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The Short Inventory of Problems – Revised (SIP-R): Psychometric properties within a large, diverse sample of substance use disorder treatment seekers

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Abstract

Assessment of the adverse consequences of substance use serves an important function in both clinical and research settings, yet there is no universally agreed upon measure of consequences relevant to multiple types of substance use disorders. One of the most commonly used measures, 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 is needed. This study evaluated the psychometric properties of a revised version of the SIP (SIP-R) in a large combined sample of alcohol and drug use disorder treatment-seekers, with participants pooled from two national, multisite randomized clinical trials. A total of 886 participants across 10 outpatient treatment facilities completed a common assessment battery that included the SIP-R, Addiction Severity Index (ASI), University of Rhode Island Change Assessment (URICA), HIV Risk Behavior Scale (HRBS), and a substance use calendar. Results supported the SIP-R's internal reliability (α=.95). Confirmatory factor analysis demonstrated that the hypothesized 5-factor model with one higher-order factor produced the best fit. Convergent validity was evident through the SIP-R's correlation with several composite scores from the ASI and the URICA, and analyses supported its conceptual distinction from quantity indices of drug/alcohol use. The SIP-R also demonstrated an ability to predict treatment retention, with higher scores associated with poorer retention. These results provide support for the SIP-R's psychometric properties as a measure of consequences across a broad sample of treatment-seeking drug and alcohol users.

Keywords

assessment of consequences; short inventory of problems; reliability; validity

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Assessing the negative consequences of substance use is important to the evaluation process in both research and treatment for several reasons. First, diagnostic criteria for substance abuse or dependence, according to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV; American Psychiatric Association, 1994), include impairment in psychosocial functioning resulting from alcohol or drug use, and hence require assessment of the consequences of substance use. Second, nearly all substance use disorder (SUD) interventions attempt to increase problem awareness, as recognition of consequences is seen as important in building motivation to change behavior (Blume, Schmaling, & Marlatt, 2006; W. R. Miller & Rollnick, 2002). Finally, assessing substance-related problems is increasingly viewed as an important outcome measure in clinical trials (Allen, 2003; Cisler, Kivlahan, Donovan, & Mattson, 2005).

One measure designed to assess consequences of alcohol and drug use is the Inventory of Drug Use Consequences (InDUC; Tonigan & Miller, 2002), which was adapted from the Drinker Inventory of Consequences (DrInC; W. R. Miller, Tonigan, & Longabaugh, 1995) to assess consequences of multiple drugs, rather than alcohol use alone. Both the InDUC and DrInC contain 50-items, 45 of which measure consequences in five domains: interpersonal, intrapersonal, physical, impulse control, and social. A briefer 15-item version of these measures, the Short Inventory of Problems (SIP), was created by selecting three items from each of the five domains based on the strongest item-subscale correlations; more recent versions have been proposed that use the 15 items with the strongest item-total correlations (K. A. Blanchard, J. Morgenstern, T. J. Morgan, E. W. Labouvie, & D. A. Bux, 2003a).

Multiple psychometric evaluations of the SIP have largely supported the reliability and validity of the SIP as a measure of consequences of drug and alcohol use in specialized samples (Alterman, Cacciola, Ivey, Habing, & Lynch, 2009); (Bender, Griffin, Gallop, & Weiss, 2007); (Kenna, et al., 2005); (Hagman, et al., 2009); (Feinn, Tennen, & Kranzler, 2003); (W. Gillespie, Holt, & Blackwell, 2007). While the SIP is usually thought to have five factors representing the five subscale domains with one higher-order factor representing overall consequences, studies using confirmatory factor analysis (CFA) or exploratory factor analysis (EFA) have produced mixed findings (Bender, et al., 2007; Feinn, et al., 2003; W. Gillespie, et al., 2007). To date, however, the SIP has never been evaluated psychometrically among a large (i.e., n>500), general outpatient sample of substance users. This may help resolve current disagreement about its factor structure and enhance its generalizability to large community outpatient settings. The purpose of the current study is to evaluate the psychometric properties of the revised version of the SIP (SIP-R) in a large combined sample of mixed alcohol and drug use disorder treatment-seekers.

