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CROSS-CULTURAL COMPARISON OF SUBSTANCE ABUSE: RESULTS FROM THE 12-SITE W.H.O. STUDY ON RELIABILITY AND VALIDITY

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The WHO Study on the Reliability and Validity of Substance Abuse Instruments (R/V Study) is a 12-cenler study (in 10 different countries) aiming lo test the reliability and validity of three diagnostic instruments used lo assess alcohol and other substance use disorders. The purpose of the R/V Study is to further develop the substance abuse sections of these instruments so that a range of substance-related diagnoses can be made in a systematic, consistent and accurate way.

Two of three instruments tested were developed by the WHO as part of the WHO/NIH Joint Project on Assessment and Classification of Mental and Alcohol- and Drug-Related Problems. These Joint Project instruments are the Composite International Diagnostic Instrument (CIDI) and Schedules for Clinical Assessment of Neuropsychiatry (SCAN). A third instrument, which is a specific alcohol and drug instrument, the Alcohol Use Disorders and Associated Disabilities Interview Schedule (AUDADIS), was added in order lo test the Joint Project instruments against an independent measure which has been used extensively in large population surveys. AUDADIS has different ways of operationalizing the diagnostic criteria and has a different structure from the other two instruments, thus was thought to be an excellent comparison.

The CIDI and the AUDADIS are both highly structured interview schedules based on the diagnostic criteria of the ICD and DSM systems. Questions in the AUDADIS and CIDI are spelled out exactly and responses are recorded verbatim within pre-ordained categorical response options. Despite these similarities, the CIDI and AUDADIS differ markedly in wording of questions, interviewing structure and formatting of responses. In addition, the AUDADIS (like the SCAN but unlike the CIDI) includes precise questions about whether the dependence symptoms cluster within a limited time as required by both DSM-IV and ICD-10. Different than both the CIDI and AUDADIS, the SCAN is a semi-structured interview in which all ICD and DSM symptoms are listed, accompanied by careful definitions of each in a glossary. Suggested questions for each symptom are provided, but trained clinicians who administer the SCAN are expected to explore in detail the specific histories of the respondent lo ascertain whether each symptom is present or absent.

The R/V Study includes both one week test/retest studies of all three instruments as well as comparison studies in which two or three of the instruments were administered (on separate occasions and by different, blinded interviewers) to the same respondents. In addition, several other components were included: 1) debriefing questionnaires were administered after every interview to both the respondent and the interviewer; 2) the Discrepancy Interview Protocol (DIP) was administered after the final diagnostic interview with each respondent to query respondents about reasons for giving different responses to different interviews; and 3) an independent clinical evaluation was administered by expert clinicians to a sub-sample of respondents at all sites so that "expert" diagnoses could be compared with diagnoses obtained with the CIDI, SCAN and AUDADIS.

The 12 R/V study sites include Amsterdam, the Netherlands; Ankara, Turkey; Athens, Greece; Bangalore, India; Farmington, Connecticut, USA; Ibadan, Nigeria; Jebel, Romania; Luxembourg, Luxembourg; San Juan, Puerto Rico; St. Louis, Missouri, USA; and Sydney, Australia (two sites). Each site recruited approximately 150 subjects — at least 100 from general population or primary care settings and less than 50 from substance treatment facilities. Overall, the total sample is 1825 persons of whom 68% (n = 1241) are male and 23% (n = 420) are from treatment facilities. The mean age of the sample is 37.2 years.

TEST-RETEST RELIABILITY OF THE SUBSTANCE USE DISORDERS SECTIONS OF THE CIDI, SCAN, AND AUDADIS

Test/retest sub-studies were performed at seven sites. The CIDI test/retest sites were San Juan and Sydney; SCAN test/retest sites were Ankara and Farmington; and the AUDADIS test/retest sites were Bangalore, Jebel and Sydney. Initial analyses performed on the test/retest interviews included calculation of the *kappa* statistic to measure chance corrected agreement on diagnosis and diagnostic criteria. All three instruments showed excellent diagnostic agreement for opiate dependence. Agreemeut on other dependence diagnoses was generally good although reasonably precise estimates of agreement could only be calculated for alcohol, opiates, cannabis, sedatives, cocaine and amphetamines. Sample sizes for the other substances were inadequate to assess agreement precisely. The dependence criteria had similar levels of agreement as the overall diagnoses although the individual *kappas* varied somewhat. For DSM-IV Abuse and ICD-10 Harmful Use diagnoses, *kappas* were much lower, indicating much poorer agreement on these other diagnostic categories.

DSM-IV ITEM, CRITERION AND DIAGNOSTIC CONCORDANCE ACROSS AUDADIS, CIDI, AND SCAN ALCOHOL AND DRUG SECTIONS

As part of the R/V study, three sites were involved in a three-way comparison of diagnostic assessments — using the CIDI, SCAN and AUDADIS. This three-way comparison was conducted in Athens (n=148), Luxembourg (n=118) and St. Louis (n=151). The substances used most by the subjects were alcohol, cocaine, opiates and cannabis. The protocol for this study required that the sequence of the instruments would be varied and that the maximum time between interviews would be one week.

