite common and in Becca's experience resulted in a change in the type of crimes she was committing. Originally Becca and her boyfriend were predominantly stealing cars together, whereas when she started hanging around a new group of friends, theft (other than cars) became her crime of choice.

> *I started mixing with a couple of other girls and stuff, different area. Um and that's when I started getting into stealing, 'cos sort of didn't want cars anymore, 'cos we were in a sort of different group.* (Becca)

Recruitment into and encouragement to participate

Some participants felt that they had been lured in and/or encouraged to start taking part in criminal activity without really knowing what they were actually becoming involved in. Dylan shared one perspective:

> *They start smoking cannabis first [that is how] they've come into the crime scene. They've been lured in through the drug into crime, into people that are already hardened criminals. So that's their environment they walk into and that's the sly way that they're brought into the crime so.* (Dylan)

The influence of family was also evident. Koby and Mya described the influence of their respective older brothers who they describe as encouraging them to partake in crime. However, the way in which they were "recruited" or "inducted" into offending was very different. Mya's brothers were described as emphasising the fun, thrill and excitement of involvement in property crime in particular, whereas Koby experienced peer protection and status as a result of taking part in violent/personal type crimes.

> *I was like 11 and shit and me and my brothers went out to go and get this car and it was like they always taught me on my mum's car how to steal cars, like always. They full took me out and stole a car and shit and I was like 'fucken mad' and ever since then I used to go steal cars.* (Mya)

He'd have a big group of boys and like there'd be an idiot with them, so they would tell me to pick on him and stuff 'cos they know that he wouldn't touch me when they're there. (Koby)

Such differing experiences may in fact be associated with the types of crime participants found themselves encouraged to participate in. For example, Liz, as a result of her father's heavy involvement in heroin use and regular crime, found herself involved in crime in a similar way to how she first began using cannabis.

'Cos I used to hang out with a lot of older people and mostly like um older guys because they were friends with my dad. So like their son's ah would know where to get it from and they would do a lot of sort of manly crimes, like breaking into houses or something. I didn't do it with them 'cos I wanted to, I was, I was in that crowd so you know I'd be the only girl running through a house. (Liz)

5.3.6   Status, power and adrenaline

Creating a reputation

Creating a reputation and/or achieving a sense of status among peers were reasons provided for first involvement in crime in general and for involvement in specific, often more riskier crimes, such as car theft as opposed to shoplifting. Adam admitted the pleasure he got out of being recognised for his work on the train lines:

Spray painting on the train lines is fun, just for fun, no particular reason behind it other than to be noted. Your tag is your identity. If you see it around a lot, it kind of becomes, you know, "oh that guy's cool." (Adam)

Outdoing crime conquests within friendship groups were often found to result in an elevation of status among the peer group. Lawrence expressed how this made him feel:

> *'Cos I've got two groups of friends, one of them's like me best friends, one of the groups and like I was the first person to steal a car. Like no one in that group had stolen a car, and they're just like "fuck you're the only cunt that's stolen a car in this group" and like that so.* (Lawrence)

A sense of power and adrenalin

As touched on in the quote above from Dylan, a sense of power, often accompanied by an adrenalin rush, was felt after the successful committal of some types of crimes. These feelings often provided the motivation for continued involvement in crime, which will be explored later. Three of the participants expressed these feelings.

> *But you get like a rush, you think its cool and you like a smart cunt after that, like you've outsmarted the shop person, like sucked in bitch I've rorted[7] your shop and you don't' even know it.* (Jo)

> *Yeah, adrenalin, it's pretty good. Like when you steal something like a car and that it's not like "yeah I got a car", it's like fuck your adrenalines pumping you know, you see coppers, your adrenalin pumps even more and you just don't know what to do.* (Lawrence)

> *I used to think I was macho, drinking alcohol, thinking I was the man, on top of the world, whatever, you know what I'm saying.* (Jessie)

5.3.7 Driven by drug use and addiction

Although the very first crime committed by most participants wasn't generally attributed to drug use, subsequent first crimes of different types were, such as car theft. Drug-related crimes were regularly committed to raise money to afford drugs, as described by Becca.

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[7] "Rorted" is an Australian slang term for theft.

Walking the streets stealing cars, breaking into cars looking for money, looking for anything that we could pretty much sell or you know just take down to the dealers house and swap it for something. (Becca)

For about 9 months I was um, kicked out of home and feeling crap with my life and I got into ice and I was stealing cars and selling them to support my ice habit. I was spending about $250 a day, so a quick easy car to steal, just sell it off for 250 bucks, don't care if it's worth that or not. (Dylan)

Drug-related crime was also committed in anticipation of not being able to afford drugs and/or running out of drugs, as described by Koby:

Me and my mate we went to my mates house and we'd just finished smoking drugs and we left, like oh fuck, we can't smoke anything later, how we gonna get money and that. Well the first crime I ever committed was a robbery in company and just someone took their stuff. I don't, it was, yeah, to get drugs. You just get the idea in the back of your head and you suggest it to your mate and he's like, oh yeah sounds alright, I'll give it a go. (Koby)

5.3.8 Young, silly spontaneous

Innocence and age

Some participants spoke about how young they felt when they committed their first crime. The first crime was more often than not a property offence, typically shoplifting, either from a convenience or department store; and it often occurred as a result of wanting what participants termed "silly" items like lollies, plastic jewellery and soft drinks. Such behaviour often exemplified their initial naivety and innocence that stemmed from being too young to understand the consequences or seriousness of their actions.

Dylan reflected on his experiences, where at first he reported the theft of "little things" such as lollies at a young age, which then turned into mischievous

behaviour as a teenager. He explained how at first the "mucking around" with friends became quite serious and turned into a whole different "ball game".

> *Like I'd stolen little things as a little kid, like just little things, little lolly things. But where I see it as where more real crime, was it kind of started from mucking around with my mates, being mischievous, being idiots and pranks and stuff, exploring private properties 'cos we lived around factories. And before you know it we were making cubbies, finding things that we can make cubbies and then before you know it we're using the factories, like we're getting into factories to see what we can get to use. We're finding things that we could make money or we could use.*

> *Then we got really good at jumping fences. It was the fun of getting away from security guards and we felt kind of powerful. Before you know it, it became too much a part of our life and we were so good at it. We loved the adrenalin rush. We started stealing some pretty crazy things. I did it for drugs and with drugs but also because it was a separate addiction in itself.* (Dylan, 22)

Spontaneity

Early involvement in crime when compared to their later crime was often unplanned and spontaneous in nature. Dylan recalled:

> *When I was younger I think the crimes that I did was more spontaneous and heat of the moment impulse. Whereas I was premeditating things once I was on the harder drugs and needed bigger money.* (Dylan)

Jessie held a somewhat different perspective — his early crime was unplanned but somewhat instinctive in nature, almost like he had no choice in whether he was going to become involved in crime.

> *It's like your nature, it's like instinct, I used to commit crimes without, without thinking about doing them or planned to do it, I just did it and you know, I never thought about the consequences.* (Jessie)

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5.3.9 Influence of family

First involvement in crime was for some participants attributed to their own family's involvement in crime, by being encouraged to commit crime directly, experiencing crime as a normal activity while growing up or witnessing older siblings' involvement in crime.

Jessie spoke of how his mum's boyfriend encouraged him to commit crime when he was young, using his own experiences as a means of justifying why Jessie should commit crime.

> Me mum's boyfriend, he's in gaol for murder, he told me to burn down a house, so I did. Yeah mate, he said to me "Oi dickhead when I was 13 I was burning down the refuge", so I thought I would do the same thing. (Jessie)

Other participants spoke of how they were exposed to criminal behaviour from a young age, when, similar to early exposure to cannabis use, it resulted in such behaviours being considered commonplace or a normal activity.

5.3.10   A necessity

For many of the participants, becoming involved in crime for the first time rose as being almost necessary for survival. Many first offences described were committed in part because they needed money, food and clothing: *"like they need money, like just to survive and that, for like food"* (Steve). Being kicked out of home was a common occurrence experienced among the sample and resulted in the need to commit crime. Becca, Jo and Nick described the reasons they first turned to crime.

> [That's] half the reason why I was always out on the street anyway, that's why I was stealing so much as mum never had any money. So yeah,

there were never any clothes, never any food, never anything. So I sort of had to fend for myself. (Becca)

Just 'cos I like, I've been kicked out of home for ages and me and my mum used to fight and like I've moved out of home and I had like no clothes, she wouldn't let me get my clothes, I had nothing, so, and it was winter. (Jo)

Ah I dunno, it was more 'cos I was hungry and that you know and couldn't be bothered buying 'cos I didn't have the money or scabbing food. (Nick)

In contrast to what can be viewed as essentially "necessary" for survival, Sarah spoke of her first crime being committed to obtain a new pair of shoes after she became aware that a new type of shoe that she wanted on to the market.

I think my first crime, I wanted to buy new shoes 'cos like I didn't have…but then when the new shocks and that came out, I saw them and like ah I want a pair of them now, so me and my friends tried to do a house to get like new shoes and that, just to like look after ourselves. (Sarah)

Yeah my dad was very, very, like he was dealing, he was doing lots of crime. A lot of stuff we had in the house wasn't legit things, you know the TV's stolen, the couch is stolen. (Liz)

It was kind of around us 'cos of my older brother. He was pretty much in the same opportunity, same situation that he was when he was my age, but yeah I think he was a bit worse than me. (Koby)

5.3.11   Results Part One: Discussion

The current study examined what factors young people at risk felt contributed to or influenced their decision to first use cannabis and to participate in crime for the first time.   Often through quantitative studies, previous research has identified a number of risk factors that contribute to the increasing likelihood that an individual will engage in drug use and/or delinquency/criminal behaviour (Williams et al., 2009).   Such factors range from internal influences such as temperament, to family and peer behaviours, to environmental characteristics of the neighbourhood (Hawkins, Catalano and Arthur, 2002; Spooner and Hetherington, 2004).   The more risk factors present, the greater the chances of involvement in such behaviours (Epstein et al., 2001; Stoddard et al., 2012).   The results of the current study identified similar contributors to initiation, as well as a few less frequently reported influences.

Overall, immediate social and environmental influences seemed to play a stronger role in the initiation of cannabis than they did for first involvement in crime.   The use of cannabis was widely accepted into the lives of the participants, with many growing up in environments where parental and/or sibling use was the norm.   Exposure to cannabis use while growing up, without the added encouragement or enticement to use (as experienced by some of the participants), increased perceptions of prevalence and acceptability, heightened the belief that it was safe and "ok" to use, and raised curiosity.   Similar findings have been reported in the alcohol literature, where exposure to parental alcoholism has been identified as a risk factor for the child also developing alcoholism (Birdwell, Vandore and Hahn, 2012; Sorensen et al., 2011).   Although some participants, spoke of the deterrent effect produced by witnessing family members use and the effects that using had on them, this deterrent effect was not long-term.   The normalisation and acceptance of such behaviour was not widely acknowledged as a contributor to first involvement in crime.   However, the influence and role of peers, was acknowledged as a contributor.

Peers were identified to play a significant role in the uptake of cannabis and involvement in crime. For first involvement in crime, participants spoke of the desire to fit into a group and create a reputation and status among the group. For cannabis initiation, this was also mentioned but to a much lesser extent. The influence of peers was identified as being exaggerated in places where more at-risk and experienced young people congregated such as the refuges and youth services where the interviews took place.

A large proportion of the participants spoke about the ways in which they were recruited or inducted into either drug-using circles or crime groups. Perhaps speaking from a more mature and reflective perspective, many spoke about trust being violated and the deception that lured the participants into the drug/crime world. Many felt betrayed as to why someone would encourage a naïve, young person into such a world, which they know is not healthy, safe or on the path to a better life.

The introduction to crime and/or cannabis use was not viewed as all negative. Some participants explained that crime was a necessity; being homeless and without money meant they didn't have a choice. Others spoke about the thrill and fun times they witnessed others having and wanting to be a part of it all. Additionally, feelings of spontaneity and fun were evoked with the memories of the innocence of stealing lollies. These motivations have been reported previously in the literature (Indig et al., 2011).

The direct link between drug use and crime via addiction was mentioned by a few of the participants in terms of being driven to commit economically-motivated crime in anticipation of drugs running out or simply as a means of financing use. Unlike the findings typically cited in the literature, this was a relatively minor theme that arose for initiation; the link is more prominent in sustaining use and will be discussed in more detail in a later section.

5.4 Results Part Two: Drugs and crime – contributors to the maintenance and cessation of the relationship

Results Part One of Study Three discussed the influences identified by participants as contributing to their first use of cannabis and involvement in crime. This current section aims to expand on these findings by reporting the participant's perception of whether they think a drug-crime relationship exists, and if so, which factors contribute to the on-going use of drugs and crime. The final results section of this study will report on factors that contribute to the cessation of cannabis use (broader drug use) and involvement in crime.

A drug-crime relationship

5.4.1 Addiction

Financing drug use

Being able to finance drug use was a common dilemma faced by the adolescent group, Adam explained: *"We need crime, we need money to do drugs and we need to do crime to make money to get the drugs".* Lack of money is often exacerbated by lack of employment and reliance on government allowances.

> *People don't get paid enough from Centrelink[8] to last them one week. My Centrelink payment like lasts me 6 hours. The majority of crime, maybe 87% of crime [is] committed because of drugs."* (Jessie)

> *Because like yeah, I dunno it cost quite a fair bit and most people who do it are usually on Centrelink or whatever and don't really have the money for it.* (Nick)

Dylan explained the issue a little further, highlighting how those who use drugs

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[8] Centrelink is a government organisation that distributes welfare payments

often find it difficult to gain and/or keep employment as a result of drug use and consequently are unable to support their drug use via legitimate means.

> *They might wanna get drugs, so they might end up doing crimes to make the money. 'Cos they might not always have money or the drugs might keep them out of work and stuff like that as well, so. And even some of them don't even have jobs yet and they've gotten into drugs and they're probably going to be, their crimes are probably related through the fact that drugs cost money and they're addicted to it.* (Dylan)

Crime was also thought of as a quick and easy way to obtain money for drugs:

> *Um, well for me, um like I do cannabis but if I don't have money to buy the drugs then, you'd go do like rob a house 'cos that's easy money, its quick money and you get the lot of it so.* (Sarah)

Driven by addiction

Almost all participants spoke of the addictive nature of drugs and how crime often resulted from the inability to finance a habit. Steve summed it up: *"[If] you don't have enough money and you have a habit, you're gonna go steal obviously, like and um yeah that's where it starts".* Luke added that crime is not just committed for money to obtain drugs, but stolen items are also often swapped for drugs.

> *Yeah well you don't even have to do money. You just do, if you get to do a bag run with like a bag of DVDs or stuff in it you know. You just put the bag on and just run out of the shop. That's like, up the coast me mate got a knocker[9] for that, so he just took it to his dealer's house, gave him the DVDs and his dealer gave him a knocker for it so.* (Luke)

Some participants felt that without the addiction, there would be no need to do crime.

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[9]"Knocker" is referring to a specific quantity of cannabis

Well you get addicted to drugs. Like we'd go out stealing shit just so we could afford it. And that's only 'cos drugs have like an addiction to it you know what I mean, like if we didn't, if we weren't addicted to drugs. (Mya, 16)

Because usually like, say like raiding this house or something, like you steal something like you're obviously doing it for money. So you're obviously gonna do it to support your drug use and then if you're not smoking cannabis then you're probably not gonna like go steal money if you don't need it for drugs. (Jo)

Although when you do have an addiction, crime was identified as a way of maintaining it:

I guess 'cos you have to. If you've got a drug addiction you've got to find a way to support it, usually you can't hold down a job, so you're gonna have to do something to get the drugs. (Liz)

Ella held a different perspective of cannabis and crime; she acknowledged that addiction often resulted in crime, but felt becoming addicted to cannabis was not a common experience.

When you're addicted that's when you go out and do crime and stuff like that. But I reckon it depends on the person themselves, if they're gonna get addicted. It's their body and it's what their bodies like. But a majority, I reckon [the] majority of weed smokers don't really get addicted. (Ella)

The experiences and perspectives of participants described so far relate primarily to property type offences. However, a number of participants also reported participating in violent type crimes as a way to finance their drug use, with the underlying thought of doing "what it took" to get the drugs.

Yeah there is some stuff like that, there's like sometimes when you have no drugs and stuff you know um and you need it badly, you'll do anything like to get it right. So that means probably stealing some stuff and then selling some stuff to get it or any other ways, rolling people and stuff, stuff like that and whatever. (Cameron)

I dunno, I smoke weed but when I don't got it I don't think straight and yeah you just get pushed to do whatever you can to get it. (Koby)

Ah more like violence and yeah, so yeah we did it 'cos we ran out of money you know. So the criminal shit that we've done is because we have no money as a dealer without realising the consequences. (Richard)

Anticipating withdrawal and lack of drugs

Outbursts of aggression and violent crimes were commonly reported by the participants as a consequence of cannabis (and other drug) withdrawal and in the anticipation of running out and/or not being able to secure drug use. Irritability, stress and simply the fear created from the pre-occupation of potentially being unable to obtain more drugs often led participants down the path of crime.

Sometimes I didn't have it, that's why I would go do it, sometimes I was just scattered and wanted to go do it 'cos like the fear of running out and hanging out for it. (Steve, 17 years old)

You can get really easy irritated, so then you could end up like hitting them and then getting into like say a big blue and then end up getting locked up. (Ella)

Um, when I haven't been able to get it I've, I turn into like, I dunno, I wanna go, I dunno I just get really angry and um snap for the littlest things and um you just, you want more money so. (Steve)

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Nick explained the influence of peers in such scenarios:

Some people just get really stupid when they're on it and just decide like they wanna go and do something dumb and then they'll rev up everyone else and everyone else will wanna go do it. (Nick)

Participants identified cannabis withdrawals and the associated feeling of irritability to be closely linked to their involvement in criminal activity. The result of not having any cannabis and needing more also led to disagreements and fights among family and friends.

Definitely having withdrawals, I would have um, I'd become very stressed and very easily, I'd easily hit my boiling point. Um, and I think a lot of violence and fights to do with the family because I couldn't get it. And that was usually who I'd become accustomed to being able to get money from my family. Um, and I think ah between the boys as well over drugs like you know, we're all like dogs trying to get one bowl of food. (Dylan)

Yeah I was really aggressive when I smoked. I had heaps of fights with my mum. That's, this was half the reason why I was always out on the street anyway that's why I was stealing so much as mum never had any money so yeah there was never any clothes, never any food, never anything. I was never hesitant to fight someone or um you know if it meant that I was benefiting out of it. (Becca)

5.4.2 Illegality of cannabis promotes social exclusion

A few participants felt that the legal classification of cannabis contributed to use in risky environments and the creation of social exclusion. Dylan summarised his view:

The anti-social behaviours the fact that I was um, you know it's not a legal thing so you go and do it in a hide-out type place and you get used to that and then you stopped being able to socially function, you couldn't

relate to people all the time, 'cos you were so used to being stoned or you're on edge 'cos you have withdrawal. You didn't feel comfortable around people, then brought on the paranoia which was started to, you know that comes with being anti-social for long enough. (Dylan)

5.4.3   Cannabis and crime are not related

The belief that cannabis was related to crime was not shared by all of the participants. Those who disagreed put it down to the cost of cannabis, which is less than other illicit drugs such as methamphetamines (i.e., ice); therefore, the affordability of maintaining cannabis use didn't warrant criminal activity to raise funds.

Ah I smoke every day and like I don't see the purpose of going out and stealing nothing, you know what I'm saying. (Alex)

I never really found the need to, to really steal for cannabis, it was more [for] fun. I did for a bit, little things and that and I did some bad crimes but I think when I really did start stealing for a drug, it was, I was on ice. (Dylan)

Like to get 20 dollars you don't have to steal something so, so crazy, it can be something, anything. When I was younger I think that the crimes that I did was more spontaneous and heat of the moment impulse. Whereas I was premeditating things once I was on the harder drugs and needed bigger money. I was like I can't just do an easy spontaneous something to get this, I've gotta work this out and be careful 'cos I can get in big trouble for doing something big like this so you had to really plan it. (Dylan)

On-going drug use and crime, an-ongoing relationship

5.4.4   The power of cannabis "addiction"

Participants who used cannabis frequently described the powerful and hard-to-defeat addictive powers of the drug, which they felt contributed to their involvement in crime.

> *It's become a survival situation. I have to find it, I have to like run around like a nuttersville with my tribal stick trying to find things. Like if I don't find it I'll go insane like, it's really bad. Like I've been trying to quit for ages but I just.*

> *Yeah like I can't just stop which most people don't just get. Like they don't understand that, it's just like well if you think about it I've been smoking fucking longer than you even knew about it and like you know what I mean.* (Mya)

The more entrenched cannabis became within the lives of the participants, the greater the likelihood of involvement in associated risky behaviours.

> *From the very beginning to it just got worser and worser you know, 'cos more cannabis more drugs you want you know. It's not just the cannabis you know it leads to other things.* (Richard)

Dylan, a participant who painted an eloquent picture of the on-going struggle he faced with his addiction to cannabis, stated:

> *If I knew what I knew now I wouldn't have ever done it. But um I feel like I've got a bit of a love-hate relationship with it. Like I love the effects, um I hate the long term effects and I absolutely hate the fact that it has a hold on me and still does have some sort a hold on me and um I just can't wait to break loose completely with that you know.* (Dylan)

5.4.5 A mechanism for coping

Among the majority of participants, the continued use of cannabis served a greater purpose than for pure fun and pleasure. It was a means of coping with day-to-day life, of relieving stress, of forgetting the past and escaping the present. It was: *"like self medication, you know"* (Jessie), *"it just blocked everything out for me for a bit"* (Nick), *"to get my mind of things"* (Richard), *"it just helps me when I don't feel like doing anything"* (Alex).

