Diagnosing Co-Occurring Substance-Related Disorders: Agreement Between SCID, Hispanic Clinicians, and Non-Hispanic Clinicians

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Objective: Given the composition of the mental health and substance abuse workforce in the United States, Hispanic immigrants are often assigned to non-Hispanic, English-speaking clinicians. This produces challenges in communication and in understanding linguistic and cultural nuances and greatly impacts the accuracy of diagnoses and the delivery of appropriate services. With the inclusion of objective criteria in diagnostic categories, clinician-to-clinician agreement ought not to be impacted by the ethnicity of the client or the clinician. Both practice and research, however, suggest that this is not the case, particularly when diagnosing co-occurring mental health and substance abuse disorders. We explored the degree to which Hispanic and non-Hispanic clinicians agreed with each other and with the Structured Clinical Interview for DSM-IV-TR, Research Version (SCID) when diagnosing co-occurring substance-related disorders.

Method: Using a naturalistic design, 88 adult clients were videotaped in diagnostic intake interviews (utilizing the DSM-IV-TR) with Hispanic or non-Hispanic clinicians. Videotapes were then viewed and rated by clinicians who were ethnically cross-matched to those on tape. Clients were also administered the SCID. Data were collected from September 15, 2003, through February 7, 2005.

Results: Non-Hispanic clinicians diagnosed significantly more substance-related disorders than Hispanic clinicians, and both Hispanic and non-Hispanic clinicians significantly underdiagnosed substance-related diagnoses compared to the SCID. Clinicians had very low diagnostic reliability with each other and with the SCID. Implications for the assessment, diagnosis, and treatment of co-occurring substance-related disorders are discussed.

Conclusion: Findings seem to concur with past research suggesting that clinicians may be influenced by factors other than the diagnostic criteria (e.g., cultural and social biases) when diagnosing, and that they may make erroneous attributions of pathology when diagnosing across cultures.

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n important factor to consider when discussing the accuracy of diagnostic processes is the presence of co-occurring mental health and substance use disorders. Schuckit¹ states that "potential problems with the diagnostic process increase almost exponentially when substance use disorders and psychiatric syndromes occur together."^{1(p76)} Furthermore, although comorbidity of substance-related and non-substance-related disorders is by no means a homogeneous phenomenon,¹ it is nevertheless a common one.² For instance, the National Survey on Drug Use and Health (NSDUH)³ reported that of the almost 20 million Americans aged 18 and older with severe mental illness, 27% used an illicit substance during the previous year, while 21% met criteria for substance dependence or substance abuse. By contrast, among individuals without severe mental illness, 13% used an illicit substance during the previous year while 8% met criteria for substance dependence or abuse. Among the overall NSDUH study population, those adults with substance use, abuse, or dependence had more than double the likelihood of a serious mental illness than adults who did not report substance use or abuse.³

Conway and colleagues⁴ used the National Institute of Alcohol Abuse and Alcoholism (NIAAA) 2001–2002

National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) to examine the lifetime prevalence and comorbidity of mood, anxiety, and specific drug use disorders, arguably the most common clinical presentation in mental health and chemical dependency treatment settings. The NESARC is a large (N = 43,093) representative sample of the U.S. civilian, noninstitutional, over-18 population. Conway et al.⁴ found that the prevalence of lifetime mood disorders among survey respondents with any drug use disorder was 40.9%, while the prevalence of lifetime anxiety disorders among survey respondents with any drug use disorder was 29.9%. Conversely, the prevalence of any lifetime drug use disorder among survey respondents with any mood disorder was 21.6%, while for respondents with any anxiety disorder it was 19.1%. Conway and colleagues conclude that "comorbidity between specific mood and anxiety disorders and specific drug use disorders is pervasive in the U.S. population."4(p253)

