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Validation of the UCSD Performance-based Skills Assessment (UPSA) in Hispanics with and without schizophrenia

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ABSTRACT

The UCSD Performance-based Skills Assessment (UPSA) is a widely used measure of functional capacity with strong reliability and validity. However there is a lack of psychometric data on Hispanics. The purpose of this study was to determine the impact of acculturation and education on UPSA performance among 62 Hispanic participants with schizophrenia or schizoaffective disorder and 46 healthy comparison subjects. Functional capacity was measured using the UPSA. Acculturation was measured using the Acculturation Rating Scale for Mexican Americans (ARSMA). Independent *t*-tests indicated that participants with schizophrenia had significantly lower UPSA total scores and scored lower on all UPSA sub-scales relative to the comparison group. Multiple regression also indicated that education and acculturation were significant predictors of UPSA total scores. These data provide a better understanding of UPSA scores in Hispanics with and without schizophrenia, and suggest that education and acculturation adjustments may be required to improve interpretation of test results.

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1. Introduction

Impaired functioning is one of the most common features of schizophrenia (Meesters et al., 2010), often contributing to a disproportionately low rates of employment (Wu et al., 2005) and high rates of residence in supported housing (Cohen et al., 2000; Palmer et al., 1999). Because psychosocial interventions often target functioning, researchers have sought to validate measures that adequately estimate real-world functional ability (Mausbach et al., 2009).

Performance-based tests are believed to provide insight into a patient's real-world functioning by prompting him/her to perform everyday tasks in controlled settings that mimic real world situations (Patterson and Mausbach, 2010). One performance-based measure that has received a great deal of attention is the UCSD Performance-based Skills Assessment (UPSA) (Patterson et al., 2001). However, despite its strong psychometric properties (Green et al., 2011), much of the research on the UPSA has not included Hispanic participants, and in studies where Hispanics were included, most completed the UPSA in English. Thus, no normative data for Hispanics in the U.S. exist, and little is known about the UPSA's reliability and validity in monolingual patient populations.

In a prior study, the UPSA was translated into European Spanish (Sp-UPSA) and was found to significantly discriminate between a group of Spaniard patients (i.e., individuals with schizophrenia and bipolar disease) and healthy controls (Garcia-Portilla et al., 2013),. The Sp-UPSA was also found to demonstrate adequate construct validity and reliability. However, during the translation of the Sp-UPSA, the authors did not include the Household domain of the UPSA, did not incorporate the check-writing item from the original UPSA as it was not applicable to the bill-paying process in Spain, and did not test for differences between their participants' scores and performance of Hispanic and non-Hispanic samples in the U.S. Previous research has demonstrated that Spanish-speaking Hispanics perform significantly worse than Caucasians on the UPSA (Jeste et al., 2005). Similarly, Patterson et al. (2005) found Hispanics scored significantly worse than Caucasians even when controlling for age and severity of illness. However, Bengoetxea et al. (2014) found no significant differences between monolingual Spanish speaking Hispanics, English-speaking Hispanics, and English-speaking non-Hispanics.

In a small sample of Hispanic patients with schizophrenia, Cardenas et al. (2008) linked scores on the UPSA to functional outcomes including working for pay, engaging in volunteering work, and going to school. In their study, participants performing the greatest number of real-world functional responsibilities had a mean UPSA score of 67.4 (range=0–100), suggesting that many

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scored well below the commonly accepted cutoff score of 75 indicative of capacity for functional independence (Mausbach et al., 2008). Thus, while Hispanics may score lower on the UPSA, Cardenas's study implies there is no evidence suggesting they should have poorer real-world functioning than other ethnic groups. This becomes particularly problematic since normative data currently only exist for non-Hispanic populations (Patterson et al., 2001), making it unclear if Hispanics underperform because they are more disabled or because the UPSA contains tasks not sensitive to cultural variation. Distinct procedures could be used to increase the cultural sensitivity of performance-based measures, such as revising the UPSA, re-norming to Hispanic populations, or developing new tests that are not as sensitive to ethnicity. Interestingly, no normative data have been collected on Spanish-speaking healthy comparison (HC) subjects who reside on their own and have functional independence, which we wished to address in the present study.

Cultural mores, which may be linked to acculturation, contribute to the knowledge and skills one learns and uses on a daily basis. Yet, acculturation is rarely captured as a predictor of performance on tests of functioning. In much of the published UPSA literature, it is unclear if English or Spanish was the preferred language of the participants. What is known is that individuals receiving the UPSA in Spanish may significantly underperform compared to those tested in English (Jeste et al., 2005). Jeste et al. (2005) assessed the relationship between acculturation and UPSA performance in 57 Mexican-American patients with schizophrenia, and found that acculturation was the second best predictor of UPSA performance behind global cognitive functioning. However, this study did not include healthy comparison subjects (i.e., without a psychiatric illness) or information on how to interpret test results in individuals of different acculturation levels. The current study seeks to provide clinicians with adequate information to aid in interpreting UPSA test scores.