Method

Overview

This study used data from two independent multisite randomized clinical trials implemented within outpatient SUD treatment settings associated with the National Institute on Drug Abuse (NIDA) Clinical Trials Network (CTN). One of the trials evaluated the effectiveness of integrating motivational interviewing (MI; W. R. Miller & Rollnick, 2002) techniques and strategies into a single intake/evaluation session implemented in five participating community-based treatment programs to enhance treatment engagement and retention, and reduce substance use. This trial will hereafter be referred to as the ‘MI study,’ and its design, rationale, and outcomes have been described in detail elsewhere (Carroll, et al., 2006; Carroll, et al., 2002). The second trial evaluated the effectiveness of motivational enhancement therapy (MET; W.R. Miller, Zweben, DiClemente, & Rychtarik, 1992) as compared to counseling as usual (CAU) delivered over three individual therapy sessions implemented in five outpatient SUD treatment programs. This trial will hereafter be referred

to as the 'MET study,' and has also been described elsewhere (Ball, et al., 2002; Ball, et al., 2007).

Participants

Both the MET and MI studies included participants seeking treatment for a substance use problem at one of 10 participating sites across the United States. Eligibility criteria were identical for both studies and included: (1) English-speaking, (2) 18 years of age or older, (3) use of alcohol or any illicit drug at least once within the prior 28 days, and (4) willingness to be randomized to treatment in the protocol, be contacted for follow-up assessment, and have treatment sessions audio-taped (Ball, et al., 2007; Carroll, et al., 2006).

Assessments

The assessment battery for both trials included: (a) basic demographic characteristics; (b) substance use, measured with urine- and breathalyzer-confirmed self-report using the Substance Use Calendar (SUC), an assessment adapted from the Time Line Follow Back interview (Fals-Stewart, O'Farrell, Freitas, McFarlin, & Rutigliano, 2000; Sobell & Sobell, 1992); (c) a brief version of the Addiction Severity Index (ASI; McLellan, Alterman, Cacciola, Metzger, & O'Brien, 1992); (d) level of HIV risk behaviors, measured with the HIV Risk Behavior Scale (HRBS; Darke, Hall, Heather, Ward, & Wodak, 1991); and (e) readiness to change, measured with the University of Rhode Island Change Assessment (URICA; DiClemente & Hughes, 1990). The MET study also included the Substance Dependence Severity Scale (SDSS; Miele, et al., 2000a; Miele, et al., 2000b), an interview assessing the severity and frequency of DSM-IV dependence symptoms. As outcome measures, both studies utilized the SUC to assess frequency of substance use, as well as client records to assess treatment retention.

Baseline assessment in both trials included a revised version of the Short Index of Problems (SIP), a self-report inventory of adverse consequences associated with drug and alcohol use described earlier. The SIP instructs participants to indicate how often each of the listed consequences has occurred during the past three months ("never," "once or a few times," "once or twice a week," "daily or almost daily"; scored 0-3). Item responses are summed to produce a total score and five subscale scores. The revised version (SIP-R) used in the MET and MI studies included minor modifications from prior versions. For instance, one of the 'impulse control' subscale items, "I have had an accident while drinking or intoxicated", was replaced with "Drinking or using one drug has caused me to use other drugs more". Also, two items from the InDUC that assess problems with work and legal trouble, not included on the original SIP, were added to this revised version to provide broader coverage of the 'social' domain, resulting in a 17-item SIP-R (*see* Appendix*)*.

