WHAT FACTORS PREDICT THE SELF-IDENTIFICATION OF DRUG DEPENDENCY AMONG CRIMINAL JUSTICE POPULATIONS? PREVALENCE, CORRELATES, AND IMPLICATIONS FOR THE CRIMINAL JUSTICE SYSTEM

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ABSTRACT

The drug-crime nexus has long received international interest from both drug-crime scholars and public policy experts worldwide. While there is little disagreement that more frequent drug use is linked to higher rates of crime the causal underpinnings of this relationship remain hotly contested. One area of increasing interest among criminological, social, and psychological scholars alike is the confounding influence and power of ‘identity’ in shaping the long-term behavioural trajectories of both drug use and crime. In this study, we explore the prevalence with which recent drug using police detainees self-identify as drug dependent and, using logistic regression, we model self-identification as a function of one’s demographic, and drug use profile. We find that, after controlling for type, frequency, and longevity of drug use, being female and younger is associated with an increased odds of self-identifying as drug dependent. Further, we find that despite using drugs at the same frequency and for the same length of time, heroin and other opiate users are the most likely to self-identify. To end, the potential implications of these results are discussed, and future research avenues are explored.

1 Introduction

A foundation of the contemporary criminal justice response to drug use and crime has been to offer judicially-supervised or court-mandated treatment to those offenders with a dependency on drugs (Cooper, 2003; Freeman, 2001; Freiberg, Payne, Gelb, Morgan, & Makkai, 2016; Kornhauser, 2018; Logan & Link, 2019; Mackinem & Higgins, 2008; Payne, 2008; Shaffer, 2011). Broadly classified as therapeutic jurisprudence (Hora, Schma, & Rosenthal, 1998; Spencer, 2012), this prioritisation of treatment is supported by decades of research which has shown that incarceration rarely rehabilitates the drug using offender (see, for example, Chandler, Fletcher, & Volkow, 2009; Pearson & Lipton, 1999) nor does it significantly ameliorate the well-documented correlation between drug use and crime (Anglin & Speckart, 1986; Bennett & Holloway, 2003, 2009; Bennett, Holloway, & Farrington, 2008; Brochu, Brunelle, Plourde, & Da Silva, 2018; Chaiken & Chaiken, 1990; Makkai & Payne, 2003b; Wagner & Anthony, 2002; Weatherburn, Topp, Midford, & Allsopp, 2000). Key to the success of these therapeutic approaches has been the growing recognition of drug dependency as a complex phenomenon (Bergquist, Fox, & Sinha, 2010; Burr, 1987; Dahl, 2015; Eddy, Halbach, Isbell, & Seevers, 1965; Johnson, 2006; Ladwig & Andersen, 1989; McIntosh & McKeganey, 2001; Reed, 1985; Volkow & Li, 2004; Volkow et al., 2011; Wasilow-Mueller & Erickson, 2001); one that acknowledges the compulsive condition as a social construct that is neither linearly related to the frequency of drug use nor universal in its manifestation across the offending population (Babor et al., 2007; Gossop et al., 1995; Volkow & Li, 2004; Volkow et al., 2011; Volkow et al., 1999).

While our understanding of dependency has significantly evolved in recent decades, and while our systems of screening and clinical assessment have matured, still there is a heavy reliance on self-reported dependency as an initial triaging protocol (Freiberg et al., 2016; Logan & Link, 2019; Payne, 2005, 2006; Payne & Morgan, 2016). Indeed, of the various drug diversion and drug court programs that operate worldwide, consent and volunteerism are core requirements, so in many respects, self-identification remains an important gateway to treatment (see Freiberg et al., 2016). As a result, some offenders may be inadvertently denied treatment because they do not self-identify, and some cohorts of offenders may be at greater disadvantage if self-identification is affected by social and structural factors that condition their drug use experience. These inequalities demand academic scrutiny.