How about among U.S. Latinos? Although recent national population surveys have been instrumental in identifying the high prevalence of psychiatric and substancerelated comorbidities in the U.S. population, information is still lacking about comorbidity patterns in specific ethnic groups.⁵ Vega and colleagues⁵ examined the comorbidity of alcohol, drug, and non-substance use psychopathology in a sample of 3012 U.S.-born and foreign-born Mexican adults in rural and urban areas of central California. The lifetime rates of alcohol and/or other drug use disorders and non-substance use psychiatric conditions were 8.3% for men and 5.5% for women. Furthermore, the rates were 12.3% for U.S.-born Mexican Americans and 3.5% for Mexican immigrants.⁵ Ortega and colleagues⁶ used the National Comorbidity Survey (NCS) to examine the lifetime risk of psychiatric and substance use disorders among U.S. Hispanic subgroups. The NCS is a national epidemiologic study using a stratified, multistage probability sample of 8098 noninstitutionalized U.S. residents aged 15 to 24 from the 48 contiguous states. It is also the largest population survey to include different major subgroups of English-speaking Latinos, particularly Puerto Ricans and Mexican-Americans. The analyses conducted by Ortega et al.⁶ suggest an increasing prevalence of psychiatric and substance abuse disorders among Hispanics as their levels of acculturation increase. More specifically, U.S.-born Mexican-Americans were 4 times more likely to have any disorder and almost 11 times more likely to have posttraumatic stress disorder than foreign-born Mexican-Americans. Those with at least 1 parent born in the United States were twice as likely to have a substance use disorder as those whose parents were both foreign-born. Those who spoke English as a first language at home as a child were 3 times more likely to have 3 or more disorders than those who did not speak English. Puerto Ricans who currently spoke English at home were more likely to have a substance abuse disorder. Among "other Hispanics," those born in the United States were more likely to have any disorder and any substance use disorder, while those whose current language at home was English were more likely to have any disorder, more than 3 disorders, and any substance use disorder.⁶ Given the increasing numbers of Latinos in the United States in general, and the increasing number of U.S.-born Latinos in particular, these findings are cause for concern both from a public health perspective and because of the impact on the diagnostic process and subsequent service provision.

This article asks the question, What happens to the accuracy of the diagnostic process when, in addition to interacting across cultural and linguistic divides, the client is likely presenting with co-occurring mental health and substance use disorders? Sociocultural theory tells us that the accuracy of the diagnostic process relies on the patient's ability to precisely describe their distress; the clinician's ability to understand the patient's words, idioms of distress, affect, and beliefs about problem causation⁷; and the clinician's ability to interpret the information gathered in the light of existing nosologic schemata. At every step, errors can be introduced that will impact the eventual diagnosis assigned. Research and clinical experience have taught us that one potential source of error is dissimilar ethnic/cultural/linguistic backgrounds of the client and the clinician. In fact, the Surgeon General's Report on Culture, Race, and Ethnicity⁸ identifies this cultural-linguistic, client-clinician context as the place where problems arriving at an accurate diagnosis are most likely to emerge. Let us add the high prevalence of cooccurring mental health and substance abuse disorders, and let us then consider that the mental health and substance abuse workforce in the United States is such that Hispanic immigrants who seek services are very likely to be assigned to non-Hispanic, English-speaking clinicians.7 Finally, let us take into account that evidencebased interventions are here to stay and that their correct application is predicated on accurately diagnosing the patient's condition. What we have then is a recipe for poor service provision. The ensuing challenges in communication and understanding linguistic and cultural nuances will surely impact the accuracy of diagnoses and the delivery of appropriate services. For Hispanic clients, this often leads to misdiagnoses, frustration with services, premature service termination, and under-utilization of services.^{7,9,10}

With the inclusion of objective criteria in diagnostic categories after the arrival of DSM-III,¹¹ DSM-III-R,¹² and beyond, factors other than the information gathered and how it fits into the diagnostic schemata should have a lesser impact on diagnostic reliability between clinicians. Furthermore, agreement between well-trained clinicians and a structured clinical interview that clearly

incorporates the diagnostic criteria should be high. The ethnicity of the client or the clinician ought not to matter. As we have seen, however, dissimilar ethnic/racial/cultural and linguistic backgrounds and the existence of co-occurring disorders greatly complicate the accuracy of the diagnostic process.¹³ And yet, research that examines the reliability of Hispanic and non-Hispanic clinicians when diagnosing comorbid substance-related disorders in Latino clients is practically nonexistent.

