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Gaging the impact of multiple substance use on community corrections involvement

C. Brendan Clark[a,*], Jeffrey A. Swails[a], Karen A. Akao[a], Heidi M. Pontinen[a], Karen L. Cropsey[b]

[a] Wichita State University, Department of Psychology, United States
[b] University of Alabama at Birmingham, Department of Psychiatry and Behavioral Neurobiology, United States

HIGHLIGHTS

- Multiple substance users reported more arrests than single substance users.
- Multiple substance users were more likely to report family disfunction.
- Multiple substance users did not differ in offense categories from single substance users.

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ABSTRACT

Historically, research has demonstrated that multiple substance use, compared to single substance use, poses additional challenges for treatment throughout the continuum of care including referrals, interventions, and relapse prevention. However, it appears that this pattern cannot be easily generalized to all criminal justice settings as evidenced by mixed findings across criminal justice samples. The purpose of the current study is to investigate possible differences in legal and substance-related outcomes between multiple substance users and single substance users within a community corrections sample. Structured clinical interviews were conducted to divide 531 individuals under community corrections supervision into three groups including multiple substance users, single substance users, and non-substance users. Results indicated that while multiple substance users were arrested more frequently and had more problems with family members, there were no differences compared to their single substance using counterparts in terms of depressive disorders, anxiety disorders, or types of offense. These findings contrast with previous research on samples outside of community corrections suggesting that multiple substance use requires tailored interventions with consideration to context of their use. Discussion includes limitations to generalizability and assessment of substance use as well as implications for treatment and future research.

1. Introduction

Multiple substance use is a constant obstacle in the treatment of addiction and outcomes are typically worse for multiple substance user than for those who use individual substances (Dutra et al., 2008; Marsden et al., 2009). Treatment is complicated for a number of reasons beginning with referral, through intervention, and into planning for relapse prevention. Treatment of choice varies by substance and the inability to obtain an accurate picture of the substances being used can prevent referral to the appropriate level of care (e.g., inpatient vs outpatient vs maintenance therapy). During treatment, different substances are associated with different risk factors such as a heightened probability of overdose (Shah, Lathrop, Reichard, & Landen, 2008), criminal justice involvement (Inciardi, 2007), aggression (Gerra et al., 2008), and suicide risk (Cornelius et al., 1998; Hakansson, Bradvik, Schlyter, & Berglund, 2010; Pompili et al., 2012). Addiction interaction, or switching from one substance to another based on availability is also common among multiple substance users (Leri, Bruneau, & Stewart, 2003), and multiple substance use has been shown to increase overall drug craving (Epstein, Marrone, Heishman, Schmittner, & Preston, 2010). This is especially problematic in pharmacological interventions where a preventative agent such as Methadone, Buprenorphine, or Antabuse is being used to prevent intoxication on a particular substance yet the individual uses a substance such as cocaine not affected by this agent. In sum, multiple substance use has been associated with a host of problems throughout the continuum of substance use treatment.

* Corresponding author at: Department of Psychology, Wichita State University, Wichita, KS 67260, United States.
E-mail address: c.brendan.clark@wichita.edu (C.B. Clark).

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In addition to treatment, accurate assessment of multiple substance use also poses a number of challenges in rehabilitation, research, and general medical settings. These challenges include underreporting or denial of using a specific substance. While individuals who are presenting for addiction treatment tend to be open in acknowledging their use of specific substances (Drake, 1998) examinations of non-substance using treatment seeking samples have found under reporting of both illicit (Delaney-Black et al., 2010) and legal substances (Stockwell, Zhao, & Macdonald, 2014). Furthermore, cognitive science has demonstrated that addiction appears to be largely driven by implicit mechanisms, suggesting that the under reporting of substance use may be an unconscious component of the addiction process (Kozlowski et al., 1996; Winkelman & Berridge, 2004). Substance use interferes with memory formation and individuals may not be able to accurately recall the characteristics surrounding their use. Furthermore, the role of stigma reduces self-report of substance use. This applies to both the stigmatization of the substance (Delaney-Black et al., 2010), and the stigmatization of the population (Clark, Zyambo, Li, & Cropsey, 2016). Furthermore, there are difficulties with providing an accurate history that are not specific to substance use. Individuals living with chronic conditions, as substance use typically is, often do not make the best historians as they have to account for years of information. Thus, a variety of factors complicate the assessment of multiple substance use.

Due to the numerous problems associated with multiple substance use one may conclude that the detrimental conditions associated with this pattern of use would only be amplified in the community corrections setting. The community corrections population represents 80% of the total criminal justice population. This is an at-risk population that is underserved across multiple indices of both psychological and physical healthcare (Cropsey, Binswanger, Clark, & Taxman, 2012) and this group has well documented problems with multiple substance use (Clark et al., 2012, 2013). Furthermore, the community corrections population is highly stigmatized and thus may be less likely to self-report harder more problematic substance use (Bai et al., 2014; Clark, Li, & Cropsey, 2016). This population both contains a number of risk factors for multiple substance use and has less resources to deal with the consequences of use which would suggest a potential exacerbation of the aforementioned problems.