1.1 Dependency as a gateway to treatment

For the more than 50 years, criminologists have documented a strong positive correlation between drug use and crime. The results of this work have been mixed, but the meta-story of this research is that a majority of offenders in police custody (Bennett & Holloway, 2005; Bennett, Holloway, & Farrington, 2008; Chaiken & Chaiken, 1990; Freeman & Fitzgerald, 2002; Patterson, Sullivan, Ticehurst, & Bricknell, 2018; Voce & Sullivan, 2019) and prison (Bennett & Holloway, 2009; Makkai & Payne, 2003a, 2003b) have a history of drug use and community samples of drug users have higher rates of criminal justice contact than their non-drug using peers (Anglin & Perrochet, 1998; Anglin & Speckart, 1986, 1988; Stafford & Bums, 2013). Further, within the offending population rates of criminal offending are highest among those who are regular or compulsive drug users (Anglin & Perrochet, 1998; Anglin & Speckart, 1986; Bennett & Holloway, 2005, 2009; Bennett et al., 2008; Prichard & Payne, 2005), and periods of reduced drug use of abstinence, whether triggered by treatment or not, are consistently linked to a decline in criminal participation (French & Zarkin, 1992; Payne, 2005; Payne, 2008; Payne & Morgan, 2016; Rajkumar & French, 1997). Finally, post-release recidivism is highest among those who enter prison with a dependency on drugs and higher still among those who report an intention to return to drug use upon their release (Kinner, 2006).

The relative failure of imprisonment as a period of forced abstinence and the high rates of recidivism among drug dependent offenders was inspiration for the establishment of the world’s first drug court in Miami-Dade County, Florida, in the late 1980s. Since then, drug courts have proliferated internationally (Cooper, 2003; Kornhauser, 2018; Logan & Link, 2019; Mitchell,

Wilson, Eggers, & MacKenzie, 2012; Payne, 2006; Payne, 2008; Payne & Morgan, 2016; Shaffer, 2011; Shannon, Jones, Newell, & Payne, 2018; Tiger, 2013) and the guiding principle of therapeutic jurisprudence (Hora, Schma, & Rosenthal, 1998; Spencer, 2012) has made a solid mark on criminal justice systems worldwide. In Australia, the diversion and treatment of drug users is organised on a continuum (see Wundersitz, 2007 for an overview) from the early intervention and diversion of low-level users to the intensive court-supervised drug court programs which are offered as a last resort alternative to imprisonment.

For the majority of programs worldwide, participant consent is a core requirement (Payne & Morgan, 2016) and such consent often requires the offender to volunteer information about their status as a drug user. Whether an offender is admitted to a drug court is often subject to a comprehensive battery of assessment that includes diagnostic screening and clinical interviews, but still an offender must advise legal counsel of their intention to be treated and their consent to be diverted. Identifying oneself as ‘drug dependent’ and ‘in need of treatment’ is, therefore, a necessary precondition for many diversion programs. For this reason, it is essential that we better understand how many drug-using offenders self-identify as drug dependent and whether self-identification is more or less common among different demographic groups in the criminal justice system.

1.2 Demographics and identity

Our instinct is that the propensity to self-identify as drug dependent is not shared equally across the criminal justice population because dependency is as much (though, probably more so) a manifestation of social and cultural values as it is connected to the level or severity of use. Even the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) classifies substance use disorders as more than just a measure of how much of a drug a person is using, but rather the continued use of drugs despite considerable personal and social consequences (Proctor & Hoffmann, 2016; Sproule, Busto, Somer, Romach, & Sellers, 1999). For this reason, we believe that some offenders (women, young people, and Indigenous offenders, in particular) are more likely to self-identify as drug dependent even after holding constant their longer term and very recent drug use experience.

Women, for example, are more likely than men to experience the negative affective consequences of their drug use and this gender differential is likely to promote the internalisation of a dependent identity (Broom & Stevens, 1991; Cormier, Dell, & Poole, 2004; Donath, 2003; Poole & Dell, 2005; Shand, Degenhardt, Slade, & Nelson, 2010; Tuchman, 2010; Wasilow-Mueller & Erickson, 2001). In their study, Tuchman (2010) found that women may develop different drug using behaviours depending on their social situation and this may, in turn, affect the manifestation of their dependency. Further, gender differences may also be explained by the differential social and physiological effects of drug use that are experienced differently for men and women (Johnson, 2006). For example, research has shown that female drug users are more likely to be victims of sexual, physical, and emotional violence (Ladwig & Andersen, 1989; Tuchman, 2010; Wasilow-Mueller & Erickson, 2001) and that women are more likely to use drugs and alcohol as a method of coping with the strictures of their social roles (Cormier et al., 2004; Shand et al., 2010 & Nelson, 2010). Consequently, women’s drug use is more likely to be framed as problematic and dangerous compared to male standards (Bull, 2003; Donath, 2003; Johnson, 2006; Poole & Dell, 2005; Tuchman, 2010; Wasilow-Mueller & Erickson, 2001).