The data reported here are part of a larger exploratory study conducted to examine the agreement of Hispanic and non-Hispanic clinicians with each other and with the Structured Clinical Interview for DSM-IV-TR, Research Version (SCID) when assigning multi-axial diagnoses. The study also examines clinicians' agreement on ratings of Hispanic patients' symptom severity and assessment of general functioning. We report here data on clinicianto-clinician and clinician-to-SCID reliability specific to co-occurring substance-related disorders.

METHOD

Participants

The current study recruited self-identified Hispanic clients 18 years of age or older, born in the United States or in Latin America, who had not received any mental health treatment for the previous 12 months. The inclusion of only 12-month treatment-naive clients was meant to avoid the possible influence of previous psychiatric records and minimize the impact of diagnostic-savvy clients. All clients came seeking treatment at a large, urban, hospital-based, outpatient mental health clinic. Clients were told the study examined factors that might impact the diagnostic process. Upon initial screening, prospective participants were informed that further participation would require them to complete a brief capacity-toconsent screen,¹⁴ be videotaped during their intake interview with their assigned clinician, complete a structured clinical interview administered by another (research) clinician, and allow a third clinician to view the videotaped interview. We decided to use videotapes for various reasons, including limited budget, concern with the learning effects of 2 separate live interviews, subject burden and fatigue, and the nonresearch nature of the setting and of patients' expectations within the context of a naturalistic design.

After establishing capacity to consent and signing all relevant forms, participants were assigned to either a Hispanic or non-Hispanic clinician in the adult psychiatric services for intake assessment, following the natural flow of clinic operations. The clinicians had volunteered for the study and had also given informed consent to conduct and/or view the videotaped interviews. Our study was approved by the institutional review boards of Washington University, St. Louis, Mo.; St. Vincent Catholic Medical Centers, New York, N.Y.; and New York Medical College, New York. Data were collected from September 15, 2003, through February 7, 2005.

Eighty-eight Latino patients were fully enrolled in the study after providing informed consent. Patients had a mean age of 41 years (SD = 13; range, 18–83 years); 57% (N = 50) were male, and 81% (N = 71) had some high school or higher level of education. Most were of Dominican (36%, N = 32) or Puerto Rican (22%, N = 19) descent, the 2 largest Hispanic groups in the local community where the study was conducted. The remaining were Mexican (7%, N = 6), Ecuadorian (7%, N = 6), or from other countries in Latin America (26%, N = 23). Most patients (91%, N = 80) were U.S. citizens or legal aliens. The majority of the interviews (57%, N = 50) were conducted in Spanish, while 35% (N = 31) were in English and 8% (N = 7) were conducted in a bilingual manner.

Forty-seven clinicians volunteered to participate in the study. Psychiatrists (40%, N = 19) and psychiatric social workers (40%, N = 19) were the 2 largest groups, with the remaining (20%, N = 9) being psychologists or psychiatric nurses. The majority of clinicians (65%, N = 31) were non-Hispanic by self-identification, and 68% (N = 32) of them were female. The mean number of years of adult psychiatric practice for clinicians was 10 (SD = 8.7) and ranged from 4 years among psychiatric residents to 19 years among psychologists. The only significant difference between the Hispanic and non-Hispanic clinicians was in the mean number of years of adult psychiatric practice for psychiatrists, with Hispanic psychiatrists having more than double the experience of non-Hispanic psychiatrists (p = .013).