When findings from substance use treatment and other substance using samples are generalized to a community corrections sample the data would suggest that the community corrections group would struggle in similar ways as the other groups; however, when community corrections groups have been examined directly in the past many of the more established findings regarding substance use have not been replicated. For example, data on treatment outcome typically finds worse outcomes for harder drugs. However, research on community corrections samples have yielded mixed results. Research has demonstrated worse outcomes for harder substances in some cases (Clark et al., 2013) while in others no differences have been found. For example, recidivism rates in community corrections samples have shown no differences for crack cocaine use when compared to alcohol and marijuana use (Clark, Hendricks, Brown, & Cropsey, 2014; Koetzle Shaffer, Hartman, Listwan, Howell, & Latessa, 2011), nor were differences found for methamphetamine users (crystal meth) when compared to non-meth users (72% of the comparison group was made up of alcohol and marijuana users; Listwan, Shaffer, & Hartman, 2009). Several possible explanations exist to explain this discrepancy. It is likely specific legal and rehabilitation models influence this process greatly. Criminal justice populations tend to be highly heterogeneous as a multitude of factors can lead to arrest and imprisonment. Thus the impact of any individual factor, such as substance use, is likely to be diminished. Furthermore, the community corrections population is unique in that it is composed of the least severe members of the criminal justice population, making it a restricted range of a larger population.

While a number of explanations could exist to suggest whether individuals in community corrections have more severe problems associated with multiple substance use, the question has not been answered empirically and the goal of this study was to address that gap to inform a better understanding of the impact of multiple substance use in community corrections. We examined a sample of 531 individuals under community corrections supervision and compared multiple substance users to single substance users and to individuals who did not meet criteria for any form of pathological substance use. We examined both substance use characteristics as well as criminal justice involvement and other indices of recovery. Due to the strong and consistent evidence linking multiple substance use to more severe substance related outcomes we hypothesized that the multiple substance use group would have more severe substance use histories. The evidence linking criminal justice involvement and multiple substance use is decidedly mixed and insufficient to form a hypotheses one way or another. This portion of the study is exploratory.

2. Method

2.1. Participants

This is a secondary analysis of intake data from the baseline session of a randomized clinical trial (R01CA14166305; PI: Cropsey; see Cropsey et al., 2015) testing the effectiveness of Bupropion to improve smoking cessation quit rates in a sample of individuals who were currently under community corrections supervision. The sample was collected from a midsized city in the southeastern United States. The sample was demographically representative of the region with 344 African Americans and 187 White (self-identified as non-Latino or non-Hispanic ethnicity). The gender breakdown was 178 women and 353 men. The average age was 36.6 years (SD = 11.0 years). Further information on the demographic characteristics of the sample can be found in Table 1. There were a total of 677 individuals who underwent the initial baseline assessment for the study; however, only 531 individuals completed the necessary measures and had sufficient data to be included in this study.

Table 1
Sample characteristics and univariate comparisons.

Characteristic	Non-substance use		Single substance use		Multiple substance use	
	N	Mean (SD) or %	N	Mean (SD) or %	N	Mean (SD) or %
Age	**215**	**37.86 (11.33)**	**165**	**35.38 (11.32)**	**151**	**36.00 (9.97)**
Full scale IQ	**215**	**87.99 (13.56)**	**165**	**90.17 (12.98)**	**151**	**92.48 (13.33)**
Total number of arrests	**215**	**9.07 (9.59)**	**165**	**8.60 (9.54)**	**151**	**12.32 (15.31)**
Gender						
Male	132	37.4	113	32.0	108	30.6
Female	83	46.6	52	29.2	43	24.2
Race						
African American/ Black	**152**	**44.2**	**104**	**30.2**	**88**	**25.6**
Caucasian-non-Hispanic	**63**	**33.7**	**61**	**32.6**	**63**	**33.7**
Person offenses	59	41.0	40	27.8	45	31.3
Property offenses	107	42.1	69	27.2	78	30.7
Substance offenses	**151**	**36.7**	**134**	**32.5**	**127**	**30.8**
Court offenses	111	41.6	77	28.8	79	29.6
Family dysfunction	**51**	**34.7**	**35**	**23.8**	**61**	**41.5**
Anxiety disorder	**28**	**23.3**	**43**	**35.8**	**49**	**40.8**
Depressive disorder	**30**	**29.1**	**33**	**32.0**	**40**	**38.8**

Note: Significant results appear in **Bold**.