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The DrugCheck Problem List: A new screen for substance use disorders in people with psychosis

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ABSTRACT

Despite considerable recent interest in the issue of comorbid substance use disorders in people with serious mental illness, there remains a need to refine approaches to screening. This paper describes the development and testing of a new screen for substance-related comorbidity, the 12-item DrugCheck Problem List (PL). Exploratory factor analysis with inpatient samples suggested a single-factor structure, although confirmatory factor analysis in a further sample found similar fit from a two-factor model. Sensitivity and specificity in detecting DSM-IV substance use disorders were both high and comparable to performances of the Severity of Dependence Scale and Alcohol Use Disorders Identification Test (Australian version). The list of problem areas provided by the PL has utility in driving further assessment and treatment planning, and offers suggested foci for motivational interviewing. While further testing is indicated, these data provide strong initial support for its use.

Community surveys over the last 30 years have established that people with mental disorders have increased risks of substance use disorders (Grant et al., 2009; Regier et al., 1990; Teesson, Slade & Mills, 2009), with these risks being especially high in schizophrenia and bipolar disorder (Grant et al., 2009; Kavanagh et al., 2004; Koskinen, Löhönen, Koponen, Isohanni, & Miettunen, 2009; Volkow, 2009). Not only is substance use common: it also has significant symptomatic and functional impacts, particularly in serious mental disorders (Hides, Dawe, Kavanagh, & Young, 2006). Research on psychological treatments for these comorbidities is still at a relatively early stage, requiring both replications, improvements in impact and maintenance, and dismantling of effective components (Kavanagh & Mueser, 2007). However, there is now substantial evidence to guide treatment design, including the need for treatment integration and for the use of motivational interviews (Kavanagh & Connolly, 2009). It is therefore imperative that people with these comorbid disorders are detected and that attempts are made to address their problems.

Without systematic screening, current substance use disorders are frequently missed by treating clinicians (Appleby, Dyson, Luchins, & Cohen, 1997). In the last 20 years, a range of brief screening measures for substance misuse in people with mental disorders has been developed (Agelink, Ullrich, Lemmer, Dirkes-Kersting, & Zeit, 1999; Barry et al., 1995; Brown, Leonard, Saunders, & Papasouliotis, 2001; Carey, Correia, & Cocco, 1997; Maisto, Carey, Carey, Gordon, & Gleason, 2000; Rosenberg et al., 1998; Searles, Alterman, & Purtill, 1990; Wolford et al., 1999), which has demonstrated varying levels of utility.

The Severity of Dependence Scale (SDS; Gossop et al., 1995) is a reliable measure of dependence on heroin, amphetamines and cocaine (Dawe, Loxton, Hides, Kavanagh, & Mattick, 2002) that shows significant correlations with behavioural indices of dependence, including dose, frequency and duration of use (Darke, Ross, & Hall, 1996). Its utility as a screen for cannabis dependence in the general population is less well established (Swift, Copeland, & Hall, 1998). The SDS has demonstrated both internal consistency and validity as a screen for cannabis dependence in a sample with psychosis (Hides, Dawe, Young, & Kavanagh, 2007). Testing of its applicability to other substances is needed.

The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente, & Grant, 1993) is a screen for alcohol problems that has substantial international data on its efficacy in general population samples. Its strength (relative to competing measures) is its relative sensitivity to mild to moderate alcohol problems, while retaining an ability to also identify people with more severe ones. In previous studies of people with serious mental disorders (Dawe, Seinen, & Kavanagh, 2000; Maisto et al., 2000), the standard cutoff of 7/8 on the AUDIT has shown high levels of sensitivity (87–90%), but varying levels of both specificity (70–90%) and correct classification (73–89%). Further testing in people with serious mental disorders is required.

A gap in the existing repertoire of commonly used screening measures is one that provides an assessment of the functional impact of any one selected substance and is applicable to people with severe

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mental disorders. Such a measure would potentially be of significant value, not only as a screen for a specific substance use disorder, but also as a basis for motivational interviews that focused on that substance (Miller & Rollnick, 1991).

The primary aim of the current paper was to develop such a measure, the DrugCheck Problem List (PL). A secondary aim was to obtain further data on the performance of the SDS and the Australian version of the AUDIT as screens for substance misuse in people with psychosis, and compare their performance with that of the DrugCheck.

Study 1 describes an initial examination of the psychometric characteristics of the PL, and its comparison with the SDS and Aus-AUDIT as a predictor of DSM-IV substance use disorders. The study combined two samples of inpatients with psychoses—a group at an early episode, and a forensic sample. This combination provided a sufficiently large and diverse sample for the preliminary test of the internal structure and predictive validity of the PL. In Study 2, a confirmatory factor analysis was undertaken on the PL, and its positive predictive value was checked in a new and larger sample of inpatients with psychosis.