The purpose of the present investigation was to determine preliminary validity for the UPSA for use with severely mentally ill Hispanic patients. It was hypothesized that participants with schizophrenia would perform significantly worse on the UPSA relative to individuals without schizophrenia. A second purpose of this study was to determine the relative weights of education and acculturation in predicting and interpreting UPSA scores so that clinicians may be better able to consider the role of these variables in determining a Hispanic patient's true level of functional impairment.

2. Methods

2.1. Participants

Sixty-two individuals with a DSM-IV based chart diagnosis of schizophrenia or schizoaffective disorder and 46 HCs participated in this study. Exclusion criteria for patients diagnosed with schizophrenia were a diagnosis of dementia, high suicide risk, or participation in a psychosocial treatment. The exclusion criterion for HCs was any diagnosis of a psychiatric illness. All participants self-identified as Hispanic. Participants with a diagnosis of schizophrenia were recruited from three mental health clinics located near the U.S.-Mexican border and 29 were part of a baseline assessment for a psychosocial intervention for Hispanics with schizophrenia entitled Programa de Entrenamiento para el Desarrollo de Aptitudes para Hispanics (PEDAL) (Patterson et al., 2005). HCs were recruited from churches, community meetings, parent and teacher meetings at an elementary school, and onsite referrals. Participants were offered a $20 incentive, and all participants provided a written informed consent in their preferred language.

The University of California, San Diego (UCSD) Institutional Review Board approved this study.

2.2. Measures

2.2.1. Functional capacity

Functional capacity was measured using the original version of the UCSD Performance Based Skills Assessment (UPSA) (Patterson et al., 2001). The UPSA uses a variety of props and role-play tasks to assess ability to perform a variety of everyday living tasks. These tasks fall into the following 5 subscale domains: 1) Planning and Organization (e.g., plan a trip to the zoo); 2) Finance (e.g., pay a utility bill); 3) Social/Communication (e.g., reschedule a doctor's appointment); 4) Transportation (e.g., read a bus schedule); and 5) Household chores (e.g., create a shopping list). The UPSA requires an average of 30 min to complete. Participants receive scores for each of the 5 subscales (range=0–20), which are summed to create an overall score. Upon enrollment to the study, all participants were asked which language (Spanish or English) they preferred to be tested in. They were then administered the UPSA in either Spanish or English as per their preferred language. No participant required retesting or language switch preferences.

2.2.2. Acculturation

Acculturation was measured using the Acculturation Rating Scale for Mexican-Americans (ARSMA) (Cuéllar et al., 1980). The ARSMA contains 20 items assessing concepts relevant to acculturation, such as language use and preference, ethnic identification, cultural heritage, and upbringing. Each item is rated on a Likert-type scale ranging from '1' (reflecting affiliation with Hispanic culture) to '5' (reflecting affiliation with Anglo culture). The 20 items were averaged to create an overall acculturation score, with higher scores representing higher affiliation with Anglo/American culture. The ARSMA has good internal, test-retest, and inter-rater reliability, and validity (Cuéllar et al., 1980). In the present study, coefficient alpha was 0.95. All participants completed the ARSMA in their preferred language.

2.3. Procedures/Translation of UPSA to Spanish

The translation of the UPSA involved a series of steps. First, the UPSA was translated into Spanish and then back-translated by three different staff members who identified as having an Hispanic background. If meaning of a word of phrase was lost during the back-translation process, the procedure was repeated. If words or phrases were deemed problematic, step two involved having a 4-person committee review them, discuss the disagreements, and make final decisions on wording via consensus agreement. Step 3 involved comparing the Spanish and the English versions of the UPSA. The last step involved a final review of the Spanish UPSA by three bicultural/bilingual Hispanic staff members (1 Ph.D. and 2 master's level).

2.4. Statistical analyses

Prior to conducting statistical analyses, linear predictor variables (i.e., age; acculturation) were examined for skewness using the adjusted Fisher-Pearson standardized third moment coefficient (Tabachnik and Fidel, 2001), with values > 0.60 considered significantly skewed. Visual inspection of variable histograms was also conducted to evaluate skewness of the variables. Next, we compared demographic and background characteristics of the schizophrenia and HC samples using independent samples t-tests for continuous variables and either chi-square or Fisher's Exact