A Comparison of Substance Abuse Diagnoses Based on Adolescent Self-Report with Independent Psychologists' Using Criteria from the DSM-IV-TR

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Introduction

With the recent rise in adolescent drug abuse, the need for effective treatment programs has increased. In order to provide sufficient treatment, substance use diagnoses have to be accurate. Self-report of substance use is often used to assess the severity of use and assist in diagnosis. Napper et al. (2010) investigated the accuracy of self-report of amphetamine use when tested with urine samples. Napper and colleagues found that the self-reports had a 95% accuracy rate and high validity when testing for amphetamine use ever and in the past thirty days prior to self-report. If substance use is correctly diagnosed there should be strong agreement between an adolescent's self-report and a mental health professional's clinical diagnosis.

Jewell et al. (2004) found a lack in the validity in clinical diagnosis of adolescent conduct disorder when self-report was employed. This may be caused by the accuracy in self-reporting by the adolescents or the subjectivity of the diagnostic criteria used in the Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV; APA, 1994).

The current study investigated the reliability between independent licensed mental health professionals' Polysubstance and Cannabis Abuse diagnoses prior to residents' admission into a residential treatment facility and the residents' self-reported substance use shortly after being admitted.

In addition, the rates of false positives were calculated for both Polysubstance Abuse and Cannabis Abuse. False positives are when participants who failed to self-report Polysubstance Abuse were given Polysubstance Abuse diagnoses prior to admission.

False negatives were calculated for both Polysubstance Abuse and Cannabis Abuse. False negatives are when participants who self-reported Cannabis Abuse were not given Cannabis Abuse diagnoses prior to admission.

Method

Participants & Setting

Sex: 156 males, 134 females, 1 unknown

Age: 23.1% 11-14 years, 76.9% 15-18 years

Race: 49.5 % Caucasian, 22% African American, 16.2% Other, 12.4% Multi-Racial

All participants were placed at a residential treatment center located in small Midwestern city; all participants had DSM-IV-TR diagnosis; admitted due to delinquency, psychiatric issues, or removed from home by social services agency.

Materials

Archival records from juvenile residential treatment center

Bio-Psychosocial Assessment

Procedure

Archival records were assessed from the most recently to remotely discharged residents. Participants had completed Bio-Psychosocial Assessments that included drug and alcohol history. Data taken from Bio-Psychosocial Assessment included types of drugs used and the frequency of them within the past year from admission date. Drugs reported were alcohol, amphetamine, cannabis, cocaine, hallucinogens, inhalants, opioids, PCP, and prescription drugs. DSM-IV-TR Axis I information was obtained from clinical reports conducted by licensed professionals prior to admission.

"DSM-IV-TR Drug Abuse Criteria Diagnosis Based on Self-Report" was developed by the authors using the DSM-IV-TR criteria for Cannabis Abuse and Polysubstance Abuse. Criteria for Cannabis Abuse is a minimum of once a week within a 12 month period. Polysubstance Abuse criteria is a minimum of the use of three drugs each being used at a minimum of once a week for a 12 month period. If the participant was diagnosed with Polysubstance Abuse that entailed the use of marijuana then the participant was not diagnosed with Cannabis Abuse. A psychology major not associated with this study conducted reliability checks for "DSM-IV-TR Drug Abuse Criteria Diagnosis Based on Self-Report" diagnoses. Agreement between the researchers and the independent observer was 99%.

"DSM-IV-TR Drug Abuse Criteria Diagnosis Based on Self-Report" was used to measure agreement between prior Axis I Polysubstance and Cannabis Abuse diagnosis and Polysubstance and Cannabis Abuse diagnosis based on Bio-Psychosocial Assessment.

References

- Jewell, J., Handewerk, M., Almquist, J., & Lucas, C. (2004). Comparing the validity of clinician-generated diagnosis of conduct disorder to the diagnostic interview schedule for children. *Journal of Clinical Child & Adolescent Psychology*, 33, 536-546. doi: 10.1207/s15374424jccp3303_11.
- Napper, L. E., Fisher, D. G., Johnson, M. E., & Wood, M. M. (2010). The reliability and validity of drug users' self reports of amphetamine use among primarily heroin and cocaine users. *Addictive Behaviors*, 35, 350-354. doi: 10.1016/j.addbeh.2009.12.006.

Results

Figure 1. Agreement of Cannabis Abuse

Figure 2. Agreement of Polysubstance Abuse

The measure of agreement between the "DSM-IV-TR Drug Abuse Criteria Diagnosis Based on Self-Report" and independent licensed mental health professionals' diagnosis was calculated using Kappa. Cannabis Abuse was found to have a slight agreement ($K = .195$). Polysubstance Abuse was also found to have a slight agreement ($K = .167$).

Discussion

False negative rate for Cannabis Abuse (i.e., participants who self-reported Cannabis Abuse but were not given Cannabis Abuse diagnosis prior to admission) was exceptionally high.

False positive rate for Polysubstance Abuse (i.e., participants who failed to self-report Polysubstance Abuse but were given Polysubstance Abuse diagnosis prior to admission) was high. False negative rate for Polysubstance Abuse was also high.

Limitation & Confounding Variables

There was no control in the selection of questions asked in the Bio-Psychosocial Assessment conducted with the residents. The questions were created by the clinical board of the residential treatment center. Due to data being archival, there was a lack of control of which information was collected. Inconsistencies may have occurred due to numerous employees collecting information at the residential treatment center. For example, some participants were asked the questions while others completed the form themselves.

Information disclosed in self-reports is not always accurate. Accuracy in measuring drug use is difficult due to quantification of frequency and amount of use.

Implications

Results from this study suggest possible problems with the assessment and diagnostic system. For example, diagnostic criteria for substance abuse may be too subjective leading to reliability issues. In addition, relying solely on adolescent self-report of substance use and abuse may be problematic in the diagnosis of such conditions. Accurate diagnosis is important in developing treatment programs for adolescents with substance use issues and successful outcomes are dependent on congruency between diagnosis and therapeutic approach.

Future Research

Reliability of psychologists' diagnoses of substance abuse disorders should be examined. The use of self-report as an assessment tool in diagnosis needs further investigation. Self-report reliability of drug use and explanations of inaccurate diagnoses need to be studied further. Further research should also consider whether personal interviews or self-documented substance abuse reports yield more accurate results.

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