The Short Inventory of Problems – Revised (SIP-R): Psychometric Properties in English and Spanish-speaking Populations

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Abstract

One of the most commonly used measures for assessing adverse consequences of substance use, the Short Inventory of Problems (SIP), has been adapted and evaluated in several specific populations, but evidence of its reliability and validity across broader samples of persons with substance use disorders, as well as with Spanish-speaking populations is needed. This study evaluated the psychometric properties of a revised version of the SIP (SIP-R) used in different multisite trials: (1) an English-version used in a large combined sample of alcohol and drug use disorder treatment-seekers (N=886), with participants pooled from two national, multisite randomized clinical trials, and (2) a Spanish-version used in a multisite, randomized trial conducted for Spanish-speaking substance users (N=405). Results supported the 5-factor structure in both the English and Spanish-speaking samples. Construct validity was evident through strong correlations with the ASI drug composite (English-version, r = .48; Spanish-version, r = .57). There were consistent differences in both populations, with females reporting greater consequences than males, and those legally mandated to treatment reporting fewer consequences than those not mandated. Also, baseline SIP scores were associated with fewer days retained in treatment in both samples. Overall, the results support the use of the SIP as a reliable and valid measure of adverse consequences in diverse English and Spanish-speaking populations.

Introduction

Assessing the negative consequences of substance use is important to the evaluation process in both research and treatment for several reasons. However, there are few universally accepted instruments for measuring the adverse consequences associated with alcohol and drug use. The Short Inventory of Problems (SIP)[1] is a brief, 15-item version commonly used to assess the self-reported consequences of substance use, however it has never been evaluated psychometrically in a large diverse sample of outpatient substance users. Also, there are currently no psychometric reports on a Spanish version of this instrument, despite the high rates and severity of substance use disorders among Hispanics in the United States. Language issues have been identified as one of the key barriers to substance abuse treatment for U.S. Hispanics[2], thus indicating a need for more validated assessments in Spanish.

Methods

Data on the English-version were drawn from two independent, multisite randomized trials implemented within outpatient treatment settings associated with the National Drug Abuse Treatment Clinical Trials Network (CTN)[3,4]. Data on the Spanish-version were drawn from one of the first multisite randomized clinical trials conducted entirely in Spanish[5]. A common baseline assessment battery was used in the trials, which included a revised version of the SIP (SIP-R), the Addiction Severity Index (ASI) and the University of Rhode Island Change Assessment (URICA), as well as substance use data. Confirmatory factor analysis (CFA) and correlations were used to evaluate construct validity. ANOVAs were used to examine baseline differences according to demographic characteristics, and regression analysis evaluated the predictive validity in terms of association with treatment retention and substance use.

Table 1. Correlation of SIP-R and SIP-RS with Baseline Measures

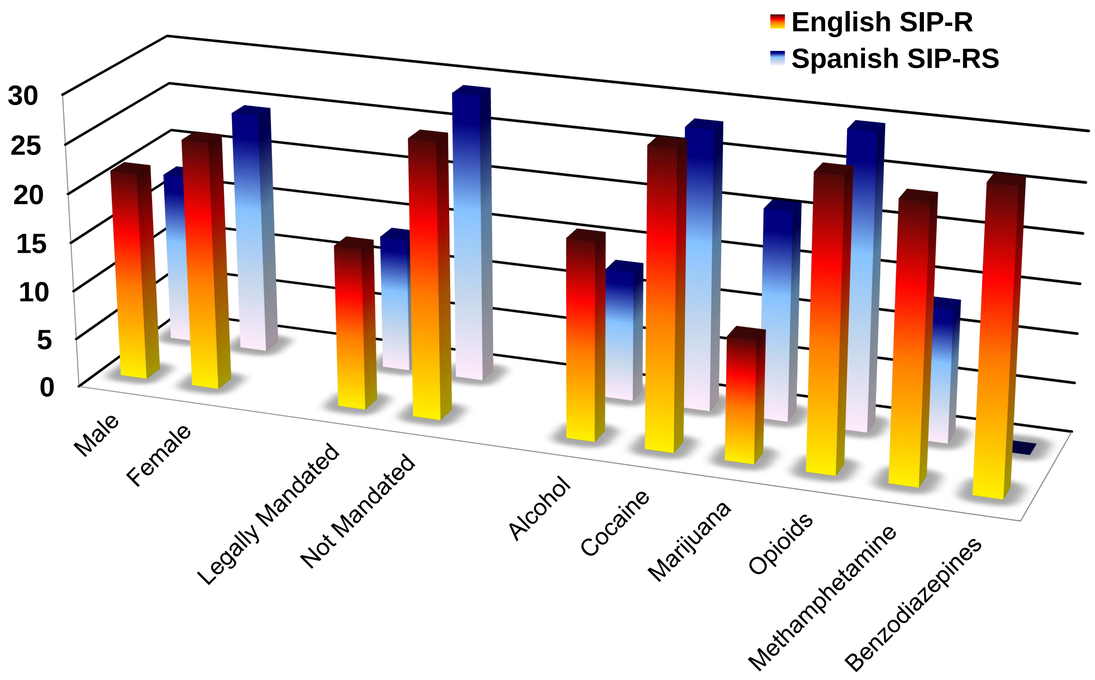
	English-version SIP-R (n=886)	Spanish-version SIP-RS (n=405)
ASI medical composite	0.16**	0.24**
ASI employment composite	0.07*	0.18*
ASI alcohol composite	0.29**	0.43**
ASI drug composite	0.48**	0.57**
ASI legal composite	< 0.01	- 0.11
ASI family/social composite	0.34**	0.36**
ASI psychiatric composite	0.37**	0.56**
URICA - readiness score	0.61**	0.45**
Days of primary drug use during past 28	0.07*	0.45**