Instruments

Clinicians rendered multi-axial DSM-IV-TR¹⁵ diagnoses for the live interviews (first clinician) and the videotaped interviews (second clinician). The objective measure against which clinician diagnoses were compared was the SCID,¹⁶ a widely used clinical instrument, available in both English and Spanish, with well established validity and reliability for Axis I disorders.

Procedures

To ensure that the diagnostic interviews occurred in a context as natural as the everyday operation of the clinic, the research team used a "quasi-random" approach: any Hispanic client participating in the study, whether a walkin or an appointment, and whether monolingual Spanish, monolingual English, or bilingual, was assigned for intake to the next available clinician, regardless of clinicians' ethnicity or Spanish-language abilities. The live interviews were videotaped. In every instance, clinicians were later cross-matched by Hispanic versus non-Hispanic status (by self-identification) to view the videotape: if the clinician who conducted the live interview was Hispanic,

Table 1. Agreement between hispanic and Non-hispanic chinicians in the Diagnosis of hispanic ratients ($N = 66$)							
	Either Clinician,	Total Agreement,	Hispanic Only,	Non-Hispanic Only,	Difference	McNemar	
Diagnostic Category	N % ^a	N (%) ^b	N (%) ^c	N (%) ^c	χ^2	χ^2	κ
Substance-related diagnoses	44 (50)	24 (55)	5 (11)	15 (34)	25.90***	5.00*	0.52
Substance use diagnoses	32 (37)	22 (69)	1 (3)	9 (28)	49.83***	6.40*	0.74
Alcohol use diagnoses	20 (23)	0 (0)	11 (55)	9 (45)	NS	NS	-0.13

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^aTotal number of patients diagnosed by either clinician (not necessarily the same patients). Percentages based on full sample of 88 patients. ^bTotal number of patients in which both clinicians agreed on the diagnosis. Percentages based on total patients diagnosed by either clinician (column 1).

^cTotal number of patients diagnosed in which clinicians did not agree on the diagnosis. Columns 3 and 4 represent diagnoses given to different patients. Percentages based on total patients diagnosed by both clinicians (column 1).

*p < .05.

***p<.001.

Abbreviation: NS = not significant.

Table 2. Agreement Between Clinicians and the Structured Clinical Interview for DSM-IV-TR, Research Version (SCID)	
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Diagnostic Category	Total Number of Patients Diagnosed by SCID, N (%) ^a	Total Agreement, N (%) ^{b,c}	SCID and Hispanic Clinician Only, N (%) ^{c,d}	SCID and Non-Hispanic Clinician Only, N (%) ^{c,d}
Substance-related diagnoses	48 (67)	20 (42)	2 (4)	10 (21)
Substance use diagnoses	42 (59)	19 (46)	0 (0)	6 (15)
Alcohol use diagnoses	34 (48)	0 (0)	8 (24)	5 (15)

^aPercentages based on 72 patients with SCID diagnoses.

^bTotal number of patients in which all 3 diagnosticians (SCID, Hispanic clinician, non-Hispanic clinician) agreed on the diagnosis.

Percentages based on total patients diagnosed with the disorder by SCID (column 1).

^dClinicians agreed with SCID but disagreed with other clinicians.

a non-Hispanic clinician would view the videotape, and vice-versa. Whenever a monolingual-Spanish client was assigned to a non-Hispanic, monolingual-English clinician, either in the live interviews or in the videotaped ones, the SCID administrator (a master's level, bilingual, bicultural, and clinically experienced clinician) provided interpretation. This third clinician administered the SCID either before or after the live interviews.

Immediately following the live or videotaped diagnostic interview, each clinician completed a series of questionnaires requiring multi-axial DSM-IV-TR diagnoses and responses to both quantitative and qualitative questions. Clinicians ranked up to 3 diagnoses on Axes I, II, and III, and they provided the diagnostic codes (for Axes I and II), to eliminate the need to interpret their responses. Clinicians also checked all applicable responses from a comprehensive checklist of psychosocial and environmental problems (Axis IV) and provided Global Assessment of Functioning scores (Axis V) for present and past year functioning.