> *It's not good because the only thing that keeps me calm is pot. Like if I don't have pot I stress out, you know, towards the end of the day I start to get shitty. So I need some pot and it relaxes my nerves.* (Jessie)

> *Every time I get pissed off or the other stuff like from the past just up again and then say if I had a bong that's only reason why I have a bong, like so I don't have to think of anything. Yeah, 'cos like every time I get pissed off and stuff, since I have a bong, like a cone, I'll like get back to normal like full happy and stuff.* (Frankie)

> *Every time I smoke weed it's always the same you know what I mean? You just smoke it to get mellow, escape from reality for that time being as long as you're stoned for you know what I mean. But sometimes I get a smoke and smoke until I'm sober, well at least I feel sober, like you know what I mean? Like I've come so accustomed to being stoned it's like I don't feel stoned anymore.* (Mya)

A few participants spoke about how using cannabis helped them cope with or/forget about particular crimes they had committed

> *Um just like being freaked out about a certain thing you've done, go have a smoke you know it'll be all good. And yeah it's just like it would just relieve me of stress and that.* (Steve)

Additionally, some participants used cannabis to help them sleep. Sarah was troubled with many worries in her daily life and had trouble sleeping at night.

> *I find it hard to sleep, so I just smoke then as soon as you hit the pillow you're gone.* (Sarah)

Committing crime was also a way in which participants dealt with or coped with certain adverse life events. A number of participants spoke about parental death and its contribution to involvement in cannabis use, general drug use and crime. Luke was one of the participants who specifically spoke about the impact his parents dying had on his involvement in crime.

> *'Cos like it was more when, 'cos mum and dad passed. 'Cos it was more like after they passed and that, I got involved with it more like started stealing from Coles, stole a hottie.* (Luke)

Rather than committing crime partly out of necessity, Jessie spoke about how his involvement in crime and drug use helped him feel better about himself.

> *When my dad got murdered, the family fell apart then and I was heartbroken and lost and I didn't know what else to do so I used to do things that make me feel hectic, make me feel, you know like empowered, you know what I'm saying, yeah.* (Jessie)

Cessation of the drug-crime relationship

5.4.6   A reality check of what the future holds

Either currently or at some stage in the past, a number of the participants had ceased using cannabis all together or at least tried to cut down; and had tried the same with their involvement in crime. Participants related how they had a moment in which they had caught a glimpse of what their future may hold if they kept up their current behaviour and they didn't like it.

> *If you sit there full alone bumming at your TV, playing your Xbox and you're smoking cones and you're just like "I'm such a fucking loner" like, you know what I mean, like "why the fuck am I doing this to myself". That's why I think most people quit is because they end up doing it by themselves without knowing, looking at themselves going "fuck, you know fuck."* (Mya)

> *'Cos it's just, it catches up with you, and um yeh, you think it's all mad at the time but there's still 50 year olds and that you see in homeless shelters and they're still drinking everyday and they just can't get it right. They can't afford presents for their kids, just the simplest things in life it destroys.* (Steve)

Similarly, they had seen what such behaviour had done to other people and they have learnt from that. Jessie, Mya and Koby spoke specifically about learning through living.

> *Now I'm lucky I'm not a drug addict, 'cos I learnt from other people's mistakes, not my own. Like I don't go around making mistakes just to learn from them. I learn from other people's mistakes. I watch how they stuff up, you know and I try to work around what they do.* (Jessie)

Like most times that I've been there, there's some that come up and they're full heroin junkies, I'm like I'm not going to turn into that. That's my fucking counselling you know what I mean. People can sit there, you can tell people as much as you want, what fucking difference does it make when you walk out the door, you know what I mean. Like when you see the after effects of what it actually does, that's your own counselling. (Mya)

But I've seen, like mates go through, like a couple of my mates have gone from like weed to ice to cocaine to like yeah harder drugs and every drug. But like yeah once you see them go through it I guess it like stops you from doing it 'cos you see how they turned out. (Koby)

Becca's fear of ending up with the mental health issues suffered by her close family as a result of heavy, long-term cannabis contributed to her giving up cannabis herself.

Being off it so long and seeing how much it's affected my mum and my uncle mentally, and yeah I've just, like I don't think, it's just such a fear of ending up like them I don't think I could ever go back to it. (Becca)

5.4.7 Impact of incarceration/police intervention

Participants spoke of how at one point they had reduced their involvement in crime and drug use following periods of incarceration and after contact with police. Often it was after a significant interaction with police or after having spent considerable time locked up.

Well me, my one kept on escalating and escalating but um, probably from little stuff to little stuff and then it started getting bigger stuff, then I started and then I went to gaol, and then after that from now on ah I just stopped it. (Cameron)

As I got a bit older and got charged and things like that I kind of pulled back. A lot of my friends didn't but I kind of pulled back on the stealing, and I always had a bit more of a conscience then a lot of my mates that were stealing, I always used to get really electrified-a feeling, so um. I used to get, I was really good at it but when I stopped for long enough to start again was very scary because I didn't have it like I used to, I didn't have the confidence like I used to and I think that was good 'cos it kept me away. (Dylan)

I dunno, the last time I got charged I guess that kind of slowed me down a little bit but not much but I dunno, I haven't had anything like really kick me in the chest, so yeah. (Koby)

Although having not partaken in as serious crimes or experienced incarceration as the boys above, Jo spoke of the impact of receiving an official police caution as the moment when she realised she needed to be careful.

I did the runner with a bottle of Coke and they called the cops. Like who calls the cops over a bottle of Coke and I full got arrested and everything, for a fucken bottle of Coke, it was bullshit. And since that happened, I been like, I get paranoid each time. I like, since like I've got a formal caution for it and I've been to court for it and shit like that. Over a bottle of fucken Coke seriously, it's bullshit. (Jo)

Some participants used the period of drug abstinence enforced while incarcerated as a way of helping them reduce their use on release. Participants didn't want to resume high levels of use. It was almost like a fresh start, a new attempt at being "good".

I used to smoke way more than now. I used to smoke a lot more before I got locked up than now. I still smoke like every day but I used to smoke like a lot everyday, you know what I mean. (Alex)

Yeah um, for me like I smoke pot every day, but not at the moment 'cos I just got out of gaol and that and I'm trying to be good. (Jessie)

5.4.8 Entering a different phase in life/life transition

Changed involvement in drug use and in crime was described as a result of changing priorities that came with entering a different or new phase in life. For some, becoming a parent or wanting to regain custody of their children was important. Sarah wanted to become a better role model for close family.

The main one in my life was when my niece was born. I sort of looked at her and when she became about 1 years old and you know she could talk more and that, like she used to use me as a role model and so I thought well, to myself well I'm gonna stop doing crime and at least try and cut down drugs and that so she doesn't use me as a role model then, that's what I do so. (Sarah)

Frankie spoke similarly about the changes he had experienced in relation to his social group and friends; he was positive about these changes and was hoping to gain custody of his daughter.

Oh it's, I'm heaps changed now 'cos I don't do troubles anymore, I don't do crime and stuff but I right now I've just started hanging out with myself, just by myself. 'Cos I don't hang out with my old mates anymore, 'cos like the rest of them they're in lock-up and stuff, so I don't really want to hang out with them anymore 'cos I don't and plus I've got my daughter. (Frankie)

Gaining employment or wanting to make a career marked another important life transition that participants attributed to the reduction in crime and/or drug use. Emma is one of the young people who spoke about this. She observed that: *"getting older and stuff and just wanting to like make a career and do some studying or something like that you know, to get life on track and stuff."*

It's not worth it anymore

It was common for participants to report reaching a point where they had just had enough and the value of doing crime and using cannabis no longer outweighed their evaluation of the harms — it just wasn't seen to be worth it anymore.

I don't think about doing crime, like I try not to, I don't want to, I had enough you know. I had enough being locked up and that, I just want to live good you know, I've realised that Australia is a good country and a lot of young people can benefit from working with their support workers or youth workers or any programs they got rehabilitation centres. (Jessie)

I'm fucking tempted, I'm fuck, I'm sitting going there "oh fuck I could make a grand just by going into a guy's house and racking as much shit as I can", but like I can't be fucked doing that, like I really just can't. Like I'm such a happy person, I'm just like that's just too much bad stuff for me. Like we've, I've done robberies and shit like that, where we go into like 7-Eleven's with actual guns and hold them with knives and shit. (Mya)

5.4.9 Results Part Two: Discussion

This section explored contributors to the continuation and cessation of the cannabis use and crime association. Reasons for each were found to be mutually exclusive and will be discussed further here.

As has been reported previously, a strong contributor to the on-going association between drug use and crime was addiction (Bennett and Holloway, 2005b; Goldstein, 1985; Moffatt, Weatherburn and Donnelly, 2005). Many of the participants reported that at some stage in their life they had been dependent on cannabis (or another drug) and this led to committing crime either through the need to generate an income to fund drug use in anticipation of withdrawal from the drug. Addiction was described as powerful and hard to overcome, and the more entrenched drug use became, the more risks participants were prepared to take to obtain drugs to feed the habit.

Not all participants agreed that cannabis addiction was associated with offending, with some offering that it was drugs like methamphetamines (i.e. ice) that drove them to more extreme behaviours, while cannabis itself remained affordable. And finally, some participants explained that their continued drug use/involvement in crime was a way to cope with life. Participants felt these behaviours assisted to escape reality, forget their problems, and for cannabis in particular, help them to sleep.

Contributors to the cessation of involvement in drug use and/or crime ranged from internal influences to outside legal sanctions. Consistent with the extant literature (Horney, Osgood and Marshall, 1995; Kazemian, Farrington and Le Blanc, 2009; Sampson and Laub, 1990), many of the participants spoke about transitions in life, such as wanting to gain or gaining employment, enrolling in a course and having children, that contributed to their assessment that the risks no longer outweighed the benefits of crime and drug use. Many felt it just wasn't worth it anymore, even when the temptation of easy money remained.

The sample included at-risk young people, many of whom were currently living in temporary accommodation at refuges. This type of life had left many of them to be very heavy drug users, repeat offenders and often experiencing periods of homelessness. Such exposure had acted as a deterrent, a wake-up call, a reality check for what their life may end up like if they continued their current behaviour. The participants explained they were learning through living, and at times it was witnessing others rather than experiencing the potential long-term impact of drug use and crime themselves that was the most influential.

On the other hand, participants spoke of the impact of being arrested and/or incarcerated. The minor and long-term, repeat offenders spoke of their lack of desire to be incarcerated again. In particular, older participants stressed the reluctance to be sent to adult prison. Similarly, those who had not yet been incarcerated and had had limited contact with the police, spoke of the impact the latter had played and caused them to think that they needed to be more careful from now. Those who had recently been released from custody often felt that being released abstinent was a chance to start afresh.

5.7   Study limitations

A number of limitations must be taken into consideration when interpreting the results of the current study. In particular, that the prevalence and dynamics presented within this thesis reflected a group of youth who are regular cannabis users aged between 16 and 25 years of age, with a history of justice system involvement. The current study was limited geographically to the recruitment of participants who attended youth services for at-risk young people in the Greater Sydney Region (who were previously involved in the prospective follow-up study). Difficulty in recruiting participants eventuated in the successful recruitment of participants from a small number of sites. The study was also limited to the client group who accessed these services. Although the study may not represent all possible experiences and perspectives of the target participant group, the information conveyed by the participants does provide an insight into a number of relevant issues and experiences of young people with histories of cannabis use and offending. Generalisability is not a term emphasised within qualitative research; instead, the core value lies in the particular descriptions and themes that arise out of a specific context (Creswell, 2009).

5.8 Conclusions

The preceding chapter highlighted the significant influence of the environment and social contributors on initiation and continued involvement in both cannabis uses and criminal offending. Consistent with the previous study, findings of this study suggest that young people's immediate social environment, particularly home life and family, play a very strong role in the decision to use cannabis/commit crime, and in some cases provide the pressure to use cannabis/commit crime. Enhanced perceptions of normality and acceptance of such behaviours was a key influence. The power of addiction and addiction-related issues (i.e., anticipation of withdrawal, financing drug habits) in on-going crime supports what has previously been identified in the literature (Ball, Shaffer and Nurco, 1983; Bennett and Holloway, 2005b; Goldstein, 1985: Moffatt, Weatherburn and Donnelly, 2005). Similarly, previous research has found cessation of drug use to be related to transitions in life, growing up and receiving criminal justice sanctions (Forrest and Hay, 2011; Horney, Osgood and Marshall, 1995; Kazemian, Farrington and Le Blanc, 2009; Morris, Gerber and Menard, 2011; Sampson and Laub, 1993).

The current study has added to the literature by documenting the perspectives, experiences and feelings of at-risk and criminally involved young people who are not often engaged within the general community, and whose voice and opinions often go unheard.

The final chapter will attempt to triangulate the findings of all three studies, and will outline implications of the current research, including identifying areas for future work.

CHAPTER 6: GENERAL DISCUSSION

6.1 Introduction and chapter summary

Although many aspects of the drug-crime relationship have been extensively researched, the nature of the association remains widely debated. Similarly, the evidence connecting cannabis use to crime and delinquency remains contested. This thesis has provided further evidence of the initial and on-going association between cannabis use and criminal offending, focusing specifically on the contributions of age and a range of social and environmental factors to this relationship. Using different methodologies and sources of data, this thesis has presented three studies, each of which highlight the importance of addressing involvement in cannabis and crime at a young age, through preventative or early intervention strategies that incorporate the individual and the social environment in which they engage.

Cannabis is typically the first illicit drug to which young people are exposed, and it is frequently the one drug that remains present throughout drug-taking careers, particularly among individuals who come into contact with the criminal justice system (Australian Institute of Health and Welfare, 2011a; Indig et al., 2011; Prichard and Payne, 2005; Sweeney and Payne, 2012). Although sometimes referred to as a "soft" drug when compared to other illicit drugs such as heroin and methamphetamines, early and regular use of cannabis is associated with a range of negative and harmful short- and long-term outcomes (Degenhardt et al., 2012; Dembo et al., 1990; Horwood et al., 2010; Kuepper et al., 2011; Swift et al., 2012; Zhang, Wieczorek and Welte, 1997). Young people who also commit crime are a group who often begin using drugs at an earlier age than the general community (Indig et al., 2011; Prichard and Payne, 2005; Sweeney and Payne, 2012). Research into risk and protective factors has indicated that a number of social and environmental factors, such as peer and family influences, school and neighbourhood characteristics often cumulatively contribute to placing some young people at an increased risk of using drugs and/or involvement in crime (Feinberg, Ridenour and Greenberg, 2007;

Hayatbakhsh et al., 2012; van den Bree and Pickworth, 2005; Loeber and Farrington, 2000). In light of this background, this thesis explored the role of young people's immediate social environment on the initiation and on-going use of cannabis and involvement in crime.

Chapter 1 provided essential background and contextual information relevant to the studies reported in this thesis. Chapter 2 summarised the commonly cited and competing theoretical explanations for the drug-crime relationship and the factors found to influence the relationship. It also reviewed the role of risk and protective factors in cannabis and crime initiation, as well as motivations for and outcomes of early involvement in drug use and crime.

In Chapter 3 (Study 1), existing data from the routinely administered DUMA program was examined to compare drug use and offending among NSW police detainees by age and drug-user group; and explore predictors of the number of recent criminal charges received by NSW police detainees by age and drug-user group.

Narrowing the focus of the thesis, Chapter 4 (Study 2) aimed to determine whether the temporal order of onset of cannabis use and criminal offending could differentiate between the social, motivation and environmental contributors to initiation and on-going cannabis use and crime among a sample of criminally involved young people from NSW. Participants in this prospective follow-up study were recruited from juvenile detention centres and a range of youth services for at-risk young people, located within the community.

The third empirical study (Chapter 5) expanded on the findings of Chapter 4 through the in-depth interviewing of young, regular users of cannabis and regular offenders with the aim of gathering deeper explanations, perceptions, thoughts and feelings regarding contributors to initiation of, on-going and cessation of cannabis use and involvement in crime.

This final chapter will integrate and summarise the key research findings of this thesis, and will discuss a number of implications for research and practice.

More in-depth, detailed discussions of the findings of the three empirical studies were presented at the end of each results section in Chapters 3–5.

6.2   Summary of key findings

6.2.1   Age, drug-user groups and crime

Study 1 found police detainees aged ≤ 25 years were more likely to report using drugs and to have been arrested more times in the past 12 months.   As discussed in Section 3.7, such findings are consistent with previous research that has identified that more frequent and intense drug use and offending occurs during adolescence compared to during adulthood (Australian Bureau of Statistics, 2012; Fergusson, Swain-Campbell and Horwood, 2002).   These differences may also reflect differences in the levels of criminality among the groups and reflect the occurrence of desistance of crime with age (Hirschi and Gottfredson, 1983; Horney, Osgood and Marshall, 1995; Kazemian, Farrington and Le Blanc, 2009).

Comparisons across drug-user group revealed additional differences in age of drug use initiation. The other-illicit drug-user group reported younger ages of drug initiation and more frequent involvement with the criminal justice system. Consistent with the literature, some types of illicit drugs have been found to be more closely associated with some forms of criminal offending, for example heroin and property crime, and illicit stimulants such as amphetamines and violent crime (Chermack et al., 2010; Indemaur, 1995; Moore et al., 2008; Sweeney and Payne, 2012).   It is also important to consider the influence of multiple illicit drug use on these particular findings. Police detainees within this participant group may have been single drug users or multiple drug users. Multiple illicit drug use is consistently found to be associated with more frequent engagement in crime, primarily for economic reasons (Bennett, Holloway and Farrington, 2008; Bradford and Payne, 2012; French et al., 2000; Wilkins and Sweetsur, 2010).

Study 1 also found differences across age and drug-user group existed in relation to which factors predicted the number of recent charges received by participants. Overall, five explanatory variables (younger age, younger age of

first arrest, unemployment, previous diagnosis of a mental health problem and income from crime in the past month) contributed to increased number of expected charges received. When examined separately, significant predictors of an increased number of charges received recently by non-illicit drug-users included a younger age, younger age of first arrest, a mental health diagnosis and lifetime benzodiazepine, while lifetime use of other illegal opiates decreased the expected number of charges. Among cannabis-only users, mental health problems and more frequent cannabis use in the past month were found to increase the number of expected charges. A thorough discussion of these findings was provided in Section 3.7.

Few predictors were identified as contributing to the number of charges received by groups distinguished by age. For those aged ≤ 25 years, being male, having a younger age of first arrest and having received income from crime in the past month, having a mental health diagnosis and lifetime cannabis use contributed significantly to the number of charges received. Among those aged ≥ 26 years, unemployment and the number of drugs used increased the expected number of charges. (see Section 3.7).

6.2.2   Temporal order of initiation

Consistent with the general consensus in the literature, the majority of young people (54%) within Study 2 reported involvement in crime prior to the use of cannabis (D'amico et al., 2008; Menard, Mihalic and Huizinga, 2001; Prichard and Payne, 2005; Torok, Darke and Kaye, 2012). The literature has failed to provide a consistent assessment of why crime typically occurs first, and whether the order of involvement resulted from differing social, motivational and/or environmental contributors. Similarly, the longer-term impact of the temporal order of initiation on later motivations and social contributors on drug use and offending has not been adequately discussed.

Findings of Study 2 reveal quite clearly that although cannabis use and crime were initiated very early in comparison to such behaviours within the general

community (Australian Institute of Health and Welfare, 2011a), the order of first involvement in cannabis use and crime could not significantly differentiate between the reasons for first involvement or the influence of specific social and environmental contributors. Nor could the temporal order of initiation differentiate participants within the sample based on later drug use, or offending, social and environmental influences measured at the baseline interview that occurred approximately four years after the average age of initiation. Cannabis was, however, the most likely drug to be used before, during and after the first reported occurrence of drug-related, property and fraud related crime. In summary, the study highlights that despite the order of involvement in use, early involvement in either behaviour is particularly concerning. Early involvement in such behaviours negatively affects health, school achievement and employment opportunities (Brook, Balka and Whiteman, 1999; Horwood et al., 2010; Swift et al., 2010; Zhang, Wieczorek and Welte, 1997).

Temporal order of initiation played a role in crime progression. Although further research is needed to clarify the role of other drug use, regular drug use and other possible influences on progression from initiation to regular offending, the study highlighted the specific influence of cannabis on the speed of progression from first to regular offending. More specifically, the cannabis-first group were found to progress faster from first property and drug-related offences to regular property and drug-related offending, and from first property offence to first violent offences than those who initiated crime first or behaviours in the same year. These findings are consistent with research that has found drug use to accelerate involvement in crime. Such research, however, often refers to the specific influence of regular drug use (Makkai and Payne, 2003; Pudney, 2002; Torok, Darke and Kaye, 2012).

6.2.3 Influence of family and the immediate social environment

A core component of the current thesis was to examine the role and influence of a number of social, environmental and motivational contributors to initiation, continuation, and the cessation of cannabis use and involvement in criminal

offending. Overall, results of Study 2 and 3 suggest that the immediate social environment may play a stronger role than once thought in terms of the contribution to initiation, acceptance and normalisation of such behaviours.

Study 3 (Chapter 4) found a large proportion of participants had been exposed to drug use and criminal behaviours within their immediate home and social environment. For example, prior to the use of cannabis, nearly two-thirds (63.4%) of participants had witnessed someone using cannabis. A third of participants (32.4%) had been offered illegal drugs by an immediate family member, while a quarter (25.2%) of participants reported they usually lived with someone who committed crime. Incarceration of a family member was also common, with 41.1% of parents and 34.5% of siblings having spent time in custody. Such exposure was identified in Study 3 (Chapter 5) to be one of the primary contributors to the initiation of cannabis and criminal offending.

Exposure to drug use at a young age was identified by participants within Study 3 (Chapter 5) to create the perception of a heightened prevalence of cannabis use within the wider community. Witnessing close friends and family use drugs, particularly within the home, was found to increase acceptability of use, re-enforce the benefits of using and enhance curiosity — influences affecting the initial decision to use cannabis. Some participants did at first reject the notion of using drugs after witnessing family and friends use, however, those who had stated they made the promise to themselves to never use drugs, did eventually break that promise. The impact of intergenerational drug use has been reported previously in the literature.

Perhaps one of the less frequently reported contributors to first involvement in drug use and offending relates to recruitment into drug/crime groups, where the young person is left feeling betrayed and deceived by those they trusted. For the participants within Study 3 (Chapter 5), this occurred in a number of ways. For example, trusted family and friends encouraged involvement and re-enforced the benefits of taking part in offending; and did the same in relation to drug use.