* $p < 0.05$; ** $p < 0.01$

Results

A total of 886 participants completed the English-version SIP-R. Of these, the majority were male (65%), Caucasian (56%), and never married (53%). Less than half (45%) were legally mandated to treatment. Alcohol was the most common primary substance of abuse (37%), followed by marijuana (18%), cocaine (16%), methamphetamine (11%), other drugs (11%), and opioids (7%). For the Spanish-version SIP-RS, 405 participants completed the assessment at baseline. Of these, the majority were male (88%), primary alcohol users (60%), and legally mandated to treatment (71%). The other most common substance of abuse was cocaine (22%), followed by marijuana (9%), opioids (6%), methamphetamine (3%), and benzodiazepines (<1%). Both the English and the Spanish versions demonstrated excellent internal reliability (English, α = .95; Spanish, α = .96). Also, CFA results indicated a 5-factor model with one higher-order factor produced the best fit statistics in both samples (English, CFI = .93, RMSEA = .09; Spanish, CFI = .94, RMSEA = .09). Table 1 displays correlation results for demonstrating concurrent validity. Both versions demonstrated strong relationships with the ASI drug composite, with more moderate relationships with the ASI family/social, and medical composites. The Spanish SIP-RS showed a strong relationship with the ASI psychiatric composite. Also, both versions were strongly correlated with the URICA readiness score. In terms of discriminant validity, both versions had relatively weak relationships with the ASI legal and employment composites, which are less emphasized on the SIP. Differences according to baseline characteristics are displayed in Figure 1. In both samples, there were significant differences in baseline SIP scores across gender and legal status, with females and those not legally mandated to treatment reporting more adverse consequences. There were also significant differences according to primary substance of abuse, with marijuana and alcohol users reporting fewer consequences than cocaine or opioid users. In terms of predictive validity, SIP scores predicted days retained in treatment in both samples, with higher scores associated with fewer days retained in treatment. These relationships held even after controlling for the ASI drug composite and URICA readiness scores (Spanish-version, β = -.14, p<.05). However the SIP was associated with days of substance use during treatment only in the Spanish sample, with higher scores associated with less abstinence (β = -.17, p<.01).

Figure 1. SIP-R Total Scores by Baseline Characteristics



Conclusion

Taken together, these findings support the reliability and validity of the SIP for use in both diverse English and Spanish-speaking samples. The measure demonstrated an acceptable factor structure, excellent internal consistency, and sound evidence of construct validity as an assessment of consequences associated with alcohol and drug use. Also, this measure displayed evidence of predictive validity, with higher baseline SIP scores associated with fewer days retained in treatment in both samples, as well as with less abstinence within the Spanish-speaking sample. Interestingly, in both samples, those legally mandated to treatment reported significantly less consequences than those not legally mandated to treatment. Coupled with the strong relationship with URICA readiness scores, it appears the self-reported negative consequences on the SIP involve a level of problem awareness/acceptance that may serve as an impetus to treatment and readiness to change. The weak correlations with the employment and legal composite scores from the ASI may indicate a need for greater coverage of these domains in future versions. The primary limitation of this study was the limited number of measures administered in the parent clinical trials, which constrained the ability to fully evaluate convergent and discriminant validity in detail. In conclusion, this study supports the use of both the English and Spanish-versions of the SIP as a reliable and valid assessment of adverse consequences associated with alcohol and drug use.

References

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