Like women, young people and other minority populations are also more likely to be affected by a wider narrative that treats drug use (let alone compulsive drug use) as a direct and particular threat to community values (Chen, Tyler, Whitbeck, & Hoyt, 2004; Greene, Ennett, & Ringwalt, 1997; Grinman et al., 2010; McMorris, Tyler, Whitbeck, & Hoyt, 2002; Stevens et al., 2007). For young and minority populations, therefore, drug use is both the subject of specific disapproval as well as a potentially valuable coping strategy against the pressure of these wider expectations (Thompson, Rew, Barczyk, McCoy, & Mi-Sedhi, 2009). On this issue, Thompson and colleagues (2009) found that young people often identify drug use as a positive aspect of their (daily) life—and as a method of coping with potentially negative experiences—especially when they are facing other adverse outcomes associated with their involvement with crime and association with delinquent peers (see also Baron, 1999). Similarly, research in Australia has shown that Indigenous Australians are not only significantly overrepresented in the criminal justice system (Australian Institute of Health and Welfare, 2011; Cunneen, 2006; Payne, 2006; Snowball & Weatherburn, 2006; Weatherburn, 2014; Weatherburn & Holmes, 2010), but their disproportionate representation as drug users (Putt, Payne, & Milner, 2005; Weatherburn, 2014) is likely a consequence of a range of factors, including discrimination, cultural dispossession, and economic marginalisation (Australian Institute of Health and Welfare, 2011; Siggers & Gray, 1998).

1.3 Identity and treatment

While understanding the prevalence and dynamics of self-reported dependency is important for improving equity in the criminal justice system, whether an offender self-identifies as drug dependent is also important for another reason. Identity has been shown to be a powerful mediator of antisocial behaviour, including the persistence of both criminal (Asencio, 2013; Asencio & Burke, 2011; Brezina & Topalli, 2012; Little, 1990; Rocque et al., 2016; Veysey & Rivera, 2017) and drug use behaviours separately (Dahl, 2015; Dingle et al., 2015; Mackinem & Higgins, 2008; McIntosh & McKeganey, 2001; Neale et al., 2011; Shinebourne & Smith, 2009; Vryan, Adler, & Adler, 2003), as well as the correlation between the two (DeLisi, Angton, Behnken, & Kusow, 2015; Dingle et al., 2015; Erikson, 1968; Everitt & Robbins, 2016; Howard, 2000; Mackinem & Higgins,

2008; McIntosh & McKeganey, 2001). Criminologists, for example, have long focussed on the principles of interactionism and the evolution of antisocial identities as an explanation for both criminal persistence (H Becker, 1953; HS Becker, 1963; Erikson, 1968; Lemert, 1951; Mead, 1934) and desistance (Hammersley, 2011; Maruna, Lebel, Mitchell, & Naples, 2004; Paternoster, Bachman, Bushway, Kerrison, & O'Connell, 2015; Paternoster, Bachman, Kerrison, O'Connell, & Smith, 2016; Paternoster & Bushway, 2009; Rocque, Posick, & Paternoster, 2016; Veysey & Rivera, 2017). Public health scholars, on the other hand, have focused on the influence of 'drug dependency' identities and their capacity to precipitate compulsive drug use behaviours even in the face of significant personal and social consequences (see, for example, Kelly, Bergman, & Vilsaint, 2016; May, 2001; Spooner & Hetherington, 2005).

The concept of 'identity' has yet to be consolidated under single or universal definition; however, broadly, it refers to an understanding and/or self-identification of 'who I am' (Bamberg, 2011; Paternoster & Bushway, 2009; Rocque et al., 2016). Individuals can be represented by multiple identities and these identities can be used across a variety of situations (Bamberg, 2011; Mead, 1934; Oyserman, 2004; Oyserman, Elmore, & Smith, 2012). It has been postulated that these identities amalgamate into one's overall 'self-concept', which can be loosely defined as a set of ideas that individuals believe about themselves (Brownfield & Thompson, 2005; Oyserman, 2004; Oyserman et al., 2012) and is the individual's interpretation of their identities, their connections with others, their encounters with other social groups, and their emotional states (Oyserman et al., 2012).

Importantly, identity theory has more recently emphasised the value of the agentic and non-agentic action that occurs as a consequence of identity reformation. In their study of regular drug users, Waldorf and Biernacki (1981) found that desistance from regular drug use arose when the individual's 'addict' identity came into conflict with their other, 'socially acceptable' identities (i.e. 'father' or 'mother'). They argued that the process of desisting from regular drug use was a process by which an individual learns to manage a so-called "spoiled identity" (Neale et al., 2011) – something which is achieved by the restoration of a previous, socially acceptable identity, or the establishment of a new, 'non-addict' identity.