6.2.4　　　Cannabis use and economic crime

The links between cannabis use and economically motivated crime within the literature remains contested, with the relatively low cost of cannabis (compared to drugs such as heroin) (Coomber and Turnbull, 2007; Payne and Gaffney, 2012; White and Gorman, 2000). Similar competing perspectives were evident within the current research; however, a stronger argument for the existence of a link between cannabis addiction and crime was present. For example, the younger group of police detainees (aged ≤ 25 years) within Study 1 (Chapter 3) were more likely to report using only cannabis in the 12 months prior to their current arrest, while over one-fifth (22.2%) of the younger sample were currently facing a property charge as their current most serious offence and 27.2% had faced the same charge in the previous 12 months. Just under one-third (30.2%) of participants within Study 2 (Chapter 4) reported committing crime in the six months prior to interview because they needed money for alcohol and/or drugs. Additionally, and more importantly, a large proportion of the sample was classified as cannabis dependent according to the SDS. Participants who initiated cannabis first were more likely to be cannabis dependent (67.2%) compared to those who initiated crime first (53%) and who first used cannabis and crime in the same year (59.5%).

Perhaps the strongest evidence for the link between economically motivated crime and cannabis use comes from Study 3 (Chapter 5), where addiction was identified as a primary reason for the on-going connection between cannabis and crime. Crime was reportedly committed to finance the use of cannabis and in anticipation or running out of and/or experiencing withdrawal from cannabis. Participants reported committing direct theft of money and theft of items that could be resold to generate income or traded directly with a dealer, and often such theft included violence. This is an important finding for some at-risk young people who are often unemployed, receive limited government benefits and frequently experience periods of homeless, financing high level usage of cannabis is done through crime.

6.3   Implications for research and practice

Humanist Desiderius Erasmus (1469-1536) is reported to have famously proclaimed that prevention is better than a cure (Froude, 1894). Such words resonate with the findings of this thesis. Ideally, addressing and eliminating the situations and environments that influence and lead young people to use cannabis (and other drugs) and become involved in crime, might ultimately reduce, if not prevent, the multiple harms and negative life consequences experienced later in life. The practicality of achieving this, particularly among more at-risk, troubled youth and their families, is complex and multi-faceted.

This thesis has focused on the drug use and criminal behaviours of individuals who come primarily from disadvantaged backgrounds and social environments conducive to the development of and continued involvement in many problem behaviours. The young people who formed the samples of Studies 2 and 3 often revealed they had grown up in or were currently growing up in complex, disruptive homes and lacked support for their engagement in or the uptake of healthier, more prosocial activities.

The findings of this thesis highlight that although the order of initiation to cannabis use and crime per se was not found to be of primary importance, many social and environmental factors contributed to the initial uptake and continued involvement in problem behaviour and varied in the role they played. The focus on the role and influence of a young person's immediate social environment within this thesis highlighted the importance of centring early intervention and preventative work in the family home and the local neighbourhood, with the aim of deterring involvement in drugs (cannabis in particular) and crime from an early young age. Such findings reinforce the importance of targeted interventions that specifically support families with drug use and offending backgrounds to challenging the norms that promote drug use and crime and assist young people to identify positive role models. Such findings must however be interpreted in the context of the sample and the selection criteria.

Many interventions and strategies, from a variety of disciplines, have been developed to address drug use and criminal behaviours often focussing on the individual young person to the exclusion of the family and context in which they carry out their lives or on the family without meeting the needs of the young person. Despite the efforts to produce such interventions and strategies, there remains a need to review current programs and develop new ways of addressing such behaviours among young people given many of the strategies are not easily translated or as effective when implemented in the "real world".

As highlighted within this thesis, to be more effective, early intervention strategies and programs need to recognise and take into account the broader social environment that the individual is situated within and any social issues that may impede the individual from taking part in and/or succeeding within the program. These issues might include poverty, social disadvantage, social exclusion and cultural/language barriers, in addition to more practical barriers such as transport difficulties that may affect the young person's ability to access services and programs. Such challenges were documented in a recent study by Dembo et al. (2011), examining which factors contribute to the "enrolment and engagement" of young, high-risk people and their families in brief interventions located within the community.

The success of simply offering workshops or educational sessions (i.e., a parenting workshop) has often been hindered due to the suitability of such programs to groups of disadvantaged youth, who may feel uncomfortable in those types of settings or may find it difficult securing the means to attend. In response to such issues, a number of more recent efforts have focused on employing "assertive engagement" techniques where a component of the program incorporates, for example, arranging transport to enable clients and/or their families to attend the service/program or delivering the program in the family home (Liddle, 2002). Additionally, the effectiveness of family therapy approaches (such as Multidimensional Family Therapy (MDFT) and Multisystemic Therapy (MST), Brief Strategic Family Therapy and Functional Family Therapy) for addressing drug use, crime and problem behaviours among

young people are becoming increasingly recognised (Coatsworth et al., 2001; Dembo et al., 2000; Dembo et al., 2001; Hendriks, van der Schee and Blanken, 2012; Henggeler, Melton and Smith, 1992; Liddle et al., 2008; Santisteban et al., 2003; Smith, Chamberlain and Eddy, 2010; Waldron, Turner and Ozechowski, 2005). MDFT and MST are two of the more prominent outpatient, family based approaches, delivering individualised treatment with documented success. Despite the cost and intensive duration, MDFT interventions do appear to be cost-effective (Liddle et al., 2008).

For example, Liddle et al. (2008) in a randomized controlled trial compared treatment effectiveness of MDFT and Cognitive Behavioural Therapy (CBT) among drug-using adolescents. Adolescents (n=287) involved in the study were predominantly African-American males, while three-quarters of the entire sample were classified as cannabis dependent. Findings of the study revealed MDFT to be more effective in reducing drug use problem severity, and drug use with treatment effects remaining up to 1 year post treatment completion (Liddle et al., 2008), while MDFT and CBT were equally effective at reducing cannabis and alcohol use. Expanding on such findings, Hendriks, van der Schee and Blanken (2012) re-examined the dataset described previously to determine which characteristics differentiated between treatment effectiveness of MDFT and MST among dependent cannabis users. Of the 20 characteristics that were examined, younger participants and those with disruptive behaviours and internalising problems (such as conduct and oppositional defiance disorder) were found to achieve better results with MDFT, while older adolescents benefited more from CBT. MST has demonstrated similar effects with young offenders. In a study reporting on treatment delivered to 84 juvenile offenders and their families, Henggeler, Melton and Smith (1992) found that compared to those who had not received MST, a reduction in self-reported crime, less time spent in incarceration and fewer arrests was achieved by those who did receive MST.

Although not specific to reducing both cannabis use and problem behaviour among young people, there are a number of brief cannabis-specific interventions that have proven to be effective in reducing the quantity and

frequency of cannabis use among young people (for example the Adolescent Cannabis Check Up (Martin, Copeland and Swift, 2005) and the Teen Marijuana Check-up (Walker et al., 2006)). Compared to MDFT and MST mentioned above, such brief interventions are often comprised of 2-3 sessions that utilise a combination of motivational enhancement therapy and feedback sessions. The long term impact of brief interventions on reducing cannabis use and associated problems among young people, however, remain unclear (Copeland and Howard, 2012).

Evidence of the effectiveness of such programs and therapies for reducing adolescent drug use and crime is scarce within the Australian context. Future Australian research would benefit from further investigating the role of the immediate family in the early initiation and involvement in drug use and crime from the perspective of other family members, including parents and caretakers in addition to young people themselves. Additionally, further research examining treatment uptake of and the barriers and facilitators to the uptake of such programs among at-risk young people and their families would be beneficial.

6.4 Conclusion

The association between, and outcomes resulting from an early age of initiation into cannabis and crime is of significant concern. The finding that while the temporal order in which initiation to these behaviours was not a distinguishing factor in their ongoing relationship, using cannabis prior to involvement in crime was found to accelerate the progression from first to regular offending. This builds on the evidence-base of the social and health consequences of early initiation to cannabis use and suggests it should be yet another focus for early intervention among young cannabis users.

Similarly, high levels of cannabis use and frequent offending at a young age is equally concerning. This thesis has demonstrated that people who become involved with the criminal justice system at a young age often grow up in a social and/or family environment that places them at an increased risk. Within such environments, drug use and offending are observed from a young age, accepted and often perceived as part of normal life. These environments were identified by this research to play a significant role in the uptake and continued use of cannabis and engagement in crime. The finding that a mental health diagnosis was a significant predictor of recent charges among detainees whose past year illicit drug use was limited to cannabis-only, also flags the importance of focussing on the screening for, and intervention with, young offenders with this cormorbidity.

It is recommended that findings be incorporated into early intervention and prevention work with the aim of developing stronger families, challenging perceptions of what is thought to be normal and healthy behaviour, addressing social exclusion and inequality and supporting young people who choose to take a path different to what may be set in place for them by their family and neighbourhood.

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APPENDIX A: PRESENTATIONS ARISING FROM THIS THESIS

Conference Presentations – Oral

Simpson, M., Howard, J*. and Copeland, J. (2011). Cannabis, a 'soft drug' with hard outcomes? Cannabis use, mental health and crime among young people in Australia. 32nd International Conference on Law and Mental Health, Berlin, Germany, 17th–23rd July. *Presenter

Simpson, M., Copeland, J. and Howard, J. (2010). Comparing cannabis and crime initiation among current cannabis-using young offenders: Early Findings, Australian Professional Society on Alcohol and Other Drugs, Canberra, 28th November – 1st December.

Simpson, M., Howard, J. and Copeland, J. (2010). The social context of cannabis initiation among a sample of criminally involved youth, The 2nd International Congress of the European Association for Forensic Child and Adolescent Psychiatry, Psychology and Other Involved Professions, Basel, Switzerland, 7–10th September.

Simpson, M., Copeland, J. and Howard, J. (2009). Criminal offending and poly-substance use patterns among experimental and regular cannabis-using youth, Australian and New Zealand Society of Criminology Conference: Crime and Justice Challenges in the 21st Century: Victims, Offenders and Communities, Perth, 22–25th November.

Simpson, M., Howard, J., Nelson, P. and Copeland, J. (2009). *Substance use and associated risks among young offenders: why regular monitoring is important*, Australian Psychological Society College of Forensic Psychologists: Advancing Forensic Psychology, Melbourne, 25–28th February.

Conference Presentations – Poster

Simpson, M., Howard, J. and Copeland, J. (2009). Familial substance use and offending among a sample of at-risk youth, Poster presented at the Australian and New Zealand Association of Psychiatry, Psychology and Law Conference: Families in Law: Investigation, Intervention and Protection, Fremantle, 26–29th November.

Simpson, M., Copeland, J. and Howard, J. (2009). Context and motivations for cannabis use initiation among young people who commit crime, Poster presented at The 1st National Cannabis Conference, Sydney, 7–8th September.

Simpson, M., Copeland, J. and Howard, J. (2009). Context and motivations for cannabis use initiation among young people who commit crime, Poster presented at The National Drug and Alcohol Research Centre Annual Symposium, Sydney, 28th September.

Simpson, M., Howard, J. and Copeland, J. (2009). Substance use among detained youth: Why regular monitoring is important, Poster presented at NSW Bureau of Crime Statistics and Research 40th Annual Symposium, 18–19th February, Sydney.

Invited and Other Presentations

Simpson, M. (2011). Cannabis and criminal offending among adolescents: An overview. Invited presentation to the NSW Aboriginal Drug and Alcohol Network Leadership Group, Sydney, 9th December.

Simpson, M. (2011). "Caught red-eyed and red-handed" A qualitative study of the social and environmental influences that contribute to first cannabis use and first criminal offence among at-risk young people. National Drug and Alcohol Research Centre, Sydney, 20th October.

Other Publications and Reports

Simpson, M., Howard, J., Copeland, J. and Arcuri, A. (2009). The need to monitor and reduce cannabis use among young offenders, *NCPIC Bulletin No. 5,* Sydney: National Cannabis Prevention and Information Centre.

APPENDIX B: RISK AND PROTECTIVE FACTORS

Risk Factors

Individual/personal characteristics/life events

- Age
- Employment status
- Low self esteem/(poor expectations for future)
- Boredom
- Depression, psychological distress and other mental health problems*
- Behaviour problems – conduct/attention/hyperactivity disorders
- Sensation seeking/rebelliousness/impulsivity
- Poor social skills/low level of social responsibility
- Sexual and physical abuse
- Poor problem solving
- Drug addiction, frequency of offending, prior detention, previous criminal record, history of juvenile delinquency
- Risky sexual behaviour
- Violence/aggression

Family

- Family instability/dysfunction/disorganised
- Absence of capable guardian/poor supervision/monitoring of child/lack of structure and rules
- Parental conflict/divorce/break-up of family
- Young parents/single mothers
- Family poverty
- Parental substance use/high levels of alcohol use – attitudes towards such
- Parental criminality/anti-social behaviours – attitudes towards such
- Parenting style – neglect/rejection (poor bonding), lack of warmth and affection

• Death of family member

School

- Low levels of education/school failure
- Poor attachment to school/truancy
- Bullying/peer group rejection

Peers

- Deviant/delinquent peer affiliations/association –i.e. reinforce anti-social behaviour
- Peer rejection/low popularity/social isolation
- Peer pressure – drug use/motivated offenders
- Peer approval of drug use
- Substance using friends

Community/neighbourhood and cultural

- Socio-economic disadvantage/poverty/lack of support services
- Community disorganisation/density(urban area) and housing conditions
- Exposure to/or neighbourhood violence and crime/acceptability of violence
- Social/cultural discrimination
- Availability of drugs/firearms
- Low levels or lack of constructive (and supervised) pro-social activities

List compiled from: Hawkins, Catalano and Arthur (2002); National Crime Prevention (1999); Makkai and Payne (2003); Prichard and Payne (2005).

Protective Factors

Individual/personal characteristics/life events • Meeting significant person/relationships • Moving to new area • Social skills/social competence • Optimism • Good coping styles/problem solving • Moral beliefs/values
Family • Supportive, caring parents • Secure and stable family/family harmony • Small family size/more than 2 years between siblings • Strong family norms and morality
School • Positive school environment • Opportunities for school success/recognition of achievement • Sense of responsibility • School achievement
Peers • Pro-social peer group • Sense of belonging/ peer bonding
Community and cultural • Community attachment • Access to support services • Participation in church or other community group • Strong cultural identity/ethnic pride • Community/cultural norms against violence (religious or conservative beliefs)

List compiled from: National Crime Prevention (1999)

APPENDIX C: DEMOGRAPHIC CHARATERISTICS OF NSW DUMA INTERVIEWING SITES: A COMPARISON

	Bankstown (n=1,825)	Parramatta (n=1,409)	Kings Cross (n=336)
Demographics			
Male (%, n)	82.6 (1,507)	82.8 (1,167)	79.5 (267)
Mean age	30.47 (11.23)	28.19 (11.05)	31.13
(SD)	17-74	12-75	(10.73)
Range (years)			16-68
Proportion ≤ 25 years (%,n)	40.2 (733)	46.7 (658)	31.8 (107)
Aboriginal & Torres Strait Islander	4.22	9.94	12.5
(%, n)	(77)	(140)	(42)
Cannabis			
Ever used cannabis (%, n)	70.9 (1,249)	75.0 (1,056)	82.1 (276)
Mean age 1st cannabis (SD)	15.82 (4.23)	15.11 (4.66)	15.46 (4.64)
Range (years)	4-53	4-58	1-47
Crime			
Prison past 12 months	13.5	18.6	41.5
(%, n)	(173)	(202)	(44)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

APPENDIX D: ASOC AND AIC OFFENCE CLASSIFICATIONS

Australian Standard Offence Classification

01 - Homicide and related offences

02 - Acts intended to cause injury

03 - Sexual assault and related offences

04 - Dangerous or negligent acts endangering persons

05 - Abduction, harassment and other offences against the person

06 - Robbery, extortion and related offences

07 - Unlawful entry with intent/burglary, break and enter

08 - Theft and related offences

09 - Fraud, deception and related offences

10 - Illicit drug offences

11 - Prohibited and regulated weapons and explosives offences

12 - Property damage and environmental pollution

13 - Public order offences

14 - Traffic and vehicle regulatory offences

15 - Offences against justice procedures, government security and government operations

16 - Miscellaneous offences

Source: Pink (2008)

AIC Offence Classification

1 - Violent offences

2 - Property offences

3 - Drug offences

4 - Drink driving

5 - Traffic offences

6 - Disorder offences

7 - Breaches

8 - Other lesser offences

Source: Sweeney and Payne, 2012

APPENDIX E: DUMA SOCIO-DEMOGRAPHIC CHARACTERISTICS BY AGE GROUP

	≤ 25 years of age (n=1,498) % (n)	≥ 26 years of age (n=2,072) % (n)
Sex		
Male	83.0 (1,243)	81.9 (1,698)
Age (years)[#]		
Mean age (SD)	19.58 (3.17)	37.07 (8.95)
Range	12-25	26-75
Aboriginal and/ Torres Strait Islander[#*]	9.4 (141)	5.7 (118)
Ethnicity		
Australian + Aboriginal	34.2 (483)	41.0 (752)
Lebanese	20.5 (290)	13.8 (253)
New Zealander	4.6 (65)	3.3 (61)
Vietnamese	2.3 (33)	2.9 (53)
Marital status		
Single, never been married[#]	87.5 (1,310)	43.1 (910)
Defacto[#]	8.4 (126)	17.3 (358)
Married[#]	3.0 (45)	20.1 (416)
Seperated or divorced[#]	1.1 (16)	18.5 (382)
Lives with dependent children[#]	11.8 (177)	40.4 (837)
Recent primary accommodation		
Someone else's house or apartment[#]	69.9 (1,047)	30.6 (633)
Owned/rented apartment or house[#]	24.8 (372)	60.2 (1,246)
Other household location[#] (i.e. caravan park, boarding house)	1.4 (21) 1.1 (7)	2.4 (50) 1.1 (22)

	≤ 25 years of age (n=1,498) % (n)	≥ 26 years of age (n=2,072) % (n)
Highest level of education completed		
Completed Year 10 or less[#]	42.2 (632)	40.7 (843)
Completed a TAFE program[#]	12.4 (185)	21.7 (449)
Completed Year 11 or 12	12.4 (186)	16.7 (345)
Completed a university or higher degree[#]	0.8 (12)	9.2 (191)
Current employment status		
Working full-time	28.1 (420)	33.6 (694)
Unemployed or laid off and looking for	26.2 (392)	20.2 (418)
work[#]	15.0 (225)	12.4 (256)
Working part-time[#]	1.4 (21)	13.0 (269)
Disabled for work[#]		
Outcome of arrest		
Arrested and charged	86.9 (1,301)	91.7 (1,900)
Detained no charge	5.6 (84)	6.6 (137)
Caution or conference[#]	6.7 (100)	0
Other (ie telephone interim violence	0.8 (12)	1.6 (34)
orders, revision and serving of AVO's)		

[#] p<0.001

APPENDIX F: DUMA SOCIO-DEMOGRAPHIC CHARACTERISTICS BY DRUG-USER GROUP

	Other-illicit drug user group (n=1,523) % (n)	Cannabis-only drug user group (n=647) % (n)	Non-illicit drug user group (n=1,400) % (n)
Sex			
Male[#]	80.2 (1,221)	88.4 (572)	82.0 (1,148)
Age (years)			
Mean age (SD)	28.4 (8.85)	27.47 (11.08)	32.27 (12.91)
Range	13-60	12-61	12-75
Aboriginal and/ Torres Strait Islander[*]	9.6 (146)	9.0 (58)	3.9 (55)
Ethnicity			
Australian + Aboriginal	42.0 (640)	38.0 (246)	24.9 (349)
Lebanese	12.0 (183)	13.7 (89)	19.3 (271)
New Zealander	3.4 (52)	5.3 (34)	3.3 (46)
Vietnamese	2.3 (35)	0.7 (4)	3.4 (47)
Other	40.3 (613)	42.3 (274)	49.1 (687)
Marital status			
Single, never been married	67.1 (1,021)	69.6 (450)	52.1 (730)
Defacto	18.7 (285)	11.6 (75)	8.9 (124)
Married	4.7 (72)	7.3 (47)	24.4 (342)
Seperated or divorced	8.9 (135)	11.0 (71)	13.7 (192)
Other	0.8 (10)	0.5 (4)	0.9 (12)
Lives with dependent children	22.2 (338)	25.8 (167)	36.4 (509)
Recent primary accommodation			
Someone else's house or apartment	48.6 (740)	54.4 (352)	42.1 (588)
Owned/rented apartment or house	40.3 (614)	38.8 (251)	53.9 (753)
Other household location[#] (i.e. caravan park, boarding house)	2.3 (35)	2.3 (15)	1.5 (21)
A shelter or emergency housing	1.5 (23)	1.2 (8)	2.0 (29)

	Other-illicit drug user group (n=1,523) % (n)	Cannabis-only drug user group (n=647) % (n)	Non-illicit drug user group (n=1,400) % (n)
Other	7.3 (11)	3.3 (21)	0.5 (9)
Highest level of education completed			
Completed Year 10 or less	48.2 (734)	47.5 (307)	31.0 (434)
Completed a TAFE program	17.6 (268)	17.6 (114)	18.0 (252)
Completed Year 11 or 12	14.5 (221)	11.8 (76)	16.7 (234)
Completed a university or higher degree	2.1 (32)	1.5 (10)	11.5 (161)
Other	17.6 (268)	21.6 (140)	22.8 (319)
Current employment status			
Working full-time	22.9 (348)	27.9 (180)	42.0 (586)
Unemployed or laid off and looking for work	29.5 (449)	23.5 (152)	15.0 (209)
Working part-time	12.9 (197)	14.2 (92)	13.8 (192)
Disabled for work	9.7 (147)	8.2 (53)	6.4 (90)
Other	25.0 (382)	26.2 (170)	22.8 (323)
Outcome of arrest			
Arrested and charged	93.9 (1,429)	27.9 (180)	42.0 (586)
Detained no charge	3.6 (55)	23.5 (152)	15.0 (209)
Caution or conference	1.8 (28)	14.2 (92)	13.8 (192)
Other (ie telephone interim violence orders, revision and serving of AVO's)	0.7 (11)	34.4 (223)	29.2 (413)

Data Source: Australian Institute of Criminology, DUMA collection, 1999-2010.