1. Study 1

1.1. Method

1.1.1. Participants

1.1.1.1. Early episode sample. Psychiatric inpatients aged 16–40 years with fewer than three previous episodes of a DSM-IV psychotic disorder (American Psychiatric Association, 2000) were recruited from three Brisbane hospitals. Participants were within 3 years of their first recorded episode, able to converse in English without an interpreter, and did not have a diagnosis of developmental disability or amnesic disorder. Patients with a diagnosis of drug-induced psychosis were not excluded, because that is a common diagnosis in initial psychotic episodes where patients are known to have used psychoactive drugs.

1.1.1.2. Forensic sample. Participants were inpatients of a high security psychiatric unit in Brisbane who were aged 18–65 years and had a DSM-IV psychotic disorder (a consensus diagnosis by two consultant psychiatrists, confirmed by review of recorded symptoms and a CIDI assessment). Most patients had been referred to the unit from prisons or police cells, and were either serving a sentence or awaiting trial or sentence: the remainder had been referred from other inpatient services. Patients were excluded if they were considered unable to provide informed consent to participate (e.g. if deemed too acutely mentally ill by their treating team, or were not guilty by reasons of insanity or permanently unfit for trial). Significant developmental disability or inability to converse in English also resulted in exclusion.

1.1.2. Measures

1.1.2.1. DrugCheck Problem List (PL). The PL is a screening measure that assesses recent problems resulting from a specified substance. The initial eight items were adapted from the Problem Drinking Questionnaire (Sitharthan, Kavanagh, & Sayer, 1996), and represent areas of functional impact. Four additional items (9–12) were adapted from questions in the CIDI (World Health Organization, 1997), covering psychological impacts of the substance use (Table 1). Since this similarity in questions may inflate estimates of predictive validity against the CIDI, those analyses are reported on the full PL and the 8-item version.

In the current studies, the PL was applied only to the substance a respondent identified as producing the most problems for them over the previous 3 months. If they denied problems with any substance, they are asked if a relative, friend or case manager would select one. If the answer remained negative, the PL was scored zero. The PL questions were then asked about that drug. Each item was answered No (0), A bit (1) or A lot (2).

Table 1
Items in the DrugCheck Problem List and data from Study 2.

Item	%>0		Corrected item-total correlation
	Men	Women	
In the last 3 months……			
1. Did *(substance)* cause any money problems for you?	40%	28%	.55
2. Did *(substance)* make you have problems at work, or at school (College/University/training courses)?	20%	10%	.58
3. Did you have housing problems because of *(substance)*?	19%	10%	.57
4. Were there problems at home or with your family because of *(substance)*?	34%	25%	.58
5. Did you have any arguments or fights because of *(substance)*?	31%	28%	.63
6. Has *(substance)* caused any trouble with the law, or the police?	17%	6%	.39
7. Has *(substance)* caused any health problems or injuries?	25%	28%	.45
8. Have you done anything 'risky' or 'outrageous' after using *(substance)*? (e.g. driving under the influence; unprotected sex; sharing needles)?	24%	12%	.56
Did your use of (substance) in the last 3 months result in you…			
9. Being uninterested in your usual activities?	30%	19%	.61
10. Feeling depressed?	30%	21%	.63
11. Being suspicious or distrustful of others?	36%	20%	.68
12. Having strange thoughts?	34%	11%	.69

1.1.2.2. Severity of Dependence Scale. The SDS (Gossop et al., 1995) is a 5-item instrument scored on a 4-point Likert scale, from 0, never/almost never, to 3, always/nearly always. Items are: "Did you ever think your use of (substance name) was out of control?" "Did the prospect of missing a fix (or dose) or not chasing make you anxious or worried?" "Did you worry about your use of (substance)?" "Did you wish you could stop?" and "How difficult did you find it to stop, or go without (substance)?"

1.1.2.3. Alcohol Use Disorders Identification Test. The AUDIT (Saunders et al., 1993) is a 10-item screening instrument developed by a WHO collaborative study in six countries. Its items cover three conceptual domains: consumption (items 1–3), behaviour related to dependence (items 4–6), and alcohol-related problems (items 7–10; Karno, Granholm, & Lin, 2000). The Australian version of the AUDIT was used (Aus-AUDIT, Conigrave & Elvy, 1998; Degenhardt, Conigrave, Wutzke, & Saunders, 2001), in which Item 2 (typical quantity) has responses 1 drink (i.e., 10 g ethanol, scored 0), 2 (scored 1), 3 or 4 (2), 5 or 6 (3) and 7 or more (4). This is instead of the more usual 1 or 2, 3 or 4, 5 or 6, 7 to 9, 10 or more drinks. These levels were intended to more closely correspond to cutoffs in Australian alcohol guidelines at that time (NHMRC, 2001). The AUDIT has been validated with a wide range of populations (Allen, Litten, Fertig, & Babor, 1997) and in a range of countries (Saunders et al., 1993). It typically has high internal consistency and high test-retest reliability over short periods (Daeppen, Yersin, Landry, Pecoud, & Decrey, 2000). The Aus-AUDIT has demonstrated high sensitivity but lower specificity than the original AUDIT, for identification of ICD-10 alcohol disorders (Degenhardt et al., 2001). As noted above, the AUDIT has as yet had limited testing in people with serious mental disorders.