Similarly, Dingle and colleagues (2015) found that for some individuals drug dependency often signalled the loss of socially desirable identities. In their study, desistance from drug use was shown to have been triggered by the desire to restore past, socially acceptable identities when the drug dependency identity was associated with negative affective experiences. Conversely, Dingle and colleagues (2015) also documented that for some drug users their identity as dependent fostered relationships which solidified their sense of self and strengthened their connection to other drug using peers. What matters here is that for some individuals regular illicit drug use becomes such a positive and significant element of their identity that it may feature heavily in their private and public stories and these drug users are much less likely to desist or seek treatment. This has implications for how we as scholars come to understand persistent drug use as a manifest outcome of identity formation.

If identity serves as an important multiplier of both drug use and crime, it also likely influences the efficacy of drug treatment programs when targeted to offenders in the criminal justice system (Dingle et al., 2015; Kornhauser, 2018; Logan & Link, 2019; Mackinim & Higgins, 2008; McIntosh & McKeganey, 2001; Tiger, 2013; Veysey & Rivera, 2017). Through the many international evaluations of drug courts (see, for example, Freiberg et al., 2016; Kornhauser, 2018; Logan & Link, 2019; Mitchell, Wilson, Eggers, & MacKenzie, 2012; Payne, 2005, 2008; Shaffer, 2011), we now know that program success is maximised when treatment and intervention modalities are suitably targeted to the severity of need. However, this 'need' is often operationalised as the quantity and frequency of drug use, not the strength of drug-using identities. Failure to account for identity as an important 'third variable' may weaken program outcomes which do not tackle identity reformation as a core component of treatment. Similarly, if different demographic cohorts are more or less inclined to self-identify, then these 'identity' focused treatment modalities may also need to be differentially targeted. Our efforts to estimate the prevalence and correlates of self-identified drug dependence among recent drug users in the criminal justice system is, therefore, an important objective for public policy.

1.4 Aims and objectives

This study offers a large-sample quantitative analysis of recent drug users appearing before the Australian criminal justice system and seeks to estimate the prevalence of self-identified drug dependency and its drug use correlates. In addition, this study aims to identify demographic inequalities which persist even after the frequency, longevity, and type of drug use are held constant. To achieve this, we ask two questions of the data: (1) how many recent drug users within the criminal justice system identify as drug dependent; and (2) is the propensity to self-identify conditioned on key demographic and drug use variables.

2 Methodology

2.1 Data and measures

2.2 Data

We draw our data from the Australian Institute of Criminology’s (AIC) Drug Use Monitoring in Australia (DUMA) program (Patterson, Sullivan, Ticehurst, & Bricknell, 2018; Voce & Sullivan, 2019). DUMA is Australia’s largest and longest running survey of police detainees (Gannoni & Goldsmid, 2017) and is the methodological cousin of the US Arrestee Drug Abuse Monitoring Program (ADAM) (U.S. Department of Justice, 2002). In Australia, DUMA operates quarterly, and data is gathered over a four-week period. During this time, a census of all detainees is attempted except where access to a detainee is restricted by the Watch-house Sergeant, usually on safety grounds. From each detainee, the data collection procedure gathers official administrative data for the current period of detention, as well as interviewer-administered self-report data on demographics, prior offending and current drug use. At the completion of the survey, each detainee is asked to provide a urine specimen for drug testing. Urinalysis is voluntary (Makkai, 1999) and has been a vital tool for self-report validation and verification. The DUMA program has received ethical review clearance by the AIC’s Human Research Ethics Committee and the authors’ access to this data has been facilitated by the Australian Data Archive with the permission of the AIC.

2.3 Measures

The main variable of interest in this study is a detainees’ self-identification as drug dependent. In DUMA, each detainee is asked a series of questions regarding their history of use for nine different drug types. These are heroin, cannabis, cocaine, amphetamine, ecstasy, LSD, inhalants, benzodiazepines, and morphine. For the latter two prescription drugs, detainees are only asked to report on any illegal use. Where a detainee affirms the use of a drug in the past 12 months, they are then asked whether they felt they ‘needed or were dependent’ on that drug. A detainee is asked this separately for each drug type and for the purposes of this study they are coded as self-identifying if they said ‘yes’ for any drug type.