RESULTS

For the current report, we focused on 3 categories of Axis I disorders: a broad category (substance-related disorders) and 2 narrow, mutually exclusive categories (substance use disorders and alcohol use disorders). In the substance-related disorder category, 44 of 88 patients (50%) were identified by either clinician as having a disorder that fell into this category. The total agreement

(both clinicians agreeing the same client had the diagnosis) for this category was 55% (24 clients of 44), while 5 clients (11%) were diagnosed by the Hispanic clinician only and 15 clients (34%) were diagnosed by the non-Hispanic clinician only (Table 1).

In the substance use disorder category, 32 of 88 patients (37%) were identified by either clinician as having a disorder that fell into the category. The total agreement for this category was 69% (22 clients of 32), while 1 client (3%) was diagnosed just by the Hispanic clinician and 9 clients (28%) were diagnosed just by the non-Hispanic clinician. Finally, in the alcohol use disorder category, 20 patients of 88 (23%) were identified by either clinician as having a disorder that fell into the category; total agreement for the category was 0% (0 clients of 20), 11 clients (55%) were diagnosed just by the non-Hispanic clinician.

Next, we examined clinicians' diagnoses versus the SCID for the 72 clients that had a completed SCID (Table 2). In the substance-related disorder category, the SCID diagnosed 48 clients (67%). All 3 (SCID, Hispanic clinician, and non-Hispanic clinician) agreed on 20 clients (42%), while the SCID and the Hispanic clinician agreed on 2 clients (4%), and the SCID and the non-Hispanic clinician agreed on 10 clients (21%). In the substance use disorder category, the SCID diagnosed 42 clients (59%). All 3 diagnosticians agreed on 19 of these clients (46%), while the SCID and the Hispanic clinician did not agree on any clients (0%), and the SCID and the non-Hispanic clinician agreed on 6 clients (15%). Finally, in the alcohol

Table 3. Structured Clinica	al Interview for DSM-IV-	TR, Research version (S	CID) Ve	ersus Clinicians			
	SCID vs Hispanic Clinician			SCID vs Non-Hispanic Clinician			
Diagnostic Category	Difference χ^{2a}	McNemar χ^{2b}	κ ^c	Difference χ^{2a}	McNemar χ^{2b}	κ ^c	
Substance-related diagnoses	12.78***	23.15***; SCID > Hisp	0.33	19.01***	12.80***; SCID > nHisp	0.46	
Substance use diagnoses	18.44***	23.00***; SCID > Hisp	0.41	23.95***	14.22***; SCID > nHisp	0.52	
Alcohol use diagnoses	Fisher exact, 2-sided**	23.15***; SCID > Hisp	0.22	NS	23.52***; SCID > nHisp	0.10	
^a Measures whether distribution	n of obtained responses sign	aificantly differs from chance	e				

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leasures whether distribution of obtained responses significantly differs from chance.

^bMeasures whether SCID or clinician diagnosed significantly more or less than the other.

^cMeasures diagnostic reliability (concordance).

*p < .05.

p = .01. *p < .001.

Abbreviations: Hisp = Hispanic clinician, nHisp = non-Hispanic clinician, NS = not significant.

use disorder category, the SCID diagnosed 34 clients (48%), all 3 diagnosticians did not agree on any clients (0%), the SCID and the Hispanic clinician agreed on 8 clients (24%), and the SCID and the non-Hispanic clinician agreed on 5 clients (15%).