Data Analysis

Analyses were conducted using the combined datasets from the MI and MET studies (N=886). Internal consistency was assessed with Cronbach's alpha. Both a one-factor model and a five-factor model with one higher-order factor were tested with confirmatory factor analysis (CFA) using the standard 15-items and the full 17-items. An item-analysis was conducted by examining the inter-item correlations as well as item-to-subscale and item-to-total scale correlations (with the specific item's contribution to the subscale or total score removed). Concurrent validity was evaluated by examining the correlations of the baseline SIP-R scores with other measures theoretically related to adverse consequences of substance use. As exploratory analyses, we examined the correlations of participant demographic characteristics with baseline SIP-R scores and used analysis of variance (ANOVA) to examine differences in SIP-R scores according to baseline variables. Lastly, we evaluated the SIP-R's relationship with treatment retention and substance use outcomes via multiple

regression. Because the time period between randomization and follow-up differed between the two studies (MI = 84 days; MET = 112 days), treatment retention was analyzed separately for each study.

Results

Participants

A total of 886 participants enrolled in the two studies completed the SIP-R at baseline; baseline characteristics are presented in Table 1. In the combined sample, the majority were male (65%), Caucasian (56%), and never married (53%), with many reporting being unemployed for the past 30 days (43%). The average age was in the low-mid 30's (33.8), and the average years of education was 12.4. Alcohol was the most commonly reported primary substance of abuse (37%), with marijuana second (18%), followed by cocaine (16%), methamphetamine (11%), other drugs (11%), and opioids (7%).

Reliability and Validity

The SIP-R demonstrated excellent internal reliability in both study samples, as measured by Cronbach's alpha (MET α = .95; MI α = .96; Combined sample α = .95). Confirmatory factor analysis indicated that the five-factor model with one higher-order factor produced better fit statistics [χ^2 = 708.03, df=85, CFI=.94, RMSEA=.09; χ^2 = 918.66, df=114, CFI=.93, RMSEA=.09] than did a single factor model [χ^2 = 1135.72, df=90, CFI=.90, RMSEA=.11; χ^2 = 1327.48, df=119, CFI=.89, RMSEA=.11] for both the 15- and 17-item versions, respectively. Because both models were better fitting for the 15-item, rather than the 17-item version of the SIP-R, only the 15-item version was used in subsequent analyses.

Results of the item analysis are displayed in Table 2. All subscale scores were highly correlated with the total score and with each other, with correlations ranging between .67 and .92. Although all items had a strong ($r > .50$, $p < .01$) correlation with the total SIP-R score (after removing the contribution of that item from the total score), item 7 was most weakly correlated with the total score ($r = .56$). This may be due to the low rate of endorsement, with 73% of the sample responding either "never" or "once" to this item. Nearly all items had stronger correlations with their respective subscale than with other subscales, with a few exceptions. Notably, item 3 had a stronger correlation with the intrapersonal subscale ($r = .75$), the physical subscale ($r = .72$), and the impulse control subscale ($r = .72$), than with the intended social subscale ($r = .67$). Lastly, some inter-item correlations within the subscales were quite strong (e.g., item 11 with item 17; item 1 and item 4; item 13 and item 14; item 5 and item 6), suggesting some overlap in item content.

Table 3 displays the correlations of SIP-R total and subscale scores with other baseline measures. Within this combined sample, the readiness score from the URICA was highly correlated with the SIP-R total score ($r = .61$, $p<.01$) and each of the subscale scores. Of the ASI composite scores, the strongest correlations were found between the ASI drug composite and the SIP-R total score ($r = .48$), whereas moderate correlations were found between the SIP-R total score and the ASI alcohol composite ($r = .29$), ASI family/social composite ($r = .34$), and ASI psychiatric composite ($r = .37$), demonstrating some evidence of convergent validity. The SIP-R total score had the smallest correlations with the ASI employment composite ($r = .07$), and the frequency of substance use during the past month ($r = .07$), whereas it was not related to the ASI legal composite score.