[#] $p<0.001$

[*] Please note that the valid per cent for this variable was not presented due to the way the question was structured

APPENDIX G: LIFETIME DRUG USE CHI-SQUARE VALUES

	Age group		Drug-user group	
	Chi-square	**p value**	**Chi-square**	**P value**
Alcohol	-	Not sig	-	Not sig
Cannabis	-	Not sig	1561.01	$p<0.001$
Inhalants	9.03	$p=0.003$	190.87	$p<0.001$
Hallucinogens	113.55	$p<0.001$	572.07	$p<0.001$
Amphetamines	82.83	$p<0.001$	1412.09	$p<0.001$
Heroin	260.96	$p<0.001$	929.13	$p<0.001$
Ecstasy	-	Not sig	1282.73	$p<0.001$
Cocaine	52.93	$p<0.001$	1424.70	$p<0.001$
Illegal benzodiazepines	45.37	$p<0.001$	720.43	$p<0.001$
Other illegal opiates	118.59	$p<0.001$	581.69	$p<0.001$

APPENDIX H: DUMA NSW RECENT DRUG USE BY AGE GROUP

	Used in the past 12 months				
	≤ 25 years % (n)	≥ 26 years % (n)	Total sample % (n)	Chi-square	p value
Cannabis	76.7 (858)	61.1 (919)	67.7 (1,777)	71.203	<0.001
Cocaine	57.9 (305)	39.9 (392)	46.2 (697)	44.489	<0.001
Amphetamines	65.2 (317)	48.5 (479)	54.0 (796)	36.547	<0.001
Ecstasy	58.8 (356)	24.8 (196)	39.5 (552)	136.392	<0.001
Heroin	59.6 (121)	48.7 (384)	50.9 (505)	7.727	p=0.005
Hallucinogens	33.9 (64)	2.6 (15)	10.4 (79)	148.460	<0.001
Illegal benzodiazepines	66.3 (128)	58.0 (261)	60.5 (389)	3.914	p=0.048
Other illegal opiates	51.2 (66)	46.6 (214)	47.6 (280)	0.832	ns
Inhalants	39.8 (33)	7.7 (13)	18.3 (46)	38.357	<0.001

APPENDIX I: INFORMATION AND CONSENT FORMS

THE UNIVERSITY OF NEW SOUTH WALES
THE NATIONAL CANNABIS PREVENTION AND INFORMATION CENTRE

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Cannabis use and criminal offending survey – community participants

You are invited to participate in a study about cannabis use and criminal offending. One of the main things we hope to learn is why young people start using cannabis, why they start committing crime and how these two things are related. We also hope to see whether the relationship between cannabis use and crime changes over time among young people.

For the purposes of this study, we are going to be speaking to young people who have a current or past history of contact with the criminal justice system, which is why you have been **asked to consider participating**. Your decision to participate is voluntary and even if we begin the survey, you are free to stop at any time.

If you decide to participate, we will complete a survey with you now and again in 6 months time. By agreeing to take part in this study, you are giving your permission for us to contact you again in 6 months using the follow-up contact details you have provided to us for yourself and a minimum of three other relatives and/or friends. If we are unable to contact you for the follow-up survey, with your permission, we will speak to staff at the youth service you are currently accessing to obtain your contact details from your case file. All contact details we hold for you will be destroyed at the completion of the follow-up interview or 3 months after the follow-up interview due date. Only people involved in this study will have access to your details.

The survey will contain mostly multiple choice questions, where we will ask you to pick your answer from a list of responses. There are no right or wrong answers, however, please try to be truthful when you answer each question. If you don't feel comfortable answering one of the questions, please let us know and we can skip to the next question. This first survey should take about 30-45 minutes to complete. The second survey, however, will be quicker and can be completed over the phone.

We appreciate the time you will spend completing these surveys and would like to reimburse you for any out-of-pocket expenses with a gift voucher to Kmart for each survey you successfully complete. After the survey you will receive a $15 gift voucher, after completing the 6 month follow-up survey, you will receive a $30 gift voucher.

All information that we collect from you will remain confidential and will not be passed onto anybody without your permission. **There is a risk that if specific information is revealed about a serious crime that has been committed, it may be reported to police as required by law**. So that we are able to inform people of the knowledge and information we gain from our study, with your permission (by signing this form) we plan on presenting the results in reports, scientific journals, at conferences and on the National Cannabis Prevention and Information (NCPIC) website (www.ncpic.org.au). Please note **we** will not use your name or any other identifying information in our publications.

If you have any complaints about the study, please contact the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA (phone 02 9385 4234, fax 02 9385 6648, email: ethics.sec@unsw.edu.au). Any complaint you make will be investigated as quickly as possible and you will be contacted with the outcome.

A summary of the study findings will be presented on the NCPIC website (www.ncpic.org.au). However if you would like a copy of the study results sent out via email or in the post, please let me know today or email Melanie Simpson at: m.simpson@unsw.edu.au or by phone on (02) 9385 0172.

Please note, that your decision to participate or not in the study will not affect your future relations with the University of New South Wales, the National Cannabis Prevention and Information Centre or the current youth service or agency you are accessing. If you decide to take part, you are free to withdraw your consent and to stop participating at any time without prejudice.

If you have any questions, please feel free to ask us today or if you think of any later on, Miss Melanie Simpson (phone 02 9385 0172, email: m.simpson@unsw.edu.au) will be happy to answer them. You will be given a copy of this form to keep.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM
(continued)

Cannabis use and criminal offending

You are making a decision whether or not to participate. If you sign this form you are agreeing that you have read the information provided above (or it has been read to you) and you have decided to take part in the study.

....
Signature of Research Participant

....
Signature of Witness

....
 (Please PRINT name)

....
(Please PRINT name)

....
Date

....
Nature of Witness

REVOCATION OF CONSENT

Cannabis use and criminal offending

I hereby wish to **WITHDRAW** my consent to participate in the research proposal described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or my relationship with The University of New South Wales, the National Cannabis Prevention and Information Centre or the current youth service or agency you are accessing.

....
Signature

....
Date

....
Please PRINT Name

The section for Revocation of Consent should be forwarded to Ms Melanie Simpson, National Cannabis Prevention and Information Centre, NDARC, University of New South Wales, SYDNEY NSW 2052.

THE UNIVERSITY OF NEW SOUTH WALES
THE NATIONAL CANNABIS PREVENTION AND INFORMATION CENTRE

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Cannabis use and criminal offending survey – youth justice centre participants

You are invited to participate in a study about cannabis use and criminal offending. One of the main things we hope to learn is why young people start using cannabis, why they start committing crime and how the these two things are related. We also hope to see whether the relationship between cannabis use and crime changes over time among young people.

For the purposes of this study, we are going to be speaking to young people who are currently spending time in a youth justice centre within New South Wales, which is why you have been **asked to consider participating**. Your decision to participate is voluntary and even if we begin the survey, you are free to stop at any time. If you are 14 or 15 years, we will also need to call your parent or guardian to obtain their permission prior to us beginning the interview.

If you decide to participate, we will complete a survey with you now and again in 6 months time. By agreeing to take part in this study, you are giving your permission for us to contact you again in 6 months using the follow-up contact details you have provided to us for yourself and a minimum of three other relatives and/or friends. If we are unable to contact you for the follow-up survey, with your permission, we will speak to DJJ staff to obtain your contact details from your case file. All contact details we hold for you will be destroyed at the completion of the follow-up interview or 3 months after the follow-up interview due date. Only people involved in this study will have access to your details.

The survey will contain mostly multiple choice questions, where we will ask you to pick your answer from a list of responses. There are no right or wrong answers, however, please try to be truthful when you answer each question. If you don't feel comfortable answering one of the questions, please let us know and we can skip to the next question. This first survey should take about 30-45 minutes to complete. The second survey, however, will be quicker and can be completed over the phone.

We appreciate the time you will spend completing these surveys and would like to reimburse you for any out-of-pocket expenses with a gift voucher to Kmart for each survey you successfully complete. After the survey you will receive a $15

gift voucher, after completing the 6 month follow-up survey, you will receive a $30 gift voucher.

All information that we collect from you will remain confidential and will not be passed onto anybody without your permission. **There is a risk that if specific information is revealed about a serious crime that has been committed, it may be reported to police as required by law**. So that we are able to inform people of the knowledge and information we gain from our study, with your permission (by signing this form) we plan on presenting the results in reports, scientific journals, at conferences and on the National Cannabis Prevention and Information (NCPIC) website (www.ncpic.org.au). Please note **we** will not use your name or any other identifying information in our publications.

If you have any complaints about the study, please contact the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA (phone 02 9385 4234, fax 02 9385 6648, email: ethics.sec@unsw.edu.au). Alternatively you can contact The Aboriginal Health and Medical Research Council (AH&MRC) Ethics Committee, PO Box 1565, STRAWBERRY HILLS, NSW 2012 (phone 02 92124777, fax 02 92127211, email: ethics@ahmrc.org.au). Any complaint you make will be investigated as quickly as possible and you will be contacted with the outcome.

A summary of the study findings will be presented on the NCPIC website (www.ncpic.org.au). However if you would like a copy of the study results sent out via email or in the post, please let me know today or email Melanie Simpson at: m.simpson@unsw.edu.au or by phone on (02) 9385 0172.

Please note, that your decision to participate or not in the study will not affect your future relations with the University of New South Wales, the National Cannabis Prevention and Information Centre **or the Department of Juvenile Justice**. If you decide to take part, you are free to withdraw your consent and to stop participating at any time without prejudice.

If you have any questions, please feel free to ask us today or if you think of any later on, Miss Melanie Simpson (phone 02 9385 0172, email: m.simpson@unsw.edu.au) will be happy to answer them. You will be given a copy of this form to keep.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM
(continued)

Cannabis use and criminal offending

You are making a decision whether or not to participate. If you sign this form you are agreeing that you have read the information provided above (or it has been read to you) and you have decided to take part in the study.

....
Signature of Research Participant

....
Signature of Witness

....
 (Please PRINT name)

....
(Please PRINT name)

....
Date

....
Nature of Witness

REVOCATION OF CONSENT

Cannabis use and criminal offending

I hereby wish to **WITHDRAW** my consent to participate in the research proposal described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or my relationship with The University of New South Wales, the National Cannabis Prevention and Information Centre or the Department of Juvenile Justice.

....
Signature

....
Date

....
Please PRINT Name

The section for Revocation of Consent should be forwarded to Ms Melanie Simpson, National Cannabis Prevention and Information Centre, NDARC, University of New South Wales, SYDNEY NSW 2052.

THE UNIVERSITY OF NEW SOUTH WALES
THE NATIONAL CANNABIS PREVENTION AND INFORMATION CENTRE

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Cannabis use and criminal offending interview – qualitative study

You are invited to participate in a study about cannabis use and criminal offending. One of the main things we hope to learn is why young people start using cannabis, why they start committing crime and how the these two things are related. We also hope to see whether the relationship between cannabis use and crime changes over time among young people. For the purposes of this study, we are going to be speaking to young people with a history of criminal offending and cannabis use, which is why you have been asked to consider participating. Your decision to participate is voluntary and even if we begin the interview, you are free to stop at any time.

If you decide to participate, we will conduct an interview with you that will be almost like a conversation. There are no set questions for this interview; however, we hope to cover a number of topics that will include your past and recent cannabis use and your past involvement in criminal activity. There are no right or wrong answers, however please try to be truthful in your answers. If you don't feel comfortable speaking about any of the topics, please let us know and we can move on to a different topic. This interview should take about 45 minutes to complete.

With your permission we would like to record the interview, however if you do not want this to occur, please let us know before we start. If you agree to the recording of the interview, we are able to provide you with a typed copy of the interview for your records. If any names of real people are mentioned during the interview, we will change them on our records for the purposes of maintaining confidentiality.

We appreciate the time you will spend completing this interview and would like to reimburse you for any out-of-pocket expenses with a gift voucher to Kmart. At the end of the interview you will receive a $30 gift voucher.

All information that we collect from you will remain confidential and will not be passed onto anybody without your permission. There is a risk that if specific information is revealed about a serious crime that has been committed, it may be reported to police as required by law. So that we are able to inform people of the knowledge and information we gain from our study, with your permission (by signing this form) we plan on presenting the results in reports, scientific

journals, at conferences and on the National Cannabis Prevention and Information (NCPIC) website (www.ncpic.org.au). Please note we will not use your name or any other identifying information in our publications.

If you have any complaints about the study, please contact the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA (phone 02 9385 4234, fax 02 9385 6648, email: ethics.sec@unsw.edu.au). Any complaint you make will be investigated as quickly as possible and you will be contacted with the outcome.

A summary of the study findings will be presented on the NCPIC website (www.ncpic.org.au). However if you would like a copy of the study results sent out via email or in the post, please let me know today or email Melanie Simpson at: m.simpson@unsw.edu.au or phone (02) 9385 0172.

Your decision to participate or not in the study will not affect your future relations with the University of New South Wales, the National Cannabis Prevention and Information Centre or the youth service/agency you are currently accessing. If you decide to take part, you are free to withdraw your consent and to stop participating at any time without prejudice.

If you have any questions, please feel free to ask us today or if you think of any later on, Miss Melanie Simpson (phone 02 9385 0172, email: m.simpson@unsw.edu.au) will be happy to answer them. You will be given a copy of this form to keep.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM
(continued)

Cannabis use and criminal offending

You are making a decision whether or not to participate. If you sign this form you are agreeing that you have read the information provided above (or it has been read to you) and you have decided to take part in the study.

....
Signature of Research Participant

....
Signature of Witness

....
 (Please PRINT name)

....
(Please PRINT name)

....
Date

....
Nature of Witness

REVOCATION OF CONSENT

Cannabis use and criminal offending

I hereby wish to **WITHDRAW** my consent to participate in the research proposal described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or my relationship with The University of New South Wales, the National Cannabis Prevention and Information Centre or the Department of Juvenile Justice.

....
Signature

....
Date

....
Please PRINT Name

The section for Revocation of Consent should be forwarded to Ms Melanie Simpson, National Cannabis Prevention and Information Centre, NDARC, University of New South Wales, SYDNEY NSW 2052.

THE UNIVERSITY OF NEW SOUTH WALES
THE NATIONAL CANNABIS PREVENTION AND INFORMATION CENTRE

PARENTAL/GUARDIAN INFORMATION STATEMENT AND CONSENT FORM

Cannabis use and criminal offending survey

This information statement has been sent to you as the parent/guardian of _____ who has chosen to participate in a study about cannabis use and criminal offending.

Although your child has understood the study requirements and has agreed to participate, because of his/her age (14 or 15), you as the parent/guardian are being provided with the study information and can choose to withdraw your child from participating further in the study. Your child's decision to participate in the study was voluntary and could stop the interview at any time without question.

Study Information
For the purposes of this study, we are speaking to young people who are currently spending time in a youth justice centre within New South Wales, which is why your child was asked to consider participating. One of the main things we hope to learn is why young people start using cannabis, why they start committing crime and how the these two things are related. We also hope to see whether the relationship between cannabis use and crime changes over time among young people.

The study involves two interviews of which your child has agreed to complete. By agreeing to participate in this study, your child has given us permission to contact her/him again in 6 months time using the follow-up contact details he/she has provided to us. The follow-up contact details included a <u>minimum of three</u> other relatives and/or friends. All contact details we hold for your child will be destroyed at the completion of the follow-up interview or 3 months after the follow-up interview due date. Only people involved in this study will have access to your child's personal details. Alternatively these details will be destroyed if you choose to withdraw your child from participating further.

Upon completion of the first survey, your child received a $15 Kmart gift voucher, if he or she decides to complete the 6 month follow-up interview they will receive a further $30 Kmart gift voucher to reimburse them for any out-of-pocked expenses.

All information that we collect from your child will remain confidential and will not be passed onto anybody without their permission. There is a risk that if specific information is revealed about a serious crime that has been committed, it may be reported to police as required by law.

So that we are able to inform people of the knowledge and information we gain from our study, your child has given permission (by signing this form) for us to present the results in reports, scientific journals, at conferences and on the National Cannabis Prevention and Information (NCPIC) website (www.ncpic.org.au). Please note we will not use your child's name or any other identifying information in our publications.

If you have any complaints about the study, please contact the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA (phone 02 9385 4234, fax 02 9385 6648, email: ethics.sec@unsw.edu.au). Any complaint you make will be investigated as quickly as possible and you will be contacted with the outcome.

A summary of the study findings will be presented on the NCPIC website (www.ncpic.org.au). However if you would like a copy of the study results sent out via email or in the post, please let me know by calling (02) 9385 0172 or emailing Melanie Simpson at: m.simpson@unsw.edu.au.

Please note, that your decision to allow your child to participate further in the study or not, will not affect yours or their future relations with the University of New South Wales, the National Cannabis Prevention and Information Centre or the Department of Juvenile Justice.

If you have any questions, please feel free to call me, Melanie Simpson (phone 02 9385 0172, email: m.simpson@unsw.edu.au) and I will be happy to answer them.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM
(continued)

Cannabis use and criminal offending

I hereby wish to **WITHDRAW** my consent for my child to participate further in the research described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or relationship with The University of New South Wales, the National Cannabis Prevention and Information Centre or the Department of Juvenile Justice.

By completing this section, I wish to withdraw my child from further participation in the research study.

....
Childs name

....
Date

....
Please PRINT Name

....
Parent/guardian Signature

Please forward this page to:

Ms Melanie Simpson,
National Cannabis Prevention and Information Centre,
University of New South Wales,
SYDNEY NSW 2052.

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APPENDIX J: MATURE-MINOR SCREENER

MATURE MINOR SCREENING TOOL FOR PARTICIPANTS
- Community participants -

Please read the Participant Information Sheet aloud to all participants aged 14-15 years. Determining mature minor status:

    1. Has the potential participant been given sufficient information to enable a
       decision to participate or not?

    2. Does the potential participant have sufficient understanding of the nature
       of the research to make an informed choice?

    3. Is the potential participant capable of understanding and deciding to participate or not?

    4. Is the potential participant's decision to participate voluntary and their own
       choice?

So, determining 'mature minor' status:

- Discuss in detail with the individual their consent to participate
- Ensure they understand what they are consenting to
- Assess whether there are any grounds for impaired judgement to consent

☐ Participant deemed mature minor, proceed with the informed consent process.

☐ Participant not deemed mature minor, please explain to participant not able to proceed, provide referrals to services as required. Details of decision to be recorded below and discussed with Melanie at end of day:

Age of individual: _____

Sex of Individual (Please circle): Male   Female

Recruitment site:_____

Recruitment method (i.e., worker referral, snowballing, etc):_____

Brief description of reason not considered a mature minor (i.e., lack of understanding of what consenting to) participant deemed mature minor, proceed with the informed consent process:

_____

_____

_____

NONE OF THE TIME   1
A LITTLE OF THE TIME   2
SOME OF THE TIME   3
MOST OF THE TIME   4
ALL OF THE TIME   5

Confidence Scale

0 1 2 3 4 5 6 7 8 9 10

Not at   all
confident   Moderately Confident   Very Confident
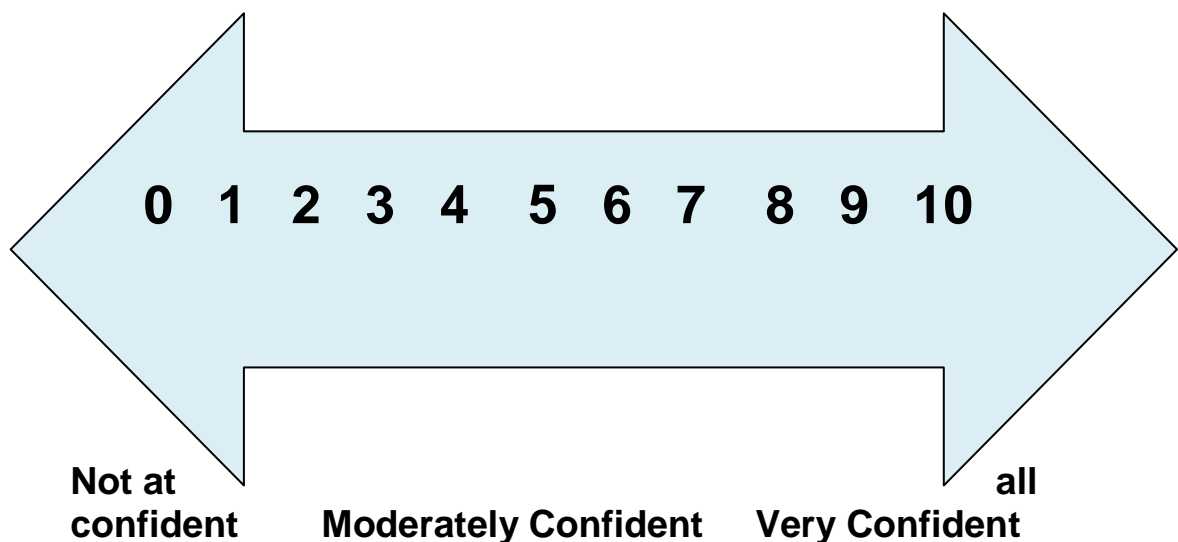
Drugs

TOBACCO
ALCOHOL
CANNABIS
HEROIN
OTHER OPIOIDS/OPIATES
INHALANTS
HALLUCINOGENS (EG. LSD)
COCAINE
ECSTACY
AMPHETAMINES (EG. SPEED)
METHAMPHETAMINES (EG. BASE, ICE)
PRESCRIPTION MEDICATION