To determine whether these numbers were statistically significant, we computed difference χ^2 and McNemar χ^2 statistics. The difference χ^2 assesses whether the distribution of obtained responses differs from that expected by chance, while the McNemar χ^2 evaluates whether one "diagnostician" (SCID, Hispanic clinician, or non-Hispanic clinician) diagnosed significantly more or less than another. We also computed κ statistics to assess the reliability of diagnoses. When comparing diagnoses rendered by Hispanic versus non-Hispanic clinicians in the substancerelated disorder broad category (please refer to Table 1), the difference χ^2 ($\chi^2 = 25.90$, df = 1, p < .0001) and the McNemar χ^2 ($\chi^2 = 5.00$, df = 1, p = .0253) were both significant, and the κ was moderate ($\kappa = 0.52$). In the substance use disorder narrow category, the difference χ^2 ($\chi^2 = 49.83$, df = 1, p < .0001) and the McNemar χ^2 $(\chi^2 = 6.40, df = 1, p = .0114)$ were also significant, with a κ at the high end of the moderate range ($\kappa = 0.74$). Finally, in the alcohol use disorder narrow category, neither the difference χ^2 (Fisher exact, 2-sided, p = .59) nor the McNemar χ^2 ($\chi^2 = 0.20$, df = 1, p = .65) were significant, with an extremely weak κ ($\kappa = -0.13$).

Next, we examined SCID versus Hispanic clinician and SCID versus non-Hispanic clinician (Table 3). In the substance-related disorders broad category, both the SCID versus Hispanic clinician (difference $\chi^2 = 12.78$, df = 1, p = .0004) and the SCID versus non-Hispanic clinician (difference $\chi^2 = 19.01$, df = 1, p < .0001) were statistically significant. Both McNemar χ^2 statistics were also significant, with the SCID diagnosing more than the Hispanic ($\chi^2 = 23.15$, df = 1, p < .0001) and non-Hispanic $(\chi^2 = 12.80, df = 1, p = .0003)$ clinicians. Diagnostic reliability was low to moderate for both the SCID-Hispanic clinician ($\kappa = 0.33$) and the SCID–non-Hispanic clinician $(\kappa = 0.46)$ comparisons.

In the substance use disorders narrow category, both the SCID versus Hispanic clinician ($\chi^2 = 18.44$, df = 1,

p < .0001) and the SCID versus non-Hispanic clinician $(\chi^2 = 23.95, df = 1, p < .0001)$ were statistically significant. Both McNemar χ^2 amounts were also significant, with the SCID diagnosing more than the Hispanic (χ^2 = 23.00, df = 1, p < .0001) and non-Hispanic (χ^2 = 14.22, df = 1, p = .0002) clinicians. Diagnostic reliability was moderate for both the SCID–Hispanic clinician ($\kappa = 0.41$) and the SCID–non-Hispanic clinician ($\kappa = 0.52$) comparisons. Finally, in the alcohol use disorders narrow category, the SCID versus Hispanic clinician comparison was significant (Fisher exact, 2-sided, p = .01) while the SCID versus non-Hispanic clinician comparison was not (Fisher exact, 2-sided, p = .2434). Both McNemar χ^2 statistics were significant, with the SCID diagnosing more than the Hispanic ($\chi^2 = 23.15$, df = 1, p < .0001) and non-Hispanic ($\chi^2 = 23.52$, df = 1, p < .0001) clinicians. Diagnostic reliability was low for both the SCID-Hispanic clinician ($\kappa = 0.22$) and the SCID–non-Hispanic clinician $(\kappa = 0.10)$ comparisons.

DISCUSSION

The present exploratory pilot study found significant differences in diagnosing in 2 out of 3 diagnostic categories related to substance use: substance-related (broad) and substance use (narrow). Specifically, non-Hispanic clinicians diagnosed these disorders at a higher rate than Hispanic clinicians, the SCID diagnosed more than both Hispanic and non-Hispanic clinicians, and non-Hispanic clinicians agreed more with the SCID. Both Hispanic and non-Hispanic clinicians underdiagnosed in all 3 categories when compared to the SCID. Furthermore, the diagnostic reliability between Hispanic and non-Hispanic clinicians, and between clinicians and SCID, is low overall, with κ statistics ranging primarily from -0.13 to 0.52 (one exception was the κ for Hispanic vs. non-Hispanic clinicians in the substance use category, which was equal to 0.74). Examining the clinician's percentage agreement (the most basic form of diagnostic reliability) lends further support to this conclusion: 69% for substance use disorder (narrow), 55% for substance-related disorder (broad), and 0% for alcohol use disorder (narrow). The results clearly point to low reliability in diagnosing cooccurring substance-related disorders.