Of the 417 persons assessed, one-third were female. To study the concordance of DSM-IV criterion for the four most commonly used substances, kappas were calculated for each pair of instruments and for each of the diagnostic criteria: CIDI vs. SCAN; AUDADIS vs. SCAN and CIDI vs. AUDADIS. Testing the differences between kappas for each comparison was made with each instrument as the "gold standard". Results showed a high level of consistency between the non-clinical assessments (CIDI and AUDADIS) and the SCAN. The only differences appeared to be with cannabis dependence symptoms.

Reasons for discrepancies between the assessments were assessed with the Discrepancy Interview Protocol (DIP) — an evaluation for determining differences between answers to individual questions in three different interviews. This preliminary look at the data revealed that answers differed primarily because questions were different in the three instruments and because the respondents didn't understand the questions.

These results suggest several important issues for discussion: that methodologic work on comparisons of three assessments can be done with minimal attrition; that the reasons for discrepancies between interview responses do not differ much by culture; that the DIP can be used to help guide further revisions of the instruments to increase the reliability and validity of' responses; and that the assessments agree more than we might have expected.

CROSS-CULTURAL VARIABILITY IN ICD-10 AND DSM-IV SUBSTANCE DEPENDENCE SYNDROMES

Cross-cultural variation in diagnostic applicability could have a serious impact on diagnosis and thus on the replication of clinical research in different cultural settings. To examine the cross-cultural variability in substance dependence symptoms, data from the WHO/NIH international study were evaluated. To avoid discrepancies due to use of different instruments, data for this paper were limited to the SCAN because this instrument was used at more sites than any of the other instruments (eight sites, n = 1244).

Among dependent persons, the rates of endorsement of ICD-10 and DSM-IV dependence criteria were compared across the eight sites which administered the SCAN interview for the five most common substances: alcohol, cannabis, cocaine, opiates and sedatives. In addition to comparisons for the entire samples at each of the sites,

comparisons were also performed separately for men and women. Finally, the rates of diagnosis according to ICD-10 and DSM-IV dependence criteria were compared.

These preliminary analyses indicate that alcohol and cocaine dependence symptoms had remarkable consistency across all sites. That is, respondents endorsed dependence symptoms with approximately the same frequency at each and every site. For opiate and sedative dependence symptoms, general consistency was seen, with minor exceptions at two sites. For cannabis dependence greater variation was seen. When the consistency of symptom endorsement was examined for men and women separately, the number of women with dependence diagnoses was limited at several sites; thus the ability to compare men and women in their cross-cultural variability in dependence symptomatology was limited to a subset of sites. In general, it appeared that there was no more variation for women than for men in endorsement of dependence criteria. In addition, the symptom profiles of women and men did not differ significantly for any substance or site except for the symptoms of alcohol dependence at one site.

Comparing DSM-IV and ICD-10 diagnoses, greater variation was seen across sites in the DSM-IV syndromes than in the ICD-10. No statistical tests were performed on this data, but the consistency of the finding indicated a trend worth further investigation. The increase in variability of endorsement across sites of the DSM-IV compared to the ICD-10 criteria was seen in all live substances: alcohol, cannabis, cocaine, opiates and sedatives. Furthermore, for all substances, more persons were diagnosed dependent using the DSM-IV criteria than the ICD-10; for alcohol, cannabis and sedatives the difference reached statistical significance ($p < .05$) between dependence diagnoses according to DSM-IV and ICD-10 criteria.

These preliminary results support the validity of the dependence syndrome, with the possible exception of cannabis dependence, and supports the comparability of persons diagnosed with ICD-10 dependence in disparate settings. Men and women had little difference in symptom profiles and in cultural variation. Due to the apparently decreased symptom variability for ICD-10 dependence criteria compared to DSM-IV criteria, the ICD-10 criteria may be more appropriate for cross-cultural application than DSM-IV. This may be due to the more restrictive (and possibly homogenous) nature of the ICD-10 dependence syndrome as seen in the decreased number of persons diagnosed with dependence when using ICD-10 criteria. These differences will need to be assessed further with the final data set and using appropriate statistical techniques to control for differences in level of addiction and other potentially confounding variables. Nevertheless, these analyses generally support the consistency of the dependence syndromes in many different cultures and populations.

IMPLICATIONS FOR USE OF SUBSTANCE USE DISORDERS DIAGNOSTIC INSTRUMENTS IN PSYCHIATRIC AND SUBSTANCE ABUSE RESEARCH

The results of this study to date indicate a number of points applicable to research on psychiatric and substance use disorders. First, they illustrate that a large-scale study of this type can be conducted collaboratively across sites in several different countries. Second, the study indicates that a variety of different instruments and now available for research when diagnoses of alcohol and drug use disorders are needed. While each provides basic information on the occurrence of the diagnostic criteria for alcohol and drug dependence and abuse, each also provides slightly different additional information with regard to syndromal clustering of the criteria, their onset and their recency. Individual investigators can inspect all instruments and determine which one best fits the needs of a particular study. Third, the study presents evidence supporting the validity of the dependence syndrome concept (except in the case of cannabis), while indicating continuing problems with the conceptualization and operationalization of an abuse-like condition. Once the data analyses from this study are finalized and become available, considerably more information will be available to guide researchers in the options available in measurement of alcohol and drug use disorders. Using this study as a model, perhaps future research of a more substantive nature can also be conducted to investigate cross-cultural influences on aspects of alcohol and drug use disorders and their co-occurrence with other conditions.

REFERENCES

Available from Dr. Compton by request