Never/Almost Never   **Always/Almost always**

0   1   2   3   4   5
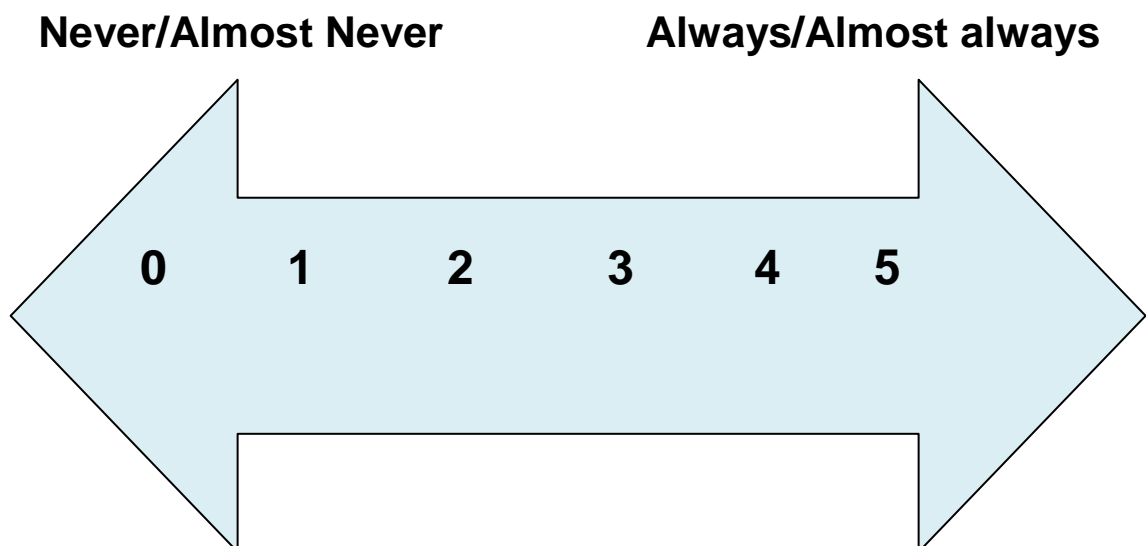
APPENDIX L: PARTICIPATING AGENCIES

Community recruitment sites

- Salvation Army Youthlink – FYRST (Parramatta LGA)
    - Clients aged 16–25 years
    - Offer on-site counselling (additionally outreach, cannabis clinic)
    - Appointments only

- Youth Off the Streets (YOTS) – Dunlea program (Merrylands)
    - Day program/drug and alcohol counselling
    - Accommodation at Don Bosco – Marrickville

- Salvation Army OASIS (Surry Hills)
    - Offer on-site accommodation, school program, music rooms/dance, breakfast/showers/clothes washing

- WAYS (Bondi Junction)
    - Offer job search facilities, counselling

- WAYS (Bondi Beach)
    - Drop in centre
    - Age range 11–19 years

Juvenile Justice Centres

- Juniperina Juvenile Justice Centre, Lidcomb, NSW 2141
- Orana Juvenile Justice Centre, Dubbo NSW 2830
- Cobham Juvenile Justice Centre, St Marys NSW 2760
- Reiby Juvenile Justice Centre, Airds NSW 2560
- Riverina Juvenile Justice Centre, Wagga Wagga NSW 2650
- Frank Baxter Juvenile Justice Centre, Kariong NSW 2250

Centre name	Date	Number interviewed	Number held in centre
Juniperina	12.1.10	14	26
Reiby	14.1.10	10	52
Reiby	15.1.10	6	56
Baxter	18.1.10	15	121
Baxter	19.1.10	18	117
Cobham	27.1.10	15	83
Cobham	28.1.10	12	82
Cobham	29.1.10	10	76
Riverina	15.2.10	16	39
Riverina	16.2.10	14	38
Orana	23.2.10	11	44
Orana	23.2.10	11	44
Sub-total	**(1 double up)**	**153**	
Total		**152**	

Source: DHS/JJ RPELive Database. Extracted 1 March 2010. As this is taken from a live database, figures are subject to change.

Centre name	Month	Average daily number
Acmena	February	31
Emu Plains	February	35
Broken Hill	February	0.3

Average daily number all centres combined - February	438

APPENDIX M: BASELINE SURVEY

SECTION A: DEMOGRAPHICS

1. Sex
    (0) Male   (1) Female

2. How old are you? _____ years

3. Were you born in Australia?
    (0) No
    (1) Yes
    (2) If no, specify _____

4. Are you of Aboriginal or Torres Strait Islander origin?
    (0) Yes, Aboriginal but not Torres Strait Islander
    (1) Yes, Torres Strait Islander but not Aboriginal
    (2) Yes, both Aboriginal and Torres Strait Islander
    (3) Neither Aboriginal or Torres Strait Islander

5. Who do you usually live with?
    (0) Alone
    (1) Parent(s)/guardian(s)
    (2) Boyfriend/girlfriend
    (3) Alone with child(ren)
    (4) Partner and child(ren)
    (5) Other relative(s)
    (6) Friend(s)
    (7) Friend(s)/partner(s)/relative(s)
    (8) Other, specify _____
    (99) Not stated/inadequately described

6a. Where do you usually live?
    (0) Parents/family home
    (1) Home other than parents (i.e. family, friends)
    (2) Foster carers home
    (3) Renting (own place)
    (4) Boarding house/hostel
    (3) Short-term/crisis accommodation
    (4) Alcohol/drug treatment residence
    (5) No usual residence/homeless
    (9) Other, specify _____
    (99) Not stated/inadequately described

6b. What is the name of the town or suburb where you are currently living?_____

6c. What is the name of the town or suburb where you were living in 6 months ago?

_____

7. What is your main source of income?
    (0) Full-time employment
    (1) Part-time employment
    (2) Temporary benefit (i.e. sickness, unemployed)
    (3) Pension (disability, parenting)
    (4) Student allowance
    (5) Dependent on others (i.e. parents)
    (6) Criminal activity
    (7) No income
    (8) Other, specify

_____

8a. What grade did you last complete at school? _____ grade

8b. Have you formally left school?
    (0) No *(go to qn 8d)*
    (1) Yes *(continue to 8c)*

8c. *If yes*, How old were you when you left? _____years

8d. Are you currently (*or* Prior to custody were you) attending TAFE or completing an apprenticeship or traineeship?
    (0) No   (1) Yes

9. Do you have child(ren) of your own?
    (0) No   (1) Yes

10a. Do you have any friends that are close to you and that you can rely on?
    (0) No *(go to qn 11)*
    (1) Yes *(continue to 10b)*

10b. *If yes*, How did you originally meet your close friends? *(select all that apply)*
    (0) At School
    (1) Through family
    (2) You lived in the same neighbourhood or street growing up
    (3) You played sport or other organised activities together *(i.e. after school)*
    (4) In a custodial setting
    (5) Other, specify_____

Qn 11-13 only ask if currently in detention

If not in detention, go to Qn 14

11. How many days have you currently spent in custody? _____ days (*this episode only, under 24 hours = 1 day or less)

12a. Why are you currently spending time in custody?
    (0) Sentenced to spend time in custody
    (1) Bail refused/can't pay bail

12b. What are your current charges?
_____
_____
_____

13. Is this the first time you have been held in a custodial setting? (detention only, not including police stations etc)
    (0) No   (1) Yes

Qn 14 only ask if in community

If not in community, go to Qn 16

14a. Are you currently accessing or attending any treatment agencies or youth services?
    (0) No *(go to Qn 15)*
    (1) Yes (continue to part b)

14b. *If yes*, which ones
_____
_____
_____

14c. How long have you been attending these?
_____
_____!

14d. Why are you attending these services? (i.e. court order, community service order etc)
_____
_____

15. In total, how many days have you spent in custody in your life? _____ (including in police stations)

I'd like you to now think about the past 6 months:

16. How many times in the past 6 months have you received a police warning? _____ times

17. How many times in the past 6 months have you been arrested? _____times

18. How many days in the past 6 months have you been held in a custodial setting? _ days

SECTION B: SUBSTANCE USE

I'm now going to ask you some questions about your use of both licit and illicit drugs

    ✎ *Hand participant drug card (card 1)*

This is a list of the drugs we will be talking about today, and we're going to use this card and similar ones to help us guide the interview today

19. From the list, what is your main drug of choice? *(i.e. favourite)*
    (0) Tobacco
    (1) Alcohol
    (2) Cannabis
    (3) Heroin
    (4) Other opiates/opioids (i.e. methadone)
    (5) Inhalants
    (6) Hallucinogens (i.e. LSD)
    (7) Cocaine
    (8) Ecstasy
    (9) Amphetamines (i.e. speed)
    (10) Methamphetamines (i.e. base, ice)
    (11) Other, specify _____

A. Have you ever tried (drug)?
   If yes continue to Part B.
   If no, return to Part A for next drug category.

B. How old were you when you first tried (drug)?
   _____ years

C. How old were you when you first used (drug) regularly at least 3 times a week? _____ years *(code N/A if no regular use)*

D. On how many days in past month (*Or prior to custody*) did you use (drug)?

F. Since beginning to use (drug) regularly, what is the longest period of time you have voluntarily gone without using (drug)?

G. Why did you stop using for this period of time?

	A. Ever used	B. Age of first use	C. Age of regular use	D. Days of use in past month	E. Length of abstinence	G. Why stopped using
20. Tobacco	!	!	!	!	!	!
21. Alcohol	!	!	!	!	!	!
22. Cannabis	!	!	!	!	!	!
23. Heroin	!	!	!	!	!	!
24. Other opioids/ opiates (i.e. methadone)	!	!	!	!	!	!
25. Inhalants (i.e. gas, petrol)	!	!	!	!	!	!
26. Hallucinogens (i.e. LSD)	!	!	!	!	!	!
27. Cocaine	!	!	!	!	!	!
28. Ecstasy	!	!	!	!	!	!
29. Amphetamine (i.e. speed)	!	!	!	!	!	!
30. Methamphetamine (i.e. base, ice)	!	!	!	!	!	!

31. Have you ever injected any drug?
   (1) Yes in the last 3 months
   (2) More than 3 but less than 12 months ago
   (3) 12 months ago or more
   (4) Never injected
   (99) Not stated/inadequately described

SECTION C: CANNABIS SPECIFIC

For the next couple of questions, I'd like you to think back to the first time you tried cannabis

32. Where did you first use cannabis?
    (0) At your own home
    (1) At a friend(s) home
    (2) Public place (i.e. park, street)
    (3) Youth/community centre
    (4) School, TAFE, university
    (5) Private party
    (6) In a car/other vehicle
    (7) At work
    (8) Dealer's home
    (9) In custody
    (10) Other, specify _____

33. Who did you first use cannabis with?
    (0) No one (alone)
    (1) Friend(s)
    (2) Boyfriend/girlfriend
    (3) Immediate family member (i.e. siblings, parents)
    (4) Other relative(s)
    (5) Local dealer
    (7) Acquaintance/someone you just met
    (8) Other, specify _____

34. When you first used cannabis, who did you buy or get the cannabis from?
    (0) Grew it yourself
    (1) Friend(s)
    (2) Boyfriend/girlfriend
    (3) Immediate family member (i.e. siblings, parents)
    (4) Other relative(s)
    (5) Local dealer
    (6) Acquaintance/someone you just met
    (7) Other, specify _____

35. How did you pay for the cannabis?
    (0) Pocket money (from parents, guardians)
    (1) Wage/salary
    (2) Government pension
    (3) Temporary benefit (i.e. Centrelink)
    (4) Criminal activity
    (5) It was free
    (6) You stole it
    (9) Other, specify _____

Again, thinking about the first time you used cannabis:

36. What form of cannabis did you try?
    (0) Hash/hash oil
    (1) Hydro
    (2) Bush
    (3) Other, specify

    _____

37a. Did you first try cannabis mixed with tobacco?
    (0) No *(go to qn 38)*
    (1) Yes *(continue to 37b)*

37b. If yes, did you use
    (1) More tobacco than cannabis
    (2) More cannabis than tobacco
    (3) Half cannabis, half tobacco

38. How did you first use cannabis?
    (0) Smoked in a joint
    (1) Smoked in a bong or pipe
    (2) By eating (i.e. cookie)
    (3) Other, specify

    _____

Still thinking back to the first time you tried cannabis:

39a. The first time you saw someone use cannabis, did you try it yourself?
    (0) No *(continue to 39b)*
    (1) Yes *(go to qn 40)*

39b. *If not,* Why didn't you try it?

    _____
    _____

40. Did you actively try to find someone you knew who used cannabis so that you could try it for the first time?
    (0) No   (1) Yes

41. Were you the first person among your close friends to try cannabis?
    (0) No
    (1) Yes
    (2) We tried together
    (3) Not sure

Still thinking about the first time you used cannabis

→ *Hand participant card No. 3*

You can use this list to help you remember what I'm about to say

42a. The first time you used cannabis, did you try it…… *(read whole list below and tick all that apply)*

42b. Of those, what were the 3 main reasons you tried cannabis for the first time? *(label 1, 2, 3)*

42c. And what were the 3 main reasons you began to use cannabis regularly? *(read whole list again, label 1, 2, 3)*

Reasons for use	A. All that apply	B. Top 3	C. Reg. use Top 3
1. For fun			
2. Because you were curious and wanted to experiment			
3. To fit in with your friends			
4. To feel more self confident and sure of yourself			
5. To help you forget about your problems and worries			
6. To help you deal with the effects of other drugs (i.e. withdrawal)			
7. It was easy and cheap to obtain			
8. Because you were bored			
9. Because you were forced to (eg peer pressure)			
10. To feel cool			
11. To feel and see things differently			
12. To help you to relax			
13. Because it was illegal			
14. Because you were drunk			
15. Other, specify_____			

43. Would you say the first time you used cannabis was it a positive, negative or neutral experience?
    (1) Positive (i.e. good)
    (2) Negative (i.e. bad)
    (3) Neutral (i.e. neither good nor bad)

→ *Hand participant card No. 4*

44. On a scale of 0 to 10, where 0 is not at all confident and 10 is very confident, how confident are you that you remembered the details of the first time you used cannabis accurately? _____

For the next set of questions, I'd like you to think about your more recent use of cannabis

XX. Have you used cannabis in the last 6 months?
    Yes *(continue to qn 45)*
    No, why not?
_____
_____
_____
___

No cannabis use in past 6 months *(Circle and skip to qn 60)*

We'll use card 2 for the next few questions

45. In the past 6 months, how much of the time
    did you use cannabis ……
                         (tick 1 response per qn)

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. In your own home?					
B. At a boyfriend/girlfriend's home?					
C. At a friends home?					
D. In a public place?					
E. At a youth/community centre?					
F. At school/TAFE?					
G. At a private party?					
H. In a car/other vehicle?					
I. At work?					
J. At your dealer's home?					
K. Other, specify_____					

46. In the past 6 months, how much of the time did you use cannabis.....*(tick 1 response per qn)*

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. By yourself?					
B. With a boyfriend/girlfriend?					
C. With friends?					
D. With acquaintances?					
E. With an immediate family member?					
F. With other relatives?					
G. With the local dealer?					
H. Other, specify_____					

47. In the past 6 months, how much of the time did you get your cannabis .....
(tick 1 response per qn)

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. From a boyfriend/girlfriend?					
B. From friends?					
C. From acquaintances?					
D. From an immediate family member?					
E. From other relatives?					
F. From the local dealer?					
G. No-one, you grew it yourself?					
H. Other, specify_____					

48. In the past 6 months, how much of the time did you usually pay for your cannabis use with…
(tick 1 response per qn)

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. Pocket money (parent/guardian)/					
B. Wage/salary					
C. Government payment (i.e. unemployment, student allowance)					
E. Criminal activity					
F. I didn't buy it, it was given to me/free					
G. Other, specify_____					

49. **I would now like you to think about why you used cannabis in the past 6 months.**

We'll still use card No. 2 here

How much of the time during the last 6 months did you use cannabis…. *(tick 1 response per qn)*

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. Because it was fun					
B. Because you liked the feeling/effect					
C. To fit in with your friends					
D. To be more sociable and enjoy parties for example					
E. To help you forget about your problems and worries					
F. To help you deal with the effects of other drugs (i.e. withdrawal)					
G. Because it was easy and cheap to obtain					
H. You were bored					
I. You were forced to (e.g. peer pressure)					
J. To feel cool					
K. To feel and see things differently					
L. Because you felt you were addicted					
M. To help you relax					
N. Because you were drunk					
O. Other, specify_____					

50. In the past 6 months, what type of cannabis did you usually use?
    (0) Hash/hash oil
    (1) Hydro
    (2) Bush
    (3) Other, specify

51. In the past 6 months how often did you use cannabis?
    (1) Less than once a month
    (2) Once a month
    (3) Once a fortnight
    (4) Once a week
    (5) Once a day
    (6) More than once a day (specif____)

Still thinking about the past 6 months

52a. On average, how many grams of cannabis do you usually buy or are given?
_____grams *(continue to 52b)*
(999) Don't know (go to qn 5bc)

52b. On average, how often do you usually buy or are given this amount?
     (0) Daily
     (1) Weekly
     (2) Monthly
     (3) Other, specify_____

52c. Approximately, how many grams of cannabis do you usually use per day?
_____ grams
(999) Don't know

53a. In the past 6 months, how much of the time did you mix cannabis with tobacco?
     (1) None of the time
     (2) A little of the time
     (3) Some of the time
     (4) Most of the time
     (5) All of the time

53b. *If used cannabis with tobacco*, Did you use
     (1) More tobacco than cannabis
     (2) More cannabis than tobacco
     (3) Half cannabis, half tobacco

Using card 2 again.

54. In the 6 months, how much of the time did you ..... *(tick 1 response per qn)*

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. Smoked cannabis in a joint					
B. Smoked cannabis in a bong or pipe					
C. Eat cannabis (i.e. in a cookie)					
D. Any other ways of using cannabis, specify_____					

55a. In the past 6 months, what time of day did you usually use cannabis when you were by yourself? *(tick response in table)*

55b. In the past 6 months, what time of day did you usually use cannabis when you were with others? *(tick response in table)*

(tick 1 response per qn)

	A. By self	B. With others
(1) Morning (i.e. from wake up to lunch)		
(2) Midday (i.e. lunchtime)		
(3) Afternoon (i.e. after lunch to dark)		
(4) Evening (i.e. night time to sleep)		

56a. Does the way you use cannabis change when you are with others?
     (0) No *(go to qn 55a)*
     (1) Yes *(continue to qn 54b)*

56b. How? *(i.e. what is different about the way you use cannabis when you are by yourself to when you are with others?)*

_____
_____
___

SDS
The next five questions refer to the last 3 months

Over the last 3 months:

57a. Did you ever think your use of cannabis was out of control?
     (0) Never or almost never
     (1) Sometimes
     (2) Often
     (3) Always or nearly always

57b. Did the prospect of missing a smoke make you very anxious or worried?
     (0) Never or almost never
     (1) Sometimes
     (2) Often
     (3) Always or nearly always

Over the last 3 months:
57c. Did you worry about your use of cannabis?
      (0) Not at all
      (1) A little
      (2) Quite a lot
      (30 A great deal

57d. Did you wish you could stop?
      (0) Never or almost never
      (1) Sometimes
      (2) Often
      (3) Always or nearly always

57e. How difficult would you find it to stop or go without?
      (0) Not difficult
      (1) Quite difficult
      (2) Very difficult
      (3) Impossible
End SDS

58. How much of the average day do you spend/or feel stoned?
      (0) 0 hours
      (1) 1 – 2 hours
      (2) 3 – 4 hours
      (3) 5 – 6 hours
      (4) 7 – 8 hours
      (5) 9 or more hours

59. In the past 6 months, how much of the time have you used cannabis with or at the same time as:

*(*Tick one response per drug type)*

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. Tobacco					
B. Alcohol					
C. Heroin					
D. Other opiates/opioids					
E. Inhalants					
F. Hallucinogens					
G. Cocaine					
H. Ecstasy					
I. Amphetamines					
J. Methamphetamines					
K. Prescription medication, specify _____					
I. Other, _____					

60. Do you think the people you live with use drugs?
      (0) No
      (1) Yes
      (2) Don't know
      (3) Prefer not to say

I'm now going to ask you a few questions about your close friends and family members use of drugs

Please remember to only answer the questions you feel comfortable with

61a. Do you think your parents or guardians use
      illegal drugs?
      (0) No
      (1) Yes
      (2) Prefer not to say
      (3) Don't know

61b. Do you think your siblings use illegal drugs?
      (0) No
      (1) Yes
      (2) Prefer not to say
      (3) Don't know

61c. Do you think your close friends use illegal drugs?
      (0) No
      (1) Yes
      (2) Prefer not to say
      (3) Don't know

If answered <u>yes</u> to any part in 61 continue to 61d
If no, continue to qn 62

We will use card No. 1 to help us with this qn

61d. From the list, which illegal drugs do you think those close to you use?

(Tick all that apply)

	All that apply
i. Cannabis	
ii. Heroin	
iii. Other opiates/opioids	
iv. Inhalants	
v. Hallucinogens (i.e. LSD)	
vi. Cocaine	
vii. Ecstasy	
viii. Amphetamines (i.e. speed)	
ix. Methamphetamines (i.e. base, ice)	
x. Other, _____	

62. Has an immediate family member, for example your parents or your brothers or sisters ever offered you illegal drugs including cannabis?
       (0) No
       (1) Yes, once
       (2) Yes, some of the time
       (3) Yes, all of the time
       (4) Prefer not to say

63. Have you used illegal drugs in front of your younger siblings or own child(ren)?
       (0) No   (1) Yes

64. How many of your friends use cannabis?
       (0) All of them
       (1) Most of them
       (2) Almost half
       (3) A few of them
       (4) One of them
       (5) None

SECTION D: CRIMINAL ACTIVITY

I'm now going to move on to ask you a few questions about your involvement in crime

Please remember, we are not asking you to report specific details of any crimes you may have committed

✎ *Hand participant card No. 5*

We'll use this card to help us with the next few questions

A. Have you ever committed a *(crime)* even if you were not arrested by police?
    If yes continue to Part B
    If no, return to Part A for second crime category

B. How old were you when you first committed a *(crime)*, even if you were not arrested?

C. Before, during or after you committed your first *(crime)*, did you use alcohol or drugs? *If yes,* Which drugs did you use?

We can use card No. 1 here

    Refer to list of drugs – record in column
    Record N/A if no alcohol or drugs use

D. How old were you when you were first arrested for a *(crime)?*
    Record N/A if never been arrested for crime

Ea. How old were you when you started committing *(crime)* regularly?