Although nearly all SIP-R subscales were correlated with the ASI composites, the strongest correlations were found with the corresponding ASI composite score measuring the same domain. There was a small correlation between the SIP-R total and subscale scores and the sex risk subscale score from the HRBS, but not for the drug risk subscale. The primary drug

dependence severity scale from the SDSS and the number of DSM-IV drug dependence criteria, which were only assessed in the MET study (n=464), were highly correlated with the SIP-R total score (r = .54, p<.01; r = .49, p<.01, respectively).

Relationship with participant characteristics

In the total sample (n=886), participants' age was weakly correlated with the SIP-R total score (r = .19, p<.01), whereas years of education was unrelated to the SIP-R total score (r = .02). Differences in SIP-R total scores, displayed in Table 4, suggest: (1) a statistically significant difference across gender (F(1,884)=17.91, p<.01) with higher scores for females (mean = 25.4, sd=12.7) than males (mean = 21.4, sd=13.9); (2) no differences across ethnic categories; (3) a significant difference according to primary substance of abuse (F(5,873) = 51.86, p<.01), with the range of scores from lowest to highest: marijuana (mean = 12.4, sd=10.7), alcohol (mean = 20.1, sd=13.0), methamphetamine (mean = 27.6, sd=11.3), opioids (mean = 29.2, sd=12.2), cocaine (mean = 30.1, sd=11.4), and other (mean = 30.4, sd=11.5); (4) a significant difference according to whether the participant was legally mandated to treatment (F(1,877) = 190.61, p<.01), with higher scores for those not mandated (mean = 28.1, sd=11.7) compared to those who were (mean = 16.5, sd=13.0).

Predictive Validity

Results of regression analyses demonstrated that baseline SIP-R scores strongly predicted days retained in treatment for both studies [MET: t(385) = −3.50, p<.01; MI: t(347) = −3.10, p<.01], with higher SIP-R total scores associated with fewer days retained in treatment. When controlling for baseline ASI drug and alcohol composite scores, the SIP-R remained a significant predictor of treatment retention for the MET study only: t(383) = −2.69, p<.01. The strong relationship between the SIP-R and retention in the MET study also held when controlling for the all seven of the ASI composite scores: t(377) = −2.79, p<.01. When controlling for the frequency of substance use at baseline, the SIP-R total score was strongly related to days retained in treatment in both studies [MET: t(381) = −3.64, p<.01; MI: t(347) = −2.85, p<.01]. Also, the SIP-R significantly predicted treatment retention when controlling for URICA readiness scores in both studies [MET: t(381) = −2.13, p<.05; MI: t(347) = −1.96, p<.05], and when controlling for the SDSS primary drug dependence severity scale in the MET study: t(384) = −2.69, p<.01. Regarding outcome, the SIP-R was not predictive of participants' substance use frequency during or after treatment in the combined dataset or when the datasets were separated.

Discussion

This report describes an evaluation of the psychometric properties of a revised version of the Short Inventory of Problems (SIP-R) for both drug and alcohol use consequences within a large sample of treatment-seeking outpatients across multiple sites. Although confirmatory factor analyses did not identify a model with strong levels of fit based on cutoff values (Hu & Bentler, 1999), it does appear that the SIP-R measures an overall construct of substance use consequences independent of frequency of use. The results also support the internal reliability and convergent validity of this tool for measuring consequences of drug and alcohol use. Most importantly, higher SIP-R scores were strongly associated with poorer treatment retention even after controlling for baseline substance use, ASI composite scores, and readiness to change. This is the first study to demonstrate the SIP's ability to predict treatment retention, which strengthens the utility of the SIP-R as a baseline assessment tool in treatment-seeking populations.