Put succinctly, Hispanic and non-Hispanic clinicians diagnosed substance-related disorders in Hispanic outpatients at significantly different rates and they did not necessarily assign the diagnoses to the same patients. These findings seem to concur with past research suggesting that clinicians may be influenced by factors other than the diagnostic criteria (e.g., cultural and social biases) when diagnosing, and that they may make attributions of pathology where it is not present.^{17,18} Furthermore, if we accept the SCID as the "gold standard" for rendering the correct diagnosis, our results raise interesting questions regarding what information clinicians rely on to reach the diagnoses they render¹⁷⁻²⁰ and troubling questions with regard to matching patients to the correct treatment. Our findings are all the more troubling when we consider that the clinicians who participated in the study had, on average, 10 years of adult psychiatric practice, which is perhaps more experience than what we usually find in community settings or trainee-staffed, hospitalaffiliated clinics. Even at the lower end of the range of experience-4 years-we can hardly state that the clinicians in the study were inexperienced. If experienced clinicians in a fairly controlled research protocol have such low diagnostic reliability with each other and with a structured clinical instrument, it behooves us to question the accuracy of the diagnoses being assigned to Latino patients seeking services in community settings. An incorrect diagnosis matched to an improper treatment may explain, at least partially, the frustration with services, premature service termination, and under-utilization of services often experienced by Latino patients, as noted by many researchers.^{7,9,10} The impact of clinician experience on diagnostic reliability, however, does warrant further exploration.

The design of the current study suggests that the ethnicity of the clinician might be a source of diagnostic bias. Other researchers have suggested that bias may interfere with the application of diagnostic criteria to patients by clinicians,²¹ and that clinicians of different ethnic backgrounds may be perceiving pathology in patients differently and further assessing its magnitude in very distinct ways.^{17,20,22} This diagnostic bias, evident in past research and in the present study, is wrought with complexity and not easy to isolate and examine. It may have roots that go far beyond the clinician's ethnicity and may include elements of language, culture, professional background, clinicians' personal views on clients' applications for disability, and, in the case of comorbid substance-related disorders, even stigma.

Finally, 2 additional factors may help explain the overall low diagnostic reliability for comorbid substancerelated disorders in general and for alcohol use disorders specifically. First, as noted above, multiple factors beyond simply the diagnostic criteria might be influencing the assignment of pathology to a behavior as common as drinking. In their efforts to be "culturally sensitive" or "culturally competent," clinicians may assume that a given behavior, in this case a particular drinking pattern, is "culturally based" when in fact it has crossed the threshold into pathologic territory. Second, even when a clinician decides that a threshold has been crossed and tries to apply the diagnostic criteria, despite the progress made with our current multi-axial, criteria-based nosologic system, there are still sources of considerable ambiguity in the criteria. Qualifiers like "maladaptive," "clinically significant," or "recurrent" that are present in the criteria for substance abuse are open to interpretation and not clearly quantifiable. It is necessary for mental health specialists to continue our efforts to refine the diagnostic criteria, reduce or eliminate ambiguity, and, wherever possible, quantify behaviors. These steps will go a long way toward improving diagnostic reliability. In fact, the American Psychiatric Association's DSM-V Substance Use Disorders Workgroup has already begun to outline a research agenda aimed at refining diagnostic criteria for substance abuse and dependence.²³ Some of their suggestions include using latent class analyses to select relevant diagnostic items, undertaking simple clarifications in wording, and avoiding compound diagnostic criterion items.²⁴ Ongoing work to this end includes using both categorical and dimensional criteria,^{25,26} evaluating thresholds for criteria across different cultures and providing operational definitions,^{27,28} considering subtyping schemes,²⁹ and evaluating the relative utility of generic versus drug-specific criteria.³⁰ We believe this comprehensive, promising research agenda can lead to clearer, more subjective criteria and thus enhance diagnostic reliability.