Eb. How often were you committing *(crime)* then ___times a day/week/month/other _____ *(record here)*

F. In the past 6 months, how many times have you committed a *(crime)*, even if you were not arrested by police?

G. Did you use any drugs before, during or after committing a *(crime)* in the past 6 months? *If yes,* which drugs did you use?

H. On how many days in the past month have you committed *(crime)?*

We can use card No. 1 here
!
Refer to list of drugs – record in column
    Record N/A if no alcohol or drugs use
!
!
!

	A. Ever commit	B. Age first crime (not arrested)!	C. Drugs used during 1st crime	D. Age first crime (arrested)	E.A Age regular offending	E.B Reg def'n	F. Times in past 6 months	G. Drug use during crime last 6 months	H. Days crime in last 30
65. Drug dealing/trafficking	!	!	!	!	!	!	!	!	!
66. Property crime	!	!	!	!	!	!	!	!	!
67. Fraud	!	!	!	!	!	!	!	!	!
68. Violent crime	!	!	!	!	!	!	!	!	!
69. Traffic/driving offence	!	!	!	!	!	!	!	!	!
70. Other, specify _____	!	!	!	!	!	!	!	!	!
71. Other, specify _____	!	!	!	!	!	!	!	!	!
72. Other, specify _____	!	!	!	!	!	!	!	!	!

Thinking about why you committed your first crime

➜ Hand participant card No. 6

We can use this card to help us remember the responses

73a. Did you commit your first crime because you were….(*read whole list below and tick all that apply*)

73b. Of those, what were the three main reasons you committed your first crime (*label 1, 2 and 3*)
If report committing crime regularly go to Part C
If not, go to qn 74

73c. What would be the three main reasons you began to commit crime regularly? (*read whole list below*)

	A. all that apply	b. Top 3 – first crime	C. Top 3 regular
A. You were bored			
B. For the thrill of it (i.e. excitement)			
C. For fun			
D. Peer pressure			
E. Lost your temper			
F. You needed money to repay debt			
G. You needed money to buy alcohol or drugs			
H. You were under the influence of alcohol or other drugs			
I. For payback or revenge			
J. To feel cool			
K. To fit in with your friends			
L. It was someone else's idea			
M. Other, specify_____			

Thinking again about the time you committed your first crime

74. Did you commit your first crime with?
    (1) Boyfriend/girlfriend
    (2) Brother(s)/sister(s)
    (3) Other relative(s)
    (4) Friend(s)
    (5) Parent(s)
    (6) No one, you were by yourself
    (7) Acquaintances
    (8) Other, specify_____

75. What happened after you were arrested for the first time? (*select all that apply*)
    (0) Offered police caution/pre-court diversion
        (specify type_____)
    (1) Went to court
    (2) Court diversion
        (specify type _____)
    (3) Refused bail/spent time in detention
    (4) Community service order
    (5) Sentenced to time in detention
    (6) Other, specify _____

76. Would you say the first time you committed a crime was it a positive, negative or neutral experience?
    (1) Positive (i.e. good)
    (2) Negative (i.e. bad)
    (3) Neutral (i.e. neither good nor bad)

Looking now to card No. 4

77. On a scale of 0 to 10, where 0 is not at all confident and 10 is very confident, how confident are you that you remembered the details of the first time you committed a crime accurately?
    _____ confident

We'll use card No. 2 to help us with the next two questions

78. In the past 6 months, how much of the time did you usually commit crime……

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. By yourself?					
B. With a boyfriend/girlfriend?					
C. With friends?					
D. With acquaintances?					
E. With an immediate family member?					
F. With other relatives?					
G. Other, specify_____					

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79. How much of the time during the past 6
    months did you commit crime because….

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. You were bored					
B. For the thrill of it (i.e. excitement)					
C. For fun					
D. Peer pressure					
E. Lost your temper					
F. You needed money to repay debt					
G. You needed money to buy drugs or alcohol					
H. You were under the influence of alcohol or drugs					
I. For payback or revenge					
J. To feel cool					
K. To fit in with your friends					
L. It was someone else's idea					
M. Other, specify_____					

80. Do you believe using cannabis has ever
    contributed to your involvement in crime or
    being arrested?
    (0) Not at all *(go to qn 81)*
    (1) Yes, how?

    _____
    _____
    _____ _____

81a. Have you ever been charged with use or
     possession of cannabis?
     (0) No   (1) Yes

81b. Have you ever been offered a cannabis
caution or diversion as a result of a cannabis
possession or use charge?
(0) No   (1) Yes
(2) Unofficial warning

82. Do you think the people you live with
commit crime?
    (0) No
    (1) Yes
    (2) Don't know
    (3) Prefer not to say

**I'm now going to ask a few questions about
your close friends and relative's
involvement in crime**

**Please remember to only answer the
questions you feel comfortable with**

83. Have your parents/guardians ever been
    arrested?
    (0) No
    (1) Yes
    (2) Don't know
    (99) Prefer not to say

84. Have any of your brother(s) or sister(s)
    ever been arrested?
    (0) No
    (1) Yes
    (2) Don't know
    (99) Prefer not to say

85. Have your parents ever spent time in
    youth detention or prison?
    (0) No
    (1) Yes
    (2) Don't know
    (99) Prefer not to say

86. Have your brother(s) or sister(s) ever
spent time in detention or prison?
    (0) No
    (1) Yes
    (2) Don't know
    (99) Prefer not to say

87. Have any of your close friends ever been
    arrested?
    (0) No
    (1) Yes
    (2) Don't know
    (99) Prefer not to say

88. Have any of your close friends ever been
held in a custodial setting or been to prison?
    (0) No
    (1) Yes
    (2) Don't know
    (99) Prefer not to say

SECTION E: HEALTH and TREATMENT EXPERIENCES

I'm now going to ask you a few questions about your health and treatment experiences

89. Have you visited a health professional in the past 6 months, for example a doctor?
    (0) No   (1) Yes

90. In general, would you say your physical health is?
    (1) Excellent
    (2) Very good
    (3) Good
    (4) Fair
    (5) Poor

91a. Have you ever been diagnosed with a mental illness?
    (0) No *(go to qn 92)*
    (1) Yes *(go to part b)*

91b. Please specify

_____

_____

_____

We'll use now card No. 2 again to help us with the next question

92. During the last 30 days, about how often did you feel…..

During the last 30 days, about how often did you feel……	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. Nervous?	1	2	3	4	5
B. Hopeless?	1	2	3	4	5
C. So restless/ fidgety that you could not sit still?	1	2	3	4	5
D. That everything was an effort?	1	2	3	4	5
E. So sad that nothing could cheer you up?	1	2	3	4	5
F. Worthless	1	2	3	4	5

93. Do you feel like you have a problem with your cannabis use?
    (0) No   (1) Yes

94. Do you feel like you need treatment for your cannabis use?
    (0) No   (1) Yes

95a. Have others ever told you that you had a problem and needed treatment for your cannabis use?
    (0) No *(go to qn 96a)*
    (1) Yes *(continue to Part B)*

95b. *From the following list*, Who has told you this?
    (0) Parent/guardian
    (1) Brother/sister
    (2) Other relative
    (3) Friend(s)
    (4) School/TAFE teacher
    (5) Doctor/counselor
    (6) Community youth worker
    (7) Case manager
    (8) Boyfriend/girlfriend
    (8) Other, specify_____

96a. Have you ever received treatment for drug or alcohol use problems?
    (0) No *(go to qn 99)*
    (1) Yes *(continue to Part B)*

96b. Which substances have you sought help or treatment for?

We can use card No. 1 here

(Tick all that apply)

	All that apply
i. Tobacco	
ii. Alcohol	
iii. Cannabis	
iv. Heroin	
v. Other opiates/opioids (i.e. methadone)	
vi. Inhalants	
vii. Hallucinogens (i.e. LSD)	
viii. Cocaine	
iv. Ecstasy	
v. Amphetamines (i.e. speed)	
vi. Methamphetamines (i.e. base, ice)	
vii. Other, _____	

96c. If yes, what type of treatment have you ever received? *(tick all responses that apply in table below)*

96d. What type of treatment have you received in the past 6 months?
(tick all responses that apply in table below)

	C Ever	D Past 6 months
i. Detoxification/Withdrawal management		
ii. Residential rehabilitation/ TC (i.e. PALM)		
iii. Day Program (Dunlea)		
iv. Counselling in Community		
v. Counselling in detention (drug and alcohol counseling, doctor, nurse, psychologists)		
vi. Support group (AA/NA)		
vii. Methadone/buprenorphine/naltrexone		
viii. Doctor		
iv. Other, specify_____		

97. In the past, what has helped you to stay in AOD (Alcohol & other drug) treatment?
_____
_____
_____
_____

98. In the past, why have you left AOD treatment?
_____
_____
_____
_____

99. Has your problem with drugs ever been raised during a court appearance?
    (0) No   (1) Yes

100a. Do you know where to get information and help about cannabis and its effects?
    (0) No *(go to qn 101)*
    (1) Yes *(continue to Part B)*

100b. *If yes*, where would you go to get help, advice or information?
  (select all that apply)
    (0) Parent/guardian
    (1) Other relatives
    (2) Friends
    (3) Doctor
    (4) Counsellor (i.e. AOD)
    (5) Case manager
    (6) Community youth worker
    (7) Other, specify_____

101. What would stop you from getting help with your cannabis use?
  (select all that apply)
    (0) I don't have a problem
    (1) I have other drug concerns - my cannabis use isn't a priority
    (2) Don't know where to go
    (3) Don't know what was available
    (4) Lack of support
    (5) Embarassed
    (6) Other, specify _____

102a. Do you find it difficult to ask for help or get advice about your health concerns, including any drug problems?
    (0) No *(go to qn 103a)*
    (1) Yes *(continue to Part B)*

102b. If yes, what type of things prevent you from seeking help or advice:
(select all that apply)
        (0) No-one can help me
        (1) Not sure who to approach
        (2) Embarrassed
        (3) Don't want parents to find out
        (4) Can't afford it
        (5) Don't want help
        (5) Other, specify _____

103a. Do you have someone you can talk to about your drug use?
        (0) No *(go to qn 104)*
        (1) Yes *(continue to Part B)*

103b. Who are they?
        (multiple responses allowed)
        (0) Parent/guardian
        (1) Brother/sister
        (2) Boyfriend/girlfriend
        (3) Other relative
        (4) Friend(s)
        (5) School/TAFE teacher
        (6) Doctor/counselor
        (7) Community youth worker/youth centre
        (8) Case manager
        (9) Other, specify_____

104a. Have you ever read any brochures or pamphlets about cannabis?
        (0) No *(go to qn 105)*
        (1) Yes *(continue to Part B)*

104b. *If yes,* Where did you read or see this information?
        (select all that apply)
        (0) School
        (1) Youth justice centre
        (2) Doctors office
        (3) Police station
        (4) Home
        (5) Youth/community centre
        (6) Internet
        (7) Magazine/paper
        (8) Other, specify _____

104c. Do you remember what the information was about?
        (0) No *(go to qn 105)*
        (1) Yes *(continue to Part D)*

104d. If yes, what was the information about?
        (select all that apply)
        (0) The cannabis plant
        (1) The effects of cannabis
        (2) How to get help for cannabis use
        (3) Treatment options for cannabis users
        (4) Other, Specify _____

105. In your opinion, what would make cannabis information brochures, websites etc more appealing to you?
(prompt with design, type of info etc)

_____
_____
_____

APPENDIX N: FOLLOW-UP SURVEY

For this interview I would like you to think only about the past 6 months.

Please remember to answer each question honestly, there are no right or wrong answers and we are NOT here to test you or to see how good you have been.

We are only here to ask you about how things may have changed for you since we last spoke to you 6 months ago.

SECTION A: DEMOGRAPHICS

1. Who do you usually live with?
    (0) Alone
    (1) Parent(s)/guardian(s)
    (2) Boyfriend/girlfriend
    (3) Alone with child(ren)
    (4) Partner and child(ren)
    (5) Other relative(s)
    (6) Friend(s)
    (7) Friend(s)/partner(s)/relative(s)
    (8) Other, specify _____
    (99) Not stated/inadequately described

2a. Where do you usually live?
    (0) Parents/family home
    (1) Home other than parents (ie family, friends)
    (2) Foster carers home
    (3) Renting (own place)
    (4) Boarding house/hostel
    (3) Short-term/crisis accomodation
    (4) Alcohol/drug treatment residence
    (5) No usual residence/homeless
    (9) Other, specify _____
    (99) Not stated/inadequately described

2b. What is the name of the town or suburb where you are currently living? _____

2c. How many times have you moved house in the last 6 months? _____

3. What is your main source of income?
    (0) Full-time employment
    (1) Part-time employment
    (2) Temporary benefit (ie sickness, unemployed)
    (3) Pension (disability, parenting)
    (4) Student allowance
    (5) Dependent on others (ie parents)
    (6) Criminal activity
    (7) No income
    (8) Other, specify _____

4. What is your ethnic background? _____

5a. Have you formally left school in the last 6 months?
    (0) No   (1) Yes

5b. Have you started TAFE, an apprenticeship or a traineeship in the last 6 months?
    (0) No   (1) Yes

Qn 6 - 8 only ask if currently in detention

If not in detention, go to Qn 9

6. How many days have you currently spent in custody? _____ days (*this episode only, under 24 hours = 1 day or less)

7a. Why are you currently spending time in custody?
    (0) Sentenced to spend time in custody
    (1) Bail refused/can't pay bail

7b. What are your current charges?
!

7b. What are your current charges?

_____

_____

_____

_____

8. Is this the first time you have been held in a custodial setting? (detention only, not including police stations etc)

      (0) No   (1) Yes

Qn 9 only ask if in community

If not in community, go to Qn 10

9a. Are you currently accessing or attending any treatment agencies or youth services?
      (0) No *(go to Qn 10)*
      (1) Yes (continue to part b)

9b. *If yes*, which ones

_____

_____

_____

9c. How long have you been attending these?

_____

_____

_____

9d. Why are you attending these services? (ie court order, community service order etc)

_____

_____

_____

I'd like you to now think about the past 6 months:

10. How many times in the past 6 months have you received a police warning?
      _____ times

11. How many times in the past 6 months have you been arrested? _____times

12. How many days in the past 6 months have you been held in a custodial setting? ____ days
(ie police stations and detention centres)

13. How old were you when you first spent time in detention?
      _____years
      (N/A) never spent time in detention

14. Are you currently on bail or awaiting a court trial?
      (0) No   (1) Yes

15. Do you have friends that are close to you and that you can rely on?
      (0) No   (1) Yes

16. Has your group of friends changed during the past 6 months?
      (0) No   (1) Yes

17. Are the friends you spend the most time with older, younger or the same age as you?

      (0) Older
      (1) Younger
      (2) Same age
      (3) A mix of older and younger friends

18. **BSSS**
→ *Hand participant Card No. 5*
For the next few questions we are interested in how much you agree or disagree with the following statements. We are interested in finding out about your likes and feelings, so please answer honestly about what you like or prefer rather than how you think your friends might answer the question.

    A. I would like to explore strange places

Strongly	Disagree	Neither agree	Agree	Strongly
disagree		or disagree		agree

    B. I get restless when I spend too much time at home

Strongly	Disagree	Neither agree	Agree	Strongly
Disagree		or disagree		agree

    C. I like to do frightening things

Strongly	Disagree	Neither agree	Agree
disagree	Strongly	or disagree	agree

    D. I like wild parties

Strongly	Disagree	Neither agree	Agree	Strongly
disagree		or disagree		agree

E.   I would like to take off on a trip without any plans or timetables

Strongly Disagree   Neither agree   Agree Strongly

disagree   or disagree   agree

F.   I prefer friends who are exciting and unpredictable

Strongly Disagree   Neither agree   Agree Strongly

disagree   or disagree   agree

G.   I would like to try bungee jumping

Strongly Disagree   Neither agree   Agree Strongly

disagree   or disagree   agree

H.   I would love to have new and exciting experiences, even if they are illegal

Strongly Disagree   Neither agree   Agree Strongly

disagree   or disagree   agree

SECTION B: SUBSTANCE USE

I'm now going to ask you some questions about your use of both licit and illict drugs

19. From the list, what is your main drug of choice?
(ie favourite)

      (0) Tobacco
      (1) Alcohol
      (2) Cannabis
      (3) Heroin
      (4) Other opiates/opioids (ie methadone)
      (5) Inhalants
      (6) Hallucinogens (ie LSD)
      (7) Cocaine
      (8) Ecstasy
      (9) Amphetamines (ie speed)
      (10) Methamphetamines (ie base, ice)
      (11) Other, specify _____

A. In the past 6 months have you used *(drug)*?

> *If <u>yes</u> continue to Part D.*
> *If <u>no</u>, return to Part A for next drug category.*

B. Was this the first time you have used *(drug)*?

C. How many days in the past month have you used *(drug)*?

D. How old were you when you began using *(drug)* at least once a month?

E. Did you begin using *(drug)* regularly - at least 3 times a week in the past 6 months?

F. How many times in the past month have you been offered *(drug)*?

	A. Use in past 6 months	B. First time (Y/N)	C. Days in past month	D. Began using @ least 1 x month	E. Began using regularly nth	F. Times been offered
20. Tobacco						
21. Alcohol						
22. Cannabis						
23. Heroin						
24. Other opioids/opiates (ie methadone)						
25. Inhalants (ie gas, petrol)						
26. Hallucinogens (ie LSD)						
27. Cocaine						
28. Ecstasy						
29. Amphetamine (ie speed)						
30. Methamphetamine (ie base, ice)						

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31. Have you ever injected any drug?
    (1) Yes in the last 3 months
    (2) More than 3 but less than 12 months
       ago
    (3) 12 months ago or more
    (4) Never injected
    (99) Not stated/inadequately described

SECTION C: CANNABIS SPECIFIC

**IF used cannabis for FIRST time in past 6 months go to Qn 32

**If BEGAN to use cannabis REGULARLY in past 6 months go to Qn 42

**If NO first or first regular use in past 6 months go to Qn 45

For the next couple of questions, I'd like you to think back to the first time you tried cannabis

32. Where did you first use cannabis?
    (0) At your own home
    (1) At a friend(s) home
    (2) Public place (ie park, street)
    (3) Youth/community centre
    (4) School, tafe, university
    (5) Private party
    (6) In a car/other vehicle
    (7) At work
    (8) Dealer's home
    (9) In custody
    (10) Other, specify _____

33. Who did you first use cannabis with?
    (0) No one (alone)
    (1) Friend(s)
    (2) Boyfriend/girlfriend
    (3) Immediate family member (ie siblings, parents)
    (4) Other relative(s)
    (5) Local dealer
    (7) Acquaintance/someone you just met
    (8) Other, specify _____

34. When you first used cannabis, who did you buy or get the cannabis from?
    (0) Grew it yourself
    (1) Friend(s)
    (2) Boyfriend/girlfriend
    (3) Immediate family member (ie siblings, parents)
    (4) Other relative(s)
    (5) Local dealer
    (6) Acquaintance/someone you just met
    (7) Other, specify _____

35. How did you pay for the cannabis?
    (0) Pocket money (from parents, guardians)
    (1) Wage/salary
    (2) Government pension
    (3) Temporary benefit (ie centrelink)
    (4) Criminal activity
    (5) It was free
    (6) You stole it
    (9) Other, specify _____

Again, thinking about the first time you used cannabis:

36. What form of cannabis did you try?
    (0) Hash/hash oil
    (1) Hydro
    (2) Bush
    (3) Other, specify
_____

37a. Did you first try cannabis mixed with tobacco?
    (0) No *(go to qn 38)*
    (1) Yes *(continue to 37b)*

37b. If yes, did you use
    (1) More tobacco than cannabis
    (2) More cannabis than tobacco
    (3) Half cannabis, half tobacco

38. How did you first use cannabis?
    (0) Smoked in a joint
    (1) Smoked in a bong or pipe
    (2) By eating (ie cookie)
    (3) Other, specify
_____

Still thinking back to the first time you tried cannabis:

39a. The first time you saw someone use cannabis, did you try it yourself?
        (0) No *(continue to 39b)*
        (1) Yes *(go to qn 40)*

39b. *If not*, Why didn't you try it?
_____

_____

40. Did you actively try to find someone you knew who used cannabis so that you could try it for the first time?
        (0) No   (1) Yes

41. Were you the first person among your close   friends to try cannabis?
        (0) No
        (1) Yes
        (2) We tried together
        (3) Not sure

Still thinking about the first time you used cannabis

You can use this list to help you remember what I'm about to say

42a. The first time you used cannabis, did you try it…… *(read whole list below and tick all that apply)*

42b. Of those, what were the 3 main reasons you tried cannabis for the first time? *(label 1, 2, 3)*

➔ **Answer Part C if began using regularly in past 6 months**

42c. And what were the 3 main reasons you began to use cannabis regularly? *(read whole list again, label 1, 2, 3)*

Reasons for use	A. All that apply	B. Top 3	C. Reg. use Top 3
1. For fun			
2. Because you were curious and wanted to experiment			
3. To fit in with your friends			
4. To feel more self confident and sure of yourself			
5. To help you forget about your problems and worries			
6. To help you deal with the effects of other drugs (ie withdrawal)			
7. It was easy and cheap to obtain			
8. Because you were bored			
9. Because you were forced to (eg peer pressure)			
10. To feel cool			
11. To feel and see things differently			
12. To help you to relax			
13. Because it was illegal			
14. Because you were drunk			
15. Other, specify_____			

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43. Would you say the first time you used cannabis was it a positive, negative or neutral experience?