This study builds on previous findings of the psychometric characteristics of the SIP by using a large and heterogeneous sample of outpatients with SUDs. The 886 participants

analyzed here form the largest sample of treatment-seeking substance users with data on the SIP-R. Results are consistent with previous research on the SIP pointing to strong internal consistency (Bender, et al., 2007; Blanchard, et al., 2003a; Kenna, et al., 2005). Overall, the five-factor model with one second-order factor produced the best fit, analogous to prior results (Kenna, et al., 2005). Strong intercorrelations among the subscales were suggestive of an overall latent construct, consistent with prior interpretations of the SIP's factor structure (Alterman, et al., 2009; Bender, et al., 2007; Blanchard, et al., 2003a). Finally, results of the item analysis indicated that most items were consistent with their respective subscales, although the magnitude of inter-item correlations within some of the subscales, as well as the overlapping item content(e.g., item 11 and item 17) suggests a potential need to either substitute items from the InDUC measuring the same domain or reduce the number of items in future versions.

The SIP-R total score was related to several ASI composite scores that assessed corresponding domains (e.g., alcohol, drug, psychiatric, family/social, and medical problem severity). As evidence of discriminative validity, the SIP-R was weakly correlated with ASI employment and legal problem severity, which are less emphasized on the SIP (but included on the InDUC). Additionally, the weak correlation with the frequency of substance use during the past month supports the SIP-R as a measure of consequences independent of consumption rates, although this also could be a function of the different time periods assessed (e.g., SIP-R assesses consequences over the past 3 months). Lastly, the SIP-R was strongly related to the baseline URICA readiness score, which may be suggestive of an underlying component of problem awareness/acceptance, as others have noted negative consequences as a primary impetus for treatment seeking and readiness to change (K. A. Blanchard, J. Morgenstern, T.J. Morgan, E. W. Labouvie, & D. A. Bux, 2003b; Finney & Moos, 1995).

Among the most novel and striking findings in the current study was the strong relationship between baseline SIP-R scores and retention in outpatient treatment, even after controlling for the correlated drug and alcohol composite scores from the ASI and the readiness score from the URICA. Our findings suggest that, regardless of an individual's readiness to change or severity of addiction, higher frequency of adverse consequences experienced as a result of substance use predicts poorer retention. This conclusion, however, is complicated by the various client- and program-factors that influence treatment retention (Dobkin, De Civita, Paraherakis, & Gill, 2002; Gainey, Wells, Hawkins, & Catalano, 1993; King & Canada, 2004; Mancino, et al., 2010; Siqueland, et al., 2002; Veach, Remley, Kippers, & Sorg, 2000).

This is also the first study to examine differences in SIP total scores across demographic characteristics. In these studies, women reported more frequent adverse consequences (i.e., higher SIP-R total scores) than men, consistent with the literature on the heightened vulnerability of women to the adverse medical, psychiatric, and social consequences of substance use (Arfken, Klein, di Menza, & Schuster, 2001; Greenfield, et al., 2007; Hernandez-Avila, Rounsaville, & Kranzler, 2004). Reported consequences were also different according to the type of primary substance used, with primary marijuana users reporting fewer adverse consequences relative to cocaine and opioid users, a finding consistent with existing literature (N. A. Gillespie, Neale, Prescott, Aggen, & Kendler, 2007). Lastly, participants legally mandated to treatment reported significantly fewer adverse consequences than those not mandated, suggesting that recognizing adverse consequences may promote voluntary treatment-seeking. Alternatively, recent incarceration may be associated with fewer perceived consequences.

A limitation of this study is the lack of a post-treatment administration of the SIP-R, which prohibited an evaluation of change over time as a valid outcome measure. Another limitation is the relatively small number of measures available from the parent studies to evaluate concurrent and discriminant validity. Nonetheless, this study produced favorable evidence for the SIP-R's construct and predictive validity. Lastly, the addition of two items not previously included in the SIP may have had some effect on the response pattern of participants that would not have been present otherwise, although any undesirable effect would likely be minor.

In summary, the SIP-R is a useful measure for assessing recent adverse consequences associated with drug and/or alcohol use, and could have the added benefit of identifying individuals who might require greater resources/services to remain in treatment longer. The instrument's brevity favors its use over the longer versions (i.e., InDUC or DrInC), and its solid psychometric properties in this large, heterogeneous outpatient sample support its generalizability to a range of outpatient community settings.

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Appendix

Appendix:

Appendix

Short Inventory of Problems Revised (SIP-R)

1. I have been unhappy because of my drinking or drug use. (INTRA)
2. Because of my drinking or drug use, I have lost weight or not eaten properly. (PHYS)
3. I have failed to do what is expected of me because of my drinking or drug use. (SOC)
4. I have felt guilty or ashamed because of my drinking or drug use. (INTRA)
5. I have taken foolish risks when I have been drinking or using drugs. (IMP)
6. When drinking or using drugs, I have done impulsive things that I regretted later. (IMP)
7. Drinking or using one drug has caused me to use other drugs more.* (IMP)
8. I have gotten into trouble because of drinking or drug use.* (SOC)
9. The quality of my work has suffered because of my drinking or drug use.* (SOC)
10. My physical health has been harmed by my drinking or drug use. (PHYS)
11. I have had money problems because of my drinking or drug use. (SOC)
12. My physical appearance has been harmed by my drinking or drug use. (PHYS)
13. My family has been hurt by my drinking or drug use. (INTER)
14. A friendship or close relationship has been damaged by my drinking or drug use. (INTER)
15. My drinking or drug use has gotten in the way of my growth as a person. (INTRA)
16. My drinking or drug use has damaged my social life, popularity, or reputation. (INTER)
17. I have spent too much or lost a lot of money because of my drinking or drug use. (SOC)

PHYS = Physical; SOC = Social; INTRA = Intrapersonal; INTER = Interpersonal; IMP = Impulse control

*not incorporated in prior versions

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Table 1

Demographic and Baseline Characteristics by Study Sample

	MET Study (N=464)		MI Study (N=422)		Total N=886)		
Variable	**N**	**%**	**N**	**%**	**N**	**%**	**χ^2 or F**
Gender (Male)	328	70.7	244	57.8	572	64.6	15.99**
Race/Ethnicity							168.68**
Caucasian	194	41.8	303	71.8	497	56.1	
African American	195	42	42	10	237	26.7	
Hispanic	49	10.6	10	2.4	59	6.7	
Multiracial	18	3.9	59	14	77	8.7	
Other	8	1.7	8	1.9	16	1.8	
Employment (past 30 days)							12.48*
Full-time	158	34.1	111	26.3	269	30.4	
Part-time	49	10.6	49	11.6	98	11.1	
Unemployed	178	38.4	204	48.3	382	43.1	
Retired/Disabled	39	8.4	23	5.5	62	7	
Other	40	8.6	35	8.3	75	8.5	
Marital Status							14.59**
Never Married	272	58.6	201	47.6	473	53.4	
Married	72	15.5	73	17.3	145	16.4	
Divorced	64	13.8	91	21.6	155	17.5	
Separated	36	7.8	42	10	78	8.8	
Other	20	4.3	15	3.6	35	4	
Legally mandated to treatment	130	28	264	63.5	394	44.8	110.93**
Primary drug							195.48**
Alcohol	130	28	199	47.8	329	37.4	
Cocaine	109	23.5	28	6.7	137	15.6	
Marijuana	71	15.3	85	20.2	156	17.7	
Opioids	43	9.3	18	4.3	61	6.9	
Methamphetamine	16	3.4	81	19.5	97	11	

Variable	MET Study (N=464) N	MET Study (N=464) %	MI Study (N=422) N	MI Study (N=422) %	Total N=886) N	Total N=886) %	χ^2 or F
Other	94	20.3	5	1.2	99	11.3	
Age (Mean, sd)	34.8	10.2	32.8	10	33.8	10.2	8.01**
Years of education (Mean, sd)	12.6	2.1	12.2	1.9	12.4	2	9.45**
Days of primary substance use in