The present study was launched as an exploratory one, and as such, has methodological limitations that impact its conclusiveness and generalizability. First, both the number of patients and particularly the number of clinicians in the study was relatively small. Although enough statistical power was present to detect some significant findings, the samples were not large enough to balance clinicians more thoroughly by language, live versus video condition, order of SCID administration, discipline, gender, years of experience, ethnicity, or other potentially relevant variables. We were thus unable to perform more specific analyses (e.g., the impact of gender, discipline, order of SCID administration, or years of experience). A second limitation is that diagnosing from video is not customary practice. The clinicians who diagnosed from tape were constrained by the questions asked by the live clinician, limiting what they could learn about the patient and influencing their impression of the patient and thus the diagnoses they rendered. A third limitation is that due to funding constraints, one clinician administered all of the SCIDs, potentially introducing systematic bias. This could be reduced or eliminated when several persons administer the objective diagnostic measure. A fourth limitation is that given that the SCID-Hispanic clinician and SCID-non-Hispanic clinician κ statistics were based on the same 72 subjects, we were not able to directly compare them against each other due to the violation of the independent observations assumption. A fifth limitation is that the sample consists primarily of Puerto Rican and Dominican patients, a function of the location where the study was conducted. Thus, results cannot be generalized to other Hispanics. Finally, diagnosing via the use of structured clinical instruments is not common in community settings either. Furthermore, there is some evidence to suggest that the SCID may not always be the "gold standard" it is assumed to be. Torrens and colleagues³¹ examined the diagnostic reliability of the Spanish versions of the SCID, the Psychiatric Research Interview for Substance and Mental Disorders (PRISM) and the Longitudinal, Expert, All Data (LEAD) procedure. Using the LEAD as a "gold standard," they found the PRISM superior to the SCID.

Our study also has multiple strengths that result in its making a contribution to the literature on diagnostic agreement with Hispanic patients in various ways. First, it is a current (DSM-IV-TR) examination of clinical diagnostic practice with Hispanic patients. Second, it introduces an objective measure along with clinician diagnostic judgment. Third, the study focuses on comorbid substance-related disorders. Fourth, we recruited a nonseverely mentally ill community sample. And fifth, we used a relatively naturalistic design that reflects the everyday practice of a busy urban clinic. Given these strengths, our study highlights the need to pay close attention to clinical decision-making (e.g., arriving at a diagnosis and tailoring a treatment plan) as well as emphasizes the need to avoid universalist frameworks in symptom-disorder relationships.32

Future research should focus on more detailed analyses of videotaped interviews to take a closer look at the diagnostic interview process and how it relates to the eventual diagnoses rendered. Specifically, researchers should examine and quantify the patients' disclosure of symptoms or their exhibition of specific behaviors during the interview, compare these to the actual diagnostic criteria and arrive at relevant diagnoses, and then examine whether the clinician rendered diagnoses and whether they were the same as the criteria stipulated. This would allow a closer investigation of the role bias plays in the diagnostic process. Future studies might also measure bias more directly by collecting in-depth data a priori regarding a clinician's biases in diagnosing. In addition, examining potential differences in the information disclosed by the patient as a function of the order of administration of a structured instrument (before or after the unstructured

interview by a clinician) will allow us to explore how a structured clinical instrument might sometimes predispose patients to a particular response pattern, as clinical practice often suggests. The addition of sufficient clinicians from other ethnic groups and language-speaking abilities will further contribute to clarify the role of ethnic/cultural/linguistic biases in diagnosing. Finally, a longitudinal design following patients who have been "misdiagnosed" and perhaps assigned inappropriate treatment might shed some light on the role this plays in treatment dropout, premature treatment termination, and dissatisfaction with treatment, and, since patients in community settings often turn to each other for information, the role it plays in the well-documented low service utilization among Latino clients.

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