    (1) Positive (ie good)
    (2) Negative (ie bad)
    (3) Neutral (ie neither good nor bad)

→ *Hand participant card No. 4*

44. On a scale of 0 to 10, where 0 is not at all confident and 10 is very confident, how confident are you that you remembered the details of the first time you used cannabis accurately? _____

Thinking now about the last 6 months

45. In the last 6 months would you say your cannabis use has:
    (1) Increased
    (2) Decreased
    (3) Remained the same
    (4) N/A – have stopped using all together

46. Why do you think your use has changed?
_____
_____
_____

47. Have you used cannabis in the last 6 months?
    (1) Yes *(continue to qn 48)*
    (0) **No, why not** *(then continue to qn 63)*
_____
_____
_____

* No cannabis use in past 6 months *(Circle and skip to qn 63)*

48. In the past 6 months, how much of the time did you use cannabis ……
(tick 1 response per qn)

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1. In your own home?					
2. At a boyfriend/ girlfriend's home?					
3. At a friend's home?					
4. In a public place?					
5. At a youth/community centre?					
6. At school/tafe?					
7. At a private party?					
8. In a car/other vehicle?					
9. At work?					
10. At your dealer's home?					
11. Other, specify___					

49. In the past 6 months, how much of the time did you use cannabis…...*(tick 1 response per qn)*

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1. By yourself?					
2. With a boyfriend/girlfriend?					
3. With friends?					
4. With acquaintances?					
5. With an immediate family member?					
6. With other relatives?					
7. With the local dealer?					
8. Other,specify_____					

54. In the past 6 months how often did you use cannabis?
    (1) Less than once a month
    (2) Once a month
    (3) Once a fortnight
    (4) Once a week
    (5) Once a day
    (6) More than once a day (specify ____)

Still thinking about the past 6 months

55a. On average, how many grams of cannabis do you usually buy or are given?
    _____grams *(continue to 55b)*
    (999) Don't know (go to qn 55c)

55b. On average, how often do you usually buy or are given this amount?
    (0) Daily
    (1) Weekly
    (2) Monthly
    (3) Other, specify_____

55c. Approximately, how many grams of cannabis do you usually use per day?
    _____ grams
    (999) Don't know

56a. In the past 6 months, how much of the time did you mix cannabis with tobacco?
    (1) None of the time
    (2) A little of the time
    (3) Some of the time
    (4) Most of the time
    (5) All of the time

56b. *If used cannabis with tobacco,* Did you use
    (1) More tobacco than cannabis
    (2) More cannabis than tobacco
    (3) Half cannabis, half tobacco

57. In the 6 months, how much of the time did you ..... *(tick 1 response per qn)*

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1. Smoked cannabis in a joint					
2. Smoked cannabis in a bong or pipe					
3. Eat cannabis (ie in a cookie)					
4. Other ways using specify					

58a. In the past 6 months, what time of day did you usually use cannabis when you were by yourself? *(tick response in table)*

58b. In the past 6 months, what time of day did you usually use cannabis when you were with others? *(tick response in table)*

(tick 1 response per qn)

	A. By self	B. With others
(1) Morning (ie from wake up to lunch)		
(2) Midday (ie lunchtime)		
(3) Afternoon (ie after lunch to dark)		
(4) Evening (ie night time to sleep)	(N/A)	(N/A)

59a. Does the way you use cannabis change when you are with others?
    (0) No *(go to qn 60)*
    (1) Yes *(continue to qn 59b)*

59b. How? *(ie what is different about the way you use cannabis when you are by yourself to when you are with others?)*

_____
_____
_____

60. In the past 6 months, how much of the time have you used cannabis with or at the same time as:

(*Tick one response per drug type)

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. Tobacco					
B. Alcohol					
C. Heroin					
D. Other opiates/opioids					
E. Inhalants					
F. Hallucinogens					
G. Cocaine					
H. Ecstasy					
I. Amphetamines					
J. Methamphetamines					
K. Prescription medication, specify _____					
I. Other, _____					

SDS
The next five questions refer to the last 3 months

Over the last 3 months:

61a. Did you ever think your use of cannabis was out of control?
    (0) Never or almost never
    (1) Sometimes
    (2) Often
    (3) Always or nearly always

61b. Did the prospect of missing a smoke make you very anxious or worried?
    (0) Never or almost never
    (1) Sometimes
    (2) Often
    (3) Always or nearly always

Over the last 3 months:
61c. Did you worry about your use of cannabis?
    (0) Not at all
    (1) A little
    (2) Quite a lot
    (30 A great deal

61d. Did you wish you could stop?
    (0) Never or almost never
    (1) Sometimes
    (2) Often
    (3) Always or nearly always

61e. How difficult would you find it to stop or go without?
    (0) Not difficult
    (1) Quite difficult
    (2) Very difficult
    (3) Impossible
End SDS

62. How much of the average day do you spend/or feel stoned?
    (0) 0 hours
    (1) 1 – 2 hours
    (2) 3 – 4 hours
    (3) 5 – 6 hours
    (4) 7 – 8 hours
    (5) 9 or more hours

I'm now going to ask you a few questions about your close friends and family members use of drugs

Please remember to only answer the questions you feel comfortable with

63. Do you think the people you live with use drugs?
    (0) No
    (1) Yes
    (2) Don't know
    (3) Prefer not to say

64a. Do you think your parents or guardians use illegal drugs?
    (0) No
    (1) Yes
    (2) Prefer not to say
    (3) Don't know

64b. Do you think your siblings use illegal drugs?
  (0) No
  (1) Yes
  (2) Prefer not to say
  (3) Don't know

64c. Do you think your close friends use illegal drugs?
  (0) No
  (1) Yes
  (2) Prefer not to say
  (3) Don't know

If answered yes to any part in 64 continue to 64d
If no, continue to qn 65

We will use card No. 1 to help us with this qn
64d. From the list, which illegal drugs do you think those close to you use?

(Tick all that apply)

	All that apply
i. Cannabis	
ii. Heroin	
iii. Other opiates/opioids	
iv. Inhalants	
v. Hallucinogens (ie LSD)	
vi. Cocaine	
vii. Ecstasy	
viii. Amphetamines (ie speed)	
ix. Methamphetamines (ie base, ice)	
x. Other, _____	

65. Has an immediate family member, for example your parents or your brothers or sisters offered you illegal drugs including cannabis in the last 6 months?
  (0) No
  (1) Yes, once
  (2) Yes, some of the time
  (3) Yes, all of the time
  (4) Prefer not to say

66. Have you used illegal drugs in front of your younger siblings or own child(ren) in the last 6 months?
  (0) No   (1) Yes

67. How many of your friends use cannabis?
  (0) All of them
  (1) Most of them
  (2) Almost half
  (3) A few of them
  (4) One of them
  (5) None

SECTION D: CRIMINAL ACTIVITY

I'm now going to move on to ask you a few questions about your involvement in crime

Please remember, we are not asking you to report specific details of any crimes you may have committed

➔ *Hand participant card No. 5*

We'll use this card to help us with the next few questions

A. Have you ever committed a *(crime)* in the past 6 months (since our last interview) even if you were not arrested by police?
  If yes continue to Part B
  If no, return to Part A for second crime category

B. Was this the first time you have committed a *(crime)*?
  If yes continue to Part C
  If no, go to Part D for second crime category

C. Before, during or after you committed your first *(crime)*, did you use alcohol or drugs? *If yes*, Which drugs did you use?

We can use card No. 1 here

  Refer to list of drugs – record in column
  Record N/A if no alcohol or drugs use

D. Were you arrested for the first time for a *(crime)* in the past 6 months?

Ea. Did you start committing *(crime)* regularly in the past 6 months?

Eb. How often were you committing *(crime)* then

___times a day/week/month/other _____
(record here)

F. In the past 6 months, how many times have you committed a *(crime)*, even if you were not arrested by police?

G. Did you use any drugs before, during or after committing a *(crime)* in the past 6 months? *If yes*, which drugs did you use?

H. On how many days in the past month have you committed *(crime)*?

We can use card No. 1 here

Refer to list of drugs – record in column
            Record N/A if no alcohol or drugs use

	A. Commit in past 6 months	B. First time (Y/N)	C. Drugs used during 1st crime	D. 1st arrest in past 6 months (Y/N)	E.A Regular in past 6 months (Y/N)	E.B Reg definition	F. Times in past 6 months	G. Drug use during crime last 6 months	H. Types in past 30 days	I. Days crime in last 30
68. Drug dealing/ trafficking	Dealing Trafficking Other _____	No Yes (specify _____)		No Yes (specify _____)	No Yes				Dealing Trafficking Other	
69. Property crime	Vandalism Shoplifting/theft Break & enter Car theft Other _____	No Yes (specify _____)		No Yes (specify _____)	No Yes				Vandalism Shoplifting/theft Break & enter Car theft Other	
70. Fraud	Credit card/cheque/prescriptions Other				No Yes				Credit card/cheque/prescriptions other	
71. Violent crime	Robbery/robbery with weapon Aggravated/common assault Murder Sexual assault Other	No Yes (specify _____)		No Yes (specify _____)	No Yes				Robbery/robbery with weapon Aggravated/common assault Murder Sexual assault Other	
72. Traffic/ driving offence	Drink driving Driving without licence Other	No Yes (specify _____)		No Yes (specify _____)	No Yes				Drink driving Driving without licence Other	
73. Other, specify _____										

74. What happened after you were arrested for the first time? *(select all that apply)*
    (0) Offered police caution/pre-court diversion
        (specify type_____)
    (1) Went to court
    (2) Court diversion
        (specify type _____)
    (3) Refused bail/spent time in detention
    (4) Community service order
    (5) Sentenced to time in detention
    (6) Other, specify _____

Thinking now about the last 6 months

75. In the last 6 months would you say your involvement in crime has:
    (1) Increased
    (2) Decreased
    (3) Remained the same
    (4) N/A – have stopped using altl together

76. Why do you think your use has changed?
    _____
    _____
    _____
    _____

77. Has the respondent committed any crime in the past 6 months
    Yes   (go to Qn 78)
    No, why not (go to Qn 80)
    _____
    _____
    _____
    _____

Still thinking about the last 6 months

78. In the past 6 months, how much of the time did you <u>usually</u> commit crime……

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. By yourself?					
B. With a boyfriend/girlfriend?					
C. With friends?					
D. With acquaintances?					
E. With an immediate family member?					
F. With other relatives?					
G. Other, specify_____					

79. How much of the time during the past 6 months did you commit crime because….

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. You were bored					
B. For the thrill of it (ie excitement)					
C. For fun					
D. Peer pressure					
E. Lost your temper					
F. You needed money to repay debt					
G. You needed money to buy drugs or alcohol					
H. You were under the influence of alcohol or drugs					
I. For payback or revenge					
J. To feel cool					
K. To fit in with your friends					
L. It was someone else's idea					
M. Other, specify_____					

80. Do you believe using cannabis has ever contributed to your involvement in crime or being arrested?
   (0) Not at all *(go to qn 81)*
   (1) Yes, how?

_____
_____
_____
_____

81a. Have you been charged with use or possession of cannabis in the last 6 months?
   (0) No   (1) Yes

81b. Have you been offered a cannabis caution or diversion as a result of a cannabis possession or use charge in the last 6 months?
   (0) No   (1) Yes
   (2) Unofficial warning

I'm now going to ask a few questions about your close friends and relatives involvement in crime

Please remember to only answer the questions you feel comfortable with

82. Do you think the people you live with commit crime?
   (0) No
   (1) Yes
   (2) Don't know
   (3) Prefer not to say

83. Have your parents/guardians ever been arrested?
   (0) No
   (1) Yes
   (2) Don't know
   (99) Prefer not to say

84. Have any of your brother(s) or sister(s) ever been arrested?
   (0) No
   (1) Yes
   (2) Don't know
   (99) Prefer not to say

85. Have your parents ever spent time in youth detention or prison?
   (0) No
   (1) Yes
   (2) Don't know
   (99) Prefer not to say

86. Have your brother(s) or sister(s) ever spent time in detention or prison?
   (0) No
   (1) Yes
   (2) Don't know
   (99) Prefer not to say

87. Have any of your close friends ever been arrested?
   (0) No
   (1) Yes
   (2) Don't know
   (99) Prefer not to say

88. Have any of your close friends ever been held in a custodial setting or been to prison?
   (0) No
   (1) Yes
   (2) Don't know
   (99) Prefer not to say

SECTION E: HEALTH and TREATMENT EXPERIENCES

I'm now going to ask you a few questions about your health and treatment experiences

89. Have you visited a health professional in the past 6 months, for example a doctor?
   (0) No   (1) Yes

90. In general, would you say your physical health is?
   (1) Excellent
   (2) Very good
   (3) Good
   (4) Fair
   (5) Poor

91a. Have you been diagnosed with a mental illness in the past 6 months?
   (0) No *(go to qn 92)*
   (1) Yes *(go to part 91b)*

91b. Please specify

_____
_____
_____

92. During the last 30 days, about how often did you feel…..

During the last 30 days, about how often did you feel……	None of the time	A little of the time	Some of the time	Most of the time	All of the time
A. Nervous?	1	2	3	4	5
B. Hopeless?	1	2	3	4	5
C. So restless/ fidgety that you could not sit still?	1	2	3	4	5
D. That everything was an effort?	1	2	3	4	5
E. So sad that nothing could cheer you up?	1	2	3	4	5
F. Worthless	1	2	3	4	5

93. Do you feel like you have a problem and need treatment for your cannabis use?
    (0) No   (1) Yes

94a. In the last 6 months has anyone told you that they think you have a problem and needed treatment for your cannabis use?
    (0) No *(go to qn 95a)*
    (1) Yes *(continue to Part B)*

94b. Who has told you this?
_____
_____
_____
_____

95a. In the past 6 months have you received and treatment for drug or alcohol use problems?
    (0) No (go to qn 96)
    (1) Yes

95b. What type of treatment for alcohol or drug use problems have you received in the last 6 months?
(tick all responses that apply in table below)

	D Past 6 months
i. Detoxification/Withdrawal management	
ii. Residential rehabilitation/ TC (ie. PALM)	
iii. Day Program (ie Dunlea)	
iv. Counselling in Community	
v. Counselling in detention (drug and alcohol counseling, doctor, nurse, psychologists)	
vi. Support group (ie AA/NA)	
vii. Methodone/buprenorphine/naltrexone	
viii. Doctor	
iv. Other, specify_____	

95c. Which substances have you sought help or treatment for? (tick all that apply)

	All that apply
i. Tobacco	
ii. Alcohol	
iii. Cannabis	
iv. Heroin	
v. Other opiates/opioids (ie methadone)	
vi. Inhalants	
vii. Hallucinogens (ie LSD)	
viii. Cocaine	
iv. Ecstasy	
v. Amphetamines (ie speed)	
vi. Methamphetamines (ie base, ice)	
vii. Other, _____	

95d. In the past 6 months, what has helped you to stay in alcohol & other drug treatment?
_____
_____
_____
_____

95e. In the past, what has contributed to you leaving alcohol and other drug treatment without finishing it?

_____
_____
_____
_____

96. Has your problem with drugs been raised during a court appearance in the past 6 months?
    (0) No   (1) Yes

97a. Do you know where to get information and help about cannabis and its effects?
    (0) No *(go to qn 98)*
    (1) Yes *(continue to Part B)*

97b. *If yes*, where would you go to get help, advice or information?

_____
_____
_____
_____

98. What has stop you from getting help with your cannabis use in the past 6 months?
(select all that apply)
    (0) I don't have a problem
    (1) I have other drug concerns - my cannabis use isn't a priority
    (2) Don't know where to go
    (3) Don't know what was available
    (4) Lack of support
    (5) Embarassed
    (6) Other, specify _____

99a. In the past 6 months have you found it difficult to ask for help or get advice about your health concerns, including any drug problems?
    (0) No *(go to qn 100a)*
    (1) Yes *(continue to Part B)*

99b. If yes, what type of things have prevented you from seeking help or advice:
(select all that apply)
    (0) No-one can help me
    (1) Not sure who to approach
    (2) Embarrassed
    (3) Don't want parents to find out
    (4) Can't afford it
    (5) Don't want help
    (5) Other, specify _____

100a. Do you have someone you can talk to about your drug use?
    (0) No *(go to qn 90)*
    (1) Yes *(continue to Part B)*

100b. Who are they?

_____
_____
_____

101a. In the past 6 months, have you ever read any brochures or pamphlets about cannabis?
    (0) No *(end of survey)*
    (1) Yes *(continue to Part B)*

101b. *If yes*, Where did you read or see this information?
(select all that apply)
    (0) School
    (1) Youth justice centre
    (2) Doctors office
    (3) Police station
    (4) Home
    (5) Youth/community centre
    (6) Internet
    (7) Magazine/paper
    (8) Other, specify _____

101c. Do you remember what the information was about?
    (0) No *(end of survey)*
    (1) Yes *(continue to Part D)*

101d. If yes, what was the information about?

_____
_____
_____
_____

APPENDIX O: SOCIO-DEMOGRAPHIC CHARACTERISTICS BY TEMPORAL ORDER GROUP

	Cannabis 1st (n=71) % (n)	Crime 1st (n=175) % (n)	Concurrent use (n=56) % (n)
Sex			
Male	78.9 (56)	86.3 (151)	83.9 (47)
Mean age (SD)[#]	17.7 (1.93)	16.6 (1.72)	17.0 (1.98)
(Range)	(14-21)	(14-21)	(14-21)
Country of birth			
Australia	90.1 (64)	88.0 (154)	89.3 (50)
Aboriginal and/or			
Torres Strait Islander	40.8 (29)	36.0 (63)	33.9 (19)
Ethnicity			
Oceanian	86.2 (56)	75.2 (124)	70.6 (36)
North-West European	3.1 (2)	3.6 (6)	7.8 (4)
Southern and Eastern European	3.1 (2)	6.7 (11)	9.8 (5)
North African and Middle Eastern	1.5 (1)	10.3 (17)	7.8 (4)
South-East Asian	3.1 (2)	1.8 (3)	2.0 (1)
North-East Asian	0	0	2.0 (1)
Southern and Central Asia	1.5 (1)	0.6 (1)	0
Sub-Saharan Africa	1.5 (1)	1.8 (3)	0
Usual living arrangement[###]			
Parent/s	46.5 (33)	64.0 (112)	58.9 (33)
Other relatives (grandparents, aunty/uncle,	11.3 (8)	14.9 (26)	12.5 (7)
cousins)	7.0 (5)	2.9 (5)	10.7 (6)
Alone	35.2 (25)	18.3 (32)	17.9 (10)

	Cannabis 1st	Crime 1st	Concurrent use
	(n=71)	(n=175)	(n=56)
	% (n)	% (n)	% (n)
Usual accommodation###			
Parent/family home	45.1 (32)	58.9 (103)	53.6 (30)
Home other than parents (other relatives/friends home/partners family home)	21.1 (15)	25.1 (44)	17.9 (10)
Refuge	16.9 (12)	8.0 (14)	8.9 (5)
Other (renting own place, homeless)			
	16.9 (12)	8.0 (14)	19.6 (11)
Usual source of income			
Employed (casual, part or full-time)	14.1 (10)	15.4 (27)	12.5 (7)
Government payments (pension, temporary or student allowance)	57.7 (41)	43.4 (76)	42.9 (24)
Dependent on others	18.3 (13)	29.1 (51)	25.0 (14)
Other (no income, income from crime)	9.8 (7)	12.0 (21)	19.7 (11)
Formally left school##	84.5 (60)	64.0 (112)	75.0 (42)
Mean age left school (SD)	15.4 (1.56)	15.1 (1.52)	15.2 (1.74)
Has a child or children###	16.9 (12)	7.4 (13)	3.6 (2)
Location of baseline interview			
Custody	39.4 (28)	56.0 (98)	46.4 (26)
Ever spent time in custody*	85.7 (60)	87.3 (151)	89.1 (49)
Median days in custody	67.5	150.0	90.0
(Range)	(1-1,800)	(1-1,800)	(1-2,160)

#p<0.001, ##p<0.01, ###p<0.05

APPENDIX P: LIFETIME DRUG USE - MANN-WHITNEY U STATISTICS

	Mann-Whitney U	P value
Tobacco		
Cannabis 1st vs crime 1st	5609.000	0.008
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	4503.000	0.018
Alcohol		
Cannabis 1st vs crime 1st	5254.000	0.001
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	4218.000	0.002
Cannabis		
Cannabis 1st vs crime 1st	5254.000	0.001
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	4218.000	0.002
Inhalants		
Cannabis 1st vs crime 1st	ns	ns
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	ns	ns
Ecstasy		
Cannabis 1st vs crime 1st	4876.500	0.003
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	ns	ns
Amphetamines		
Cannabis 1st vs crime 1st	5013.500	0.005
Cannabis 1st vs concurrent	Ns	Ns
Crime 1st vs concurrent	ns	ns
Cocaine		
Cannabis 1st vs crime 1st	4884. 000	0.001
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	4242.000	0.035

	Mann-Whitney U	P value
Methamphetamines		
Cannabis 1st vs crime 1st	4687.000	<0.001
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	4188.000	0.016
Hallucinogens		
Cannabis 1st vs crime 1st	4870.000	<0.001
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	4149.000	0.007
Heroin		
Cannabis 1st vs crime 1st	ns	ns
Cannabis 1st vs concurrent	1725.500	0.016
Crime 1st vs concurrent	ns	ns
Other opioids		
Cannabis 1st vs crime 1st	ns	ns
Cannabis 1st vs concurrent	ns	ns
Crime 1st vs concurrent	ns	ns

# APPENDIX Q: AGE OF INITIATION – MANN-WHITNEY U PAIRWISE COMPARISONS

	Mann-Whitney U	P value
Age of cannabis initiation		
Cannabis 1st vs. Crime 1st	2045.500	<0.001
Cannabis 1st vs. Concurrent	1472.000	0.007
Crime 1st vs. Concurrent	3181.000	0.006
Age of crime initiation		
Cannabis 1st vs. Crime 1st	2754.000	<0.001
Cannabis 1st vs. Concurrent	1523.000	0.028
Crime 1st vs. Concurrent	2339.500	0.006