In estimating the prevalence of self-identification, we condition the analysis on three variables that operationalise a drug using career—namely, the type of drug being used, the frequency of that use, and the longevity of drug use overall. First, we identified each detainee’s drug of primary use (primary drug), which denotes the drug type for which they have the highest frequency of use in the 30 days prior to their most recent arrest. In a small number of cases, a detainee might report the use of two drugs at an equal frequency and so self-reported dependency was used to classify the primary drug. Detainees who could not be otherwise classified (because they self-reported dependency on two drugs with an equal frequency of use) were then categorised according to the most serious of the drugs they were using. Second, we created a variable which measures the self-reported frequency of primary drug use in the past 30 days. This variable measures the number of days of use (between 0 and 30), not the actual quantity or number of episodes of use. Third, we created a variable which measures the length of overall drug use for each detainee. The number of years was calculated as the interval between the self-reported age of first drug use and the detainee’s current age. This was then categorised into four groups measuring initiation in the last two years, initiation between three and five years ago, initiation between six and 10 years ago, and initiation longer than 10 years ago.

The demographic covariates included in this study were gender (coded 0 for females and 1 for males), age at arrest which was coded into 5 groups (18-25 years, 26-35 years, 36-45 years, 46-55 years and 56+ years), and Indigenous status (coded 0 for non-Indigenous and 1 for Indigenous). For an overview of the sampling selection process, see Table 1. For sample descriptive statistics, see Table 2.

Table 1: Sampling selection outcomes

	N	%
Detainees approached (initial sample)	31,750	100.0
Detainees interviewed	22,474	70.1
Detainees who reported any drug use in the past 30 days (final sample)	14,475	64.4
Detainees self-identified as dependent (% of final sample)	7,618	52.6

Source: Australian Institute of Criminology – Drug Use Monitoring Australia 2004-2010 [computer file]

2.4 Analytical approach

The primary objective of this study is to estimate the proportion of detainees who self-identify as dependent on illicit drugs and explore whether self-identification varies by gender, age, and Indigenous status, holding constant the frequency, type, and longevity of use. Since our dependent variable is dichotomous (0/1) we use the logistic regression method to model the probability of self-identification as a multivariate function of both demographic and drug use indicators.

3 Results

Of the 14,475 detainees who had used drugs in the past 30 days, the majority were non-Indigenous (83%, $N=11,955$), male (84%, $N=12,115$) and the average age was 30.8 ($SD=9.9$). In terms of drug use, the majority in this sample were primary users of cannabis (63%, $N=9,141$), followed by speed and ecstasy (21%, $N=3,092$) and heroin and other opiates (11%, $N=1,688$). Most had been using drugs for 10 or more years and a majority had been using drugs for 16 or more days per month in the past 30 days. Overall, 53 percent of this sample self-identified as dependent on at least one drug (Table 2). At the bivariate level, self-identification was highest for heroin and other opiate users (86%) and lowest for primary users of cocaine (32%). Overall, the differences between users of different drugs was statistically significant ($X^2=920.67$, $p<.001$). Proportionally, the representation of heroin, cocaine, and other drug users is small but the sample sizes for each of these categories is not too small for discrete categorisation.

In terms of frequency of primary drug use, self-identification was most common among the highest frequency users ($X^2=2.9e+02$, $p<.001$). For instance, three in every four very regular users (16 or more days) identified as dependent. This compares to a self-identification rate of 50 percent among those who reported use of between 9 and 15 days and 24 percent among those who reported use of between 1-8 days.² Finally, self-identification was highest for users who had been using drugs over a longer period of time ($X^2=309.74$, $p<.001$).

Bivariate analyses by age, gender, and Indigenous status show that self-identification was higher for women than for men ($X^2=64.39$, $p<.001$) and higher for younger detainees than older detainees ($X^2=89.18$, $p<.001$). Indigenous status was not significant at the bivariate level ($X^2=1.64$, $p>.05$). These bivariate results reflect the average relationships within the data, but do not account for the inequalities that might exist between groups across other covariates. For example, the difference between male and female detainees may result not because of an inherent difference that is related to one's gender, but because men are more likely to use heroin, or use drugs at a higher frequency than women.

To test the independent effects of each covariate we employ a logistic regression model. In the Model 1, we explore the independent effects of drug type, drug use frequency, and the longevity of overall drug use as these are the baseline covariates which need to be held constant when testing the demographic effects in Model 2. Consistent with the bivariate analyses, both drug type, longevity of use and frequency of use are statistically related to the probability that a detainee will self-identify as drug dependent. The longer a detainee has been using the higher the probability of self-identification. Furthermore, net of the differences between drug types, the more frequent a detainee uses drugs, the higher the probability ($b=0.09$, $p<.001$) that they will identify as dependent. Conversely, the model also indicates that holding constant the frequency of use there remains strong drug-specific effects, with heroin users the most likely to self-identify as drug dependent.

In Model 2, which was a better fit for the data ($LL=-7875.56$ for Model 1 vs. $LL=-7821.22$ for Model 2), the difference between male and female detainees holds even after controlling for drug type, drug use frequency, years of use, and age. A female detainee is statistically more likely to self-identify as dependent even if she is the same age, uses the same drug, and uses drugs at the same frequency as her male counterpart. Age is also statistically significant, net of the effects of other covariates, with younger detainees more likely to self-identify than their older peers. Consistent with the bivariate analysis described above, identifying as Indigenous was not statistically significant nor related to a higher probability identifying oneself as dependent.

4 Discussion

This study began with a simple objective—to estimate the prevalence of self-reported drug dependency and describe those drug use and demographic factors which are associated with a higher probability of self-identification. To achieve this, we capitalised on secondary data analysis of the Australian DUMA program using bivariate and multivariate methods. Our efforts were motivated by a growing qualitative literature that situates drug using identities as an important, albeit oft-forgotten, 'third-variable' or 'multiplier' in the empirical analysis of the drug-crime relationship. To this end, we offer one of the first large-scale quantitative studies of self-identified drug dependency among a national sample of police detainees. We explore whether there exists any differential propensity to self-identify by gender, age and Indigenous status. These results offer a unique perspective on the nature of drug dependency as a social and cultural phenomenon—one which has the potential to affect the efficacy of those criminal justice system interventions designed to target and treat drug using offenders.

Our results indicate that 53 percent of recent drug users identify as dependent on drugs. This is highest for the most regular of users, those who have used for longer periods of time, and highest for heroin and other opiate users when the frequency of drug use is held constant. Of the demographic variables, these data indicate that women are more likely than men to self-identify as dependent and younger detainees are more likely than older detainees. Clearly, identifying oneself as drug dependent is not

²Supplementary analysis showed that the frequency of use was higher, on average, for heroin and morphine users than for cannabis, amphetamine or cocaine users. It is this between-drug variability which necessitates a multivariate model that controls for both frequency, longevity and drug type.

Table 2: Descriptive statistics of final sample (n=14,475)

	Self-identifying		Not self-identifying		Total
	N	%	N	%	N
Total sample	7,618	52.6	6,857	47.4	14,475
Age					
18-25	2,982	51.7	2,780	48.3	5,762
26-35	3,101	56.5	2,384	43.5	5,485
36-45	1,285	49.3	1,321	50.7	2,606
46-55	235	41.3	334	58.7	569
56+	15	28.3	38	71.7	53
Male	6,198	51.2	5,917	48.8	12,115
Indigenous	1,297	51.2	1,223	48.5	2,520
Frequency of recent drug use					
1-8 days per month	1,223	24.0	3,877	76.0	5,100
9-15 days per month	932	49.9	935	50.1	1,867
16 or more days per month	5,463	72.8	2,045	27.2	7,508
Years since first drug use					
0-2 years	69	20.2	272	64.0	341
3-5 years	411	36.0	732	64.0	1,043
6-10 years	1,771	52.6	1,596	47.4	3,367
11+ years	5,363	55.8	4,248	44.2	9,611
Primary drug of use					
Cannabis	4,303	47.1	4,838	52.9	9,141
Speed or ecstasy	1,553	50.2	1,539	49.8	3,092
Heroin or morphine	1,444	85.6	244	14.5	1,688
Cocaine	55	32.3	115	67.7	170
Other	263	68.5	121	31.5	384

Source: Australian Institute of Criminology, Drug Use Monitoring in Australia program [computer file]

simply a function of how much of a drug one uses, but the cultural and social symbolism of drug use as it is conditioned by social interactions and meanings that are unequal across the criminal justice population.

4.1 Demographics

In this study, women were found to be statistically more likely to self-report a dependency. This is perhaps not surprising, given research in this space has consistently found that women's experience of drug dependency is different (see Broom & Stevens, 1991; Cormier, Dell, & Poole, 2004; Donath, 2003; Poole & Dell, 2005; Shand, Degenhardt, Slade, & Nelson, 2010; Tuchman, 2010; Wasilow-Mueller & Erickson, 2001). For example, it has been shown that the developmental trajectory for women, from initial use to drug dependency, is often quicker and more often correlated with adverse life experiences (Kosten et al., 1996; Piazza, Vrbka, & Yeager, 1989; Randall et al., 1999; Tuchman, 2010; Westermeyer & Boedicker, 2000) and although women comprise a smaller proportion of all offenders, it is believed that when they are involved with crime, their substance use is more closely associated with their criminality when compared to men (Pollock, 1999). As Wasilow-Mueller and Erickson (2001) argued, drug dependency is still a highly stigmatised, and often socially isolating phenomena and women are particularly sensitive to both the individual and social effects experienced when admitting they are drug dependent. What this means for the current study, then, is that recent drug using female detainees are perhaps more likely to self-report because they have faced highest costs and consequences of their drug use (Cormier et al., 2004; Shand et al., 2010).

In addition, the current analysis found that younger detainees were more likely to self-identify as dependent—a finding that remained even after the longevity of drug use, drug type, and the frequency of that drug use were held constant. This finding confirms, in our view, that drug use among younger populations is largely influenced by a wider social narrative that frames youth drug use as a significant problem that has direct threats to community efficacy and runs counter to community expectations of youth behaviour (Chen et al., 2004; Greene, Ennett, & Ringwalt, 1997; Grinman et al., 2010; McMorris et al., 2002; Stevens

Table 3: Logistic regression predicting self-reported dependency by demographics and drug use variables

	Model 1: Drug Use (logit coefficient)	Model 2: Drug Use + Demographics (logit coefficient)
Years since first drug use		
3-5 years (vs 0-2)	0.40*	0.37*
6-10 years (vs 0-2)	0.80	0.77***
11+ years (vs 0-2)	0.86	1.08***
Frequency of recent drug use	0.09***	0.09***
Primary drug of use		
Other (vs cannabis)	1.37***	1.33***
Speed or ecstasy (vs cannabis)	0.61***	0.60***
Heroin or morphine (vs cannabis)	1.98***	1.98***
Cocaine (vs cannabis)	0.16	0.17
Gender		
Male (vs female)	—	-0.28***
Age Group		
26-35 (vs 18-25)	—	-0.19***
36-45 (vs 18-25)	—	-0.44***
46-55 (vs 18-25)	—	-0.81***
56+ (vs 18-25)	—	-1.14***
Indigenous status		
Indigenous (vs Non-Indigenous)	—	-0.04
Constant	-2.60	-2.28
N	14,462	14,460
Log Likelihood	-7875.56	-7821.21
Chi Square	$X^2(8)=4256.88, p=0.00$	$X^2(14)=4362.79, p=0.00$

* $p < .05$; ** $p < .01$; *** $p < .001$

Source: Australian Institute of Criminology Drug Use Monitoring in Australia program [computer file]

et al., 2007). Furthermore, it perhaps represents an opportunity for further early intervention among young people who self-identify. These individuals may be at the beginning of both an escalation in drug use and also the internalisation of a drug dependent identity (see Baron, 1999; Thompson et al., 2009), and so by targeting treatment programs that aim to reduce both an individual's identification with their dependency as well as the frequency of their drug use, we may reduce their overall involvement with the criminal justice system. Conversely, the failure to incorporate an understanding of identity into treatment may weaken program outcomes, particularly for younger offenders.

4.2 Primary Drug Types

The multivariate model illustrated that even after controlling for the three components that operationalise a drug using career, there still existed drug-specific effects. In particular, primary heroin and other opiate users were almost 98 percent more likely to self-identify when compared to cannabis users, for example. This finding is, in our view, not so much a consequence of the type of drug a detainee uses, but rather a reflection of the social construction and social narrative surrounding the use of different drug types. For instance, research has found that different drug types carry with them different social meanings (Allen & Alberici, 2018; Hughes, Lancaster, & Spicer, 2011; Shapiro, 2002; Taylor, 2008) and these social meanings are often expressed and experienced by users of these substances in different ways. In Australia, heroin has long been considered a highly problematic and addictive drug (Teesson et al., 2017) and the image of a 'dependent heroin user' has largely been fuelled by pejorative imagery and negative stereotypes, both in media (Hughes et al., 2011; Taylor, 2008) and in film (Allen & Alberici, 2018). The social narrative surrounding regular heroin use as the last drug in a continuum of drug severity (Teesson et al., 2017) has also fuelled the idea that to *use* heroin is to *be dependent*. What this means for regular heroin users, then, is that this

social narrative and the consequences that flow from it, are likely internalised by these individuals as socially constructed and structured experiences of dependency.

This is also seen in the finding that primary cocaine users were associated with a decreased probability of self-identifying as dependent. Given that the social narrative has long ‘pitched’ cocaine as an ‘up-market drug’ (Shapiro, 2002; Taylor, 2008) and one that is mainly used by wealthy individuals (Shapiro, 2002; Taylor, 2008), this is not surprising. The social narrative surrounding cocaine use is likely to be very different compared to heroin users (Hughes et al., 2011), and regular cocaine use is not as likely to be met with the same social disapproval or social stigma as regular heroin use. Therefore, regular cocaine users may be less likely to experience and subsequently internalise the socially isolating effects that these negative appraisals and experiences pose to their sense of identity and self-concept (Brownfield & Thompson, 2005; Leary & Tangney, 2011; Lloyd, 2013).

This is further echoed in Payne and Langfield (2020, February 19) who argue that regular cocaine use may not be associated with the same social consequences as regular heroin use due to the structure of these drug markets and the individuals with whom regular users are associating. Payne and Langfield (2020, February 19) argue that regular cocaine users are unlikely to be associating with street-level drug market participants but are potentially able to legitimately afford their drug of choice—i.e. through a regular dealer or from a ‘legitimate’ source (Caulkins et al., 2016; Hser, Huang, Brecht, Li, & Evans, 2008). Heroin users are more likely to be engaged in a street-based drug market more frequently, therefore increasing the opportunities for contact with the police (Caulkins et al., 2016) and increasing the opportunities to form strong drug-using, offending, and criminal peer-based identities (Bamberg, 2011; Burke & Reitzes, 1981; Dahl, 2015; Dingle et al., 2015; Howard, 2000). These identities become internalised and begin to form the way the individual views the world and subsequently how they experience their dependency (Dahl, 2015; Dingle et al., 2015; Oyserman et al., 2012). The finding, then, that heroin and cocaine using detainees are associated with varying probabilities of self-reporting as dependent largely confirms, in our view, that the social narrative surrounding (regular) heroin and (regular) cocaine use may be qualitatively and quantitatively different (Scheibe, 2017; Taylor, 2008).

4.3 Limitations and conclusions

In drawing this study to a close, we are to be reminded that ‘measurement is befuddled with error’ (McNemar, 1946, p. 146) and that this study is no exception. In particular, as a secondary analysis, the current research is constrained by data available to us. Furthermore, drug using identities and the nature of drug dependency are a multifaceted phenomenon and are therefore difficult to measure quantitatively. Many of the variables used in this study were single, dichotomous, and self-report items, and critics of the current method may be correct in arguing that the DUMA survey should have included multiple items measuring identity. This, perhaps, would have created a more complex and comprehensive measure of someone’s drug dependency and the extent to which they identify with this. However, greater complexity does not always guarantee a more reliable dataset or analysis, and our reliance on a single item measuring self-reported dependency provides an early foray into a previously unexplored area of research. Future research should aim to improve the measures utilised in this study to provide further insight into this complex phenomenon.

Furthermore, we recognise the potential for deception and/or embellishment among this data and the implications this has for treatment programs that rely on self-report measures. For many drug dependent offenders, drug treatment programs—such as Drug Courts here in Australia (Cooper, 2003; Freiberg et al., 2016; Kornhauser, 2018; Logan & Link, 2019; Payne, 2008; Payne & Morgan, 2016)—are often an alternative to imprisonment. For scholars within this space (see, for example, Cooper, 2003; Kornhauser, 2018; Logan & Link, 2019), the likelihood that some drug dependent offenders are embellishing, or overstating, their drug dependency has been a long-held suspicion. What this means, therefore, is that the association shown in this study—namely that of self-reported dependency and drug type—may be a consequence of offenders, rightly or wrongly, believing that by self-identifying themselves as ‘dependent’ they may avoid some of the more serious and potentially negative outcomes of their involvement with drug use and crime. Future research should aim to investigate whether self-identification as dependent is related to increased levels of criminal offending across an individual’s criminal trajectory as this would enable practitioners to appropriately respond and intervene among high-rate offenders who use drugs at reasonably high frequencies.

From these results stem a number of policy implications for the criminal justice system more generally. As briefly foreshadowed in the introduction to this paper, programs like drug courts have historically suffered from low treatment retention and success rates, especially among women, younger drug using offenders, and in Australia, Indigenous individuals. These demographic groups have, potentially, been harder to treat due to a lack of understanding regarding how they perceive themselves in relation to their drug using and criminal identities. As such, drug courts, with their focus on rehabilitation and treatment outside of a custodial environment, may benefit from an improved understanding of identity and its influence throughout an individual’s life-course. By understanding how an individual drug using offender comes to perceive themselves in terms of their drug dependency, we may be able to further conceptualise, target, and differentially allocate offenders to suitable treatment programs. Furthermore, by recognising that for some individuals, self-identification may occur earlier in their drug using careers, we may be able to intervene, treat, and rehabilitate earlier. For now, this is a proposition that remains to be tested; however, we see this

as an important area for future research and one which has particular import for both the treatment and drug-crime scholarship, more broadly.

5 References

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