APPENDIX S: ADDITIONAL ANALYSES: 4.4.4 DRUG USE - PROGRESSION

Progression from first cannabis use to first ecstasy use

Figure A.1 below compares the cumulative survival time in years between first cannabis use and first ecstasy use among the three temporal order groups. Results of the Cox regression indicate that after controlling for participant age, participants in the crime-first and concurrent groups did not progress from first cannabis use to ecstasy use at a different rate (or in other words, differ in the length of time between initiation of drugs) than participants in the cannabis-first group.
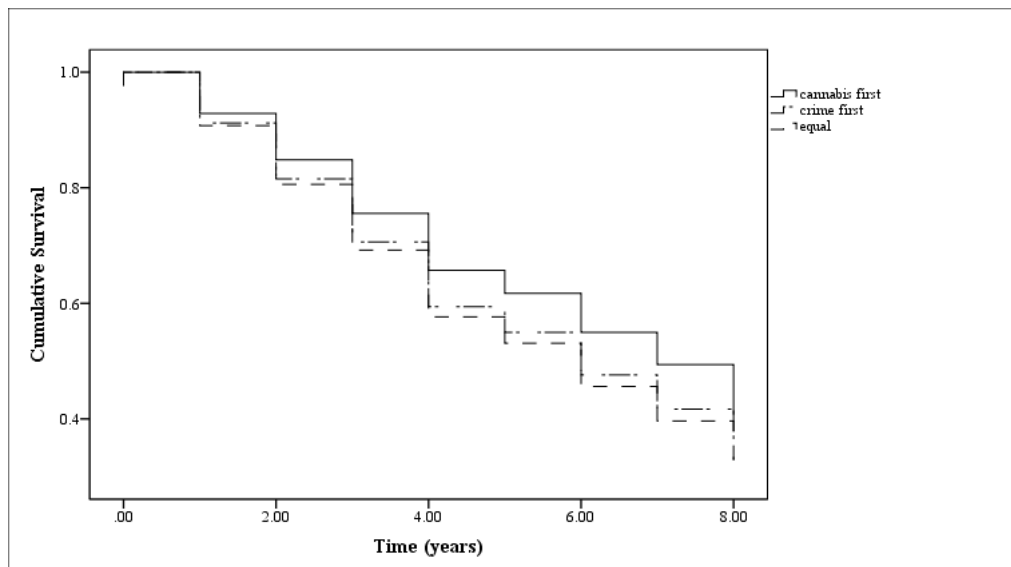
Figure A.1:   Cumulative survival time between first cannabis use and first ecstasy use
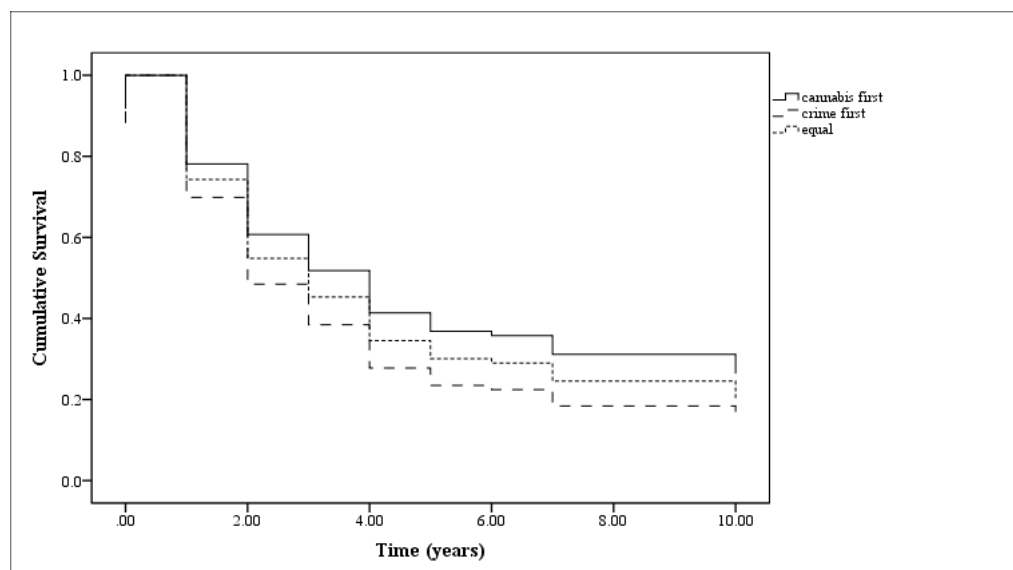
Progression from first cannabis use to first cocaine use

Figure A.2 compares the cumulative survival time in years between first cannabis use and first cocaine use among the three temporal order groups. Results of the Cox regression indicate that after controlling for participant age, participants in the crime-first and concurrent groups did not progress from first cannabis use to first cocaine use at different rates than the cannabis-first group.
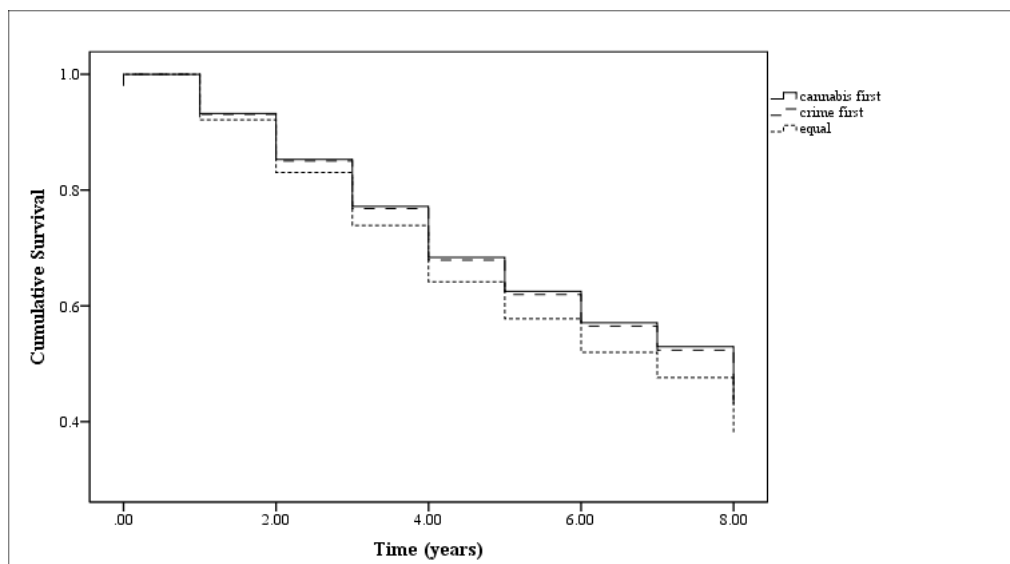
Figure A.2: **Cumulative survival time between first cannabis use and first cocaine use**

Progression from first cannabis use to first methamphetamines use

Figure A.3 compares the cumulative survival time in years between first cannabis use and first methamphetamines use among the three temporal order groups. Results of the Cox regression indicate that after controlling for participant age, participants in the crime-first and concurrent groups did not progress from first cannabis use to first methamphetamines use at different rates than the cannabis-first group.
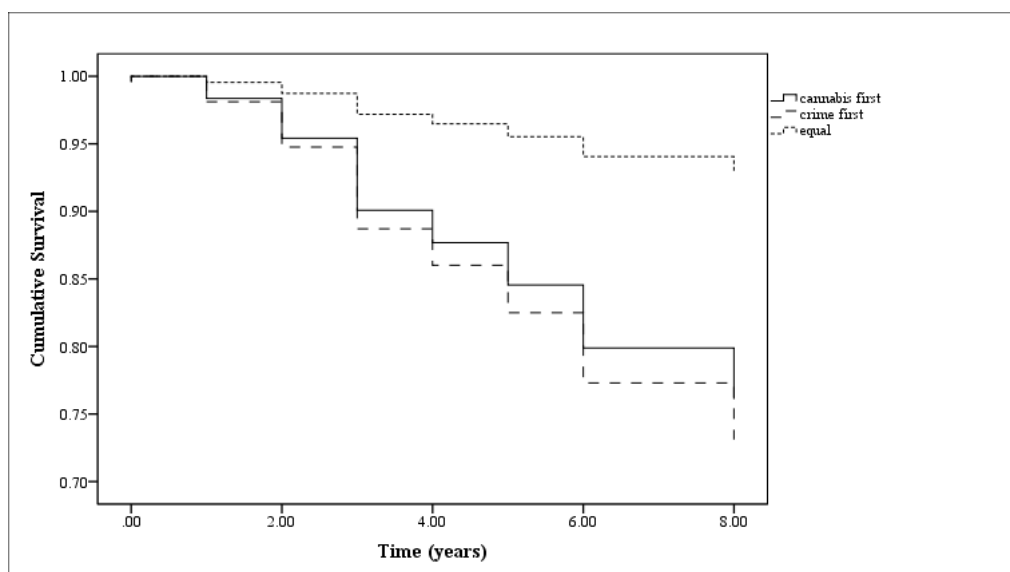
Figure A.3: **Cumulative survival time between first cannabis use and first methamphetamine use**

Progression from first cannabis use to first heroin use

Figure A.4 compares the cumulative survival time in years between first cannabis use and first heroin use among the three temporal order groups. Results of the Cox regression indicate that after controlling for participant age, participants in the crime-first and concurrent groups did not progress from first cannabis use to first heroin use at different rates than the cannabis-first group.

Figure A.4: Cumulative survival time between first cannabis use and first heroin use
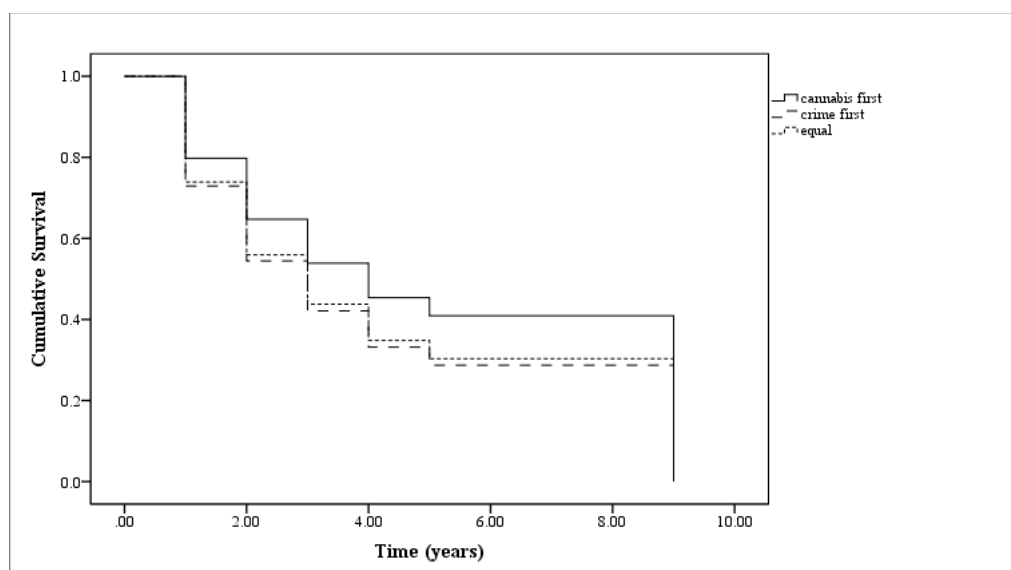
APPENDIX T: ADDITIONAL ANALYSES: 4.4.5 INITIATION TO REGULAR USE

Progression from first ecstasy use to regular ecstasy use

Figure A.5 compares the cumulative survival time in years between first ecstasy use and regular ecstasy use among the three temporal order groups. Results of the Cox regression indicate that after controlling for participant age, participants in the crime-first and concurrent groups did not progress from first ecstasy use to regular ecstasy use at different rates than the cannabis-first group.

Figure A.5:   Cumulative survival time between first and regular ecstasy use

Progression from first amphetamines use to regular amphetamines use

Figure A.6 compares the differences in the cumulative survival time in years between first amphetamines use and regular amphetamines use among the three temporal order groups. Results of the Cox regression indicate that after controlling for participant age, participants in the crime-first and concurrent groups did not progress from first amphetamines use to regular amphetamines use at different rates than the cannabis-first group.

Figure A.6: Cumulative survival time between first and regular amphetamines use
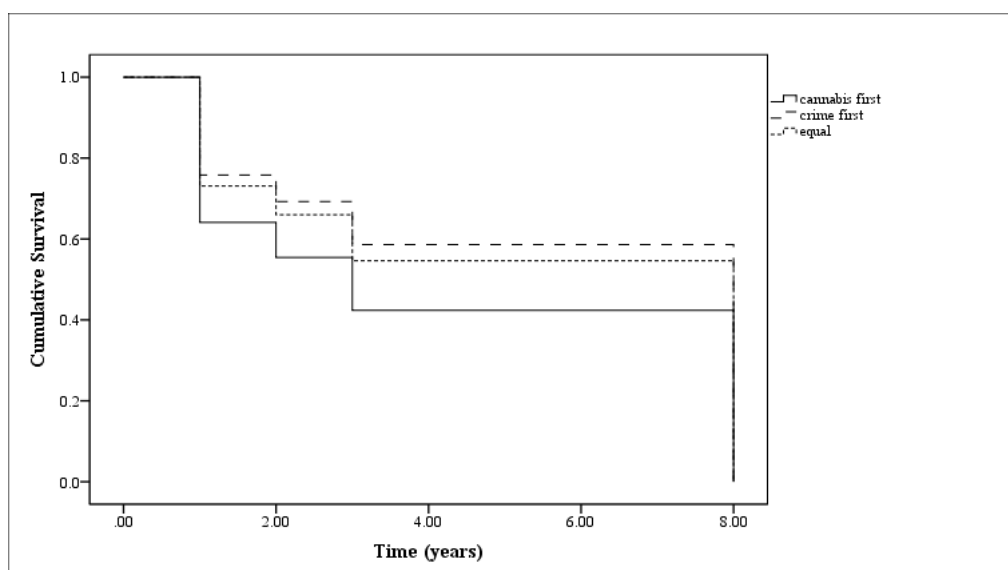
APPENDIX U: ADDITIONAL ANALYES 4.4.8
FIRST TO REGULAR CRIME

Progression from first violent offence to regular violent offending

After controlling for participant age, participants in the crime-first and concurrent groups did not progress from first violent offence to regular violent offending at different rates than the cannabis-first group.   Figure A.7 compares the cumulative survival time in years between first violent offence and regular violent offending among the three temporal order groups.

Figure A.7   Cumulative survival time between first and regular violent offending
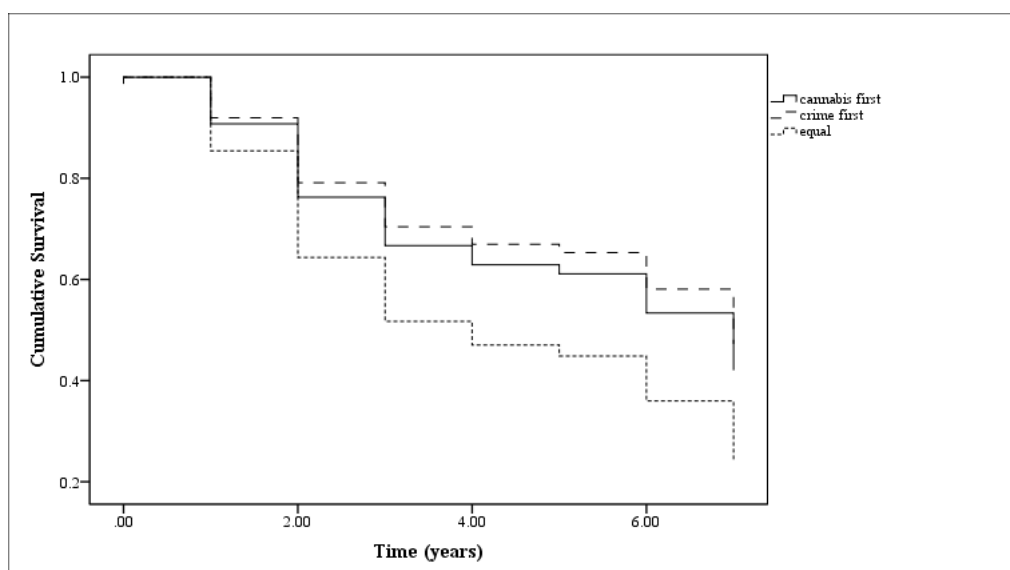
APPENDIX V: FOLLOWED-UP VS NOT FOLLOWED-UP – DEMOGRAPHIC COMPARISONS

	Followed-up/re-interviewed	Not followed-up/not re-interviewed	Comparisons X^2 (p value)
	(n=135) % (n)	(n=167) % (n)	
Sex			
Male	81.5 (110)	86.2 (144)	ns
Age (yrs)			
Mean age (SD)	17.1 (2.09)	16.9 (1.67)	ns
Range	(14-21)		
Country of birth			
Australia	85.2 (115)	91.6 (153)	ns
Aboriginal and Torres Strait Islander	37.8 (51)	35.9 (60)	ns
Baseline interview in custody	43.7 (59)	55.7 (93)	x^2 (1) =4.289, p=0.038
Prior diagnosis of a mental illness	26.7 (36)	30.5 (51)	ns
Ever used			
Tobacco	9.3. (126)	95.8 (160)	ns
Alcohol	97.0 (131)	98.2 (164)	ns
Cannabis	88.1 (119)	94.0 (157)	ns
Inhalants	13.3 (18)	12.6 (21)	ns
Ecstasy	53.3 (72)	54.5 (91)	ns
Amphetamines	34.8 (37)	39.5 (66)	ns
Cocaine	31.1 (42)	32.3 (54)	ns
Methamphetamines	27.4 (37)	28.7 (47)	ns
Hallucinogens	17.8 (24)	22.8 (38)	ns
Heroin	7.4 (10)	11.4 (19)	ns
Other opioids/opiates	5.9 (8)	8.4 (14)	ns

	Followed-up/re-interviewed	Not followed-up/not re-interviewed	Comparisons X^2 (p value)
	(n=135)	(n=167)	
	% (n)	% (n)	
Mean age drug initiation (SD)			
Tobacco	11.94 (2.64)	11.88 (2.65)	ns
Alcohol	12.15 (2.88)	12.86 (2.14)	t (293) = 2.341, p=0.020
Cannabis	13.29 (2.23)	13.17 (2.04)	ns
Inhalants	13.72 (2.67)	14.33 (1.06)	ns
Ecstasy	14.69 (1.97)	15.05 (1.36)	ns
Amphetamines	14.77 (2.07)	15.48 (1.44)	t (111) =2.181, p=0.031
Cocaine	15.67 (1.69)	15.61 (1.42)	ns
Methamphetamines	15.46 (2.05)	15.85 (1.52)	ns
Hallucinogens	15.88 (2.09)	15.58 (1.37)	ns
Heroin	16.00 (1.63)	15.58 (1.80)	ns
Other opioids/opiates	16.63 (3.02)	15.86 (1.51)	ns
Mean days of drug use – past month (SD)			
Tobacco	26.43 (8.60)	26.56 (8.72)	ns
Alcohol	10.42 (10.57)	10.20 (9.71)	ns
Cannabis	11.00 (13.42)	14.83 (13.66)	t (300) = 2.439, p=0.015
Inhalants	5.33 (4.03)	2.60 (1.95)	ns
Ecstasy	6.41 (8.14)	5.34 (7.08)	ns
Amphetamines	10.30 (11.30)	11.73 (9.96)	ns
Cocaine	4.35 (5.04)	4.82 (5.35)	ns
Methamphetamines	5.38 (10.04)	16.22 (12.39)	t (15.56) = 2.359, p=0.031
Hallucinogens	9.75 (13.79)	2.61 (3.66)	ns
Heroin	7.67 (5.86)	15.50 (11.38)	ns
Other opioids/opiates	8.67 (10.79)	6.50 (9.96)	ns

	Followed-up/re-interviewed	Not followed-up/not re-interviewed	Comparisons X^2 (p value)
	(n=135)	(n=167)	
	% (n)	% (n)	
Ever committed crime			
Drug-related	43.7 (59)	58.7 (98)	x^2 (1) =6.710, p=0.010
Property	88.9 (120)	92.2 (154)	ns
Violent	80.0 (108)	78.4 (131)	ns
Traffic-related	49.6 (67)	50.3 (84)	ns
Fraud	8.9 (12)	14.4 (24)	ns
Mean age first crime			
(SD)	14.46 (1.65)	14.78 (1.53)	ns
Drug-related	12.52 (2.79)	12.44 (2.48)	ns
Property	13.74 (2.35)	14.12 (2.03)	ns
Violent	14.82 (2.09)	14.60 (2.06)	ns
Traffic-related	15.25 (2.26)	15.13 (1.15)	ns
Fraud			
Mean days of crime past month (SD)			
Drug-related	5.86 (11.64)	4.11 (8.49)	ns
Property	3.97 (8.42)	4.65 (8.88)	ns
Violent	1.09 (3.52)	0.86 (2.00)	ns
Traffic-related	3.58 (8.71)	2.07 (5.54)	ns
Fraud	0.14 (0.53)	0.52 (1.85)	ns

APPENDIX V: STUDY 3 INTERVIEW GUIDE

Qualitative interview schedule

- In what ways do you think drug use and crime are related?

- In what ways do you think cannabis use and crime are related?

- Do you think some young people who get involved in crime before they start using cannabis or do you think some start using cannabis before they get involved in crime?

- Can you tell me about the last time you used cannabis

- Is this typical of how you would usually use cannabis?

- Where or how does cannabis fit into your life at the moment

- Can you tell me about the first time you used cannabis

- Before trying cannabis for the first time, how did you feel about it?

- Did you use cannabis the first time you saw someone use it?

- How has your cannabis use changed over time?

- Do you believe using cannabis has ever contributed to your involvement in crime or being arrested?

- Can you tell me about the last time you committed a crime

- Is this how it typically happens?

- Where or how does crime and offending fit into your life at the moment

- Can you tell me about the first time you committed a crime

- Before committing a crime for the first time, did you know anyone else who did crime?

- How has your involvement in crime changed over time?

- Do you believe your involvement in crime has ever contributed to you using cannabis?

- What kinds of things do you believe would help or has helped you in the past to reduce your cannabis use and help you reduce your involvement in crime?

- Can you tell me about your use of other substances

- Do you believe there is any relationship between cannabis use and the use of other substances?

- How much contact have you had with the criminal justice system? Such as police, courts, detention

- What have been your experiences with drug and alcohol treatment services?

- Could you tell me a bit about what it was like for you growing up

- Anything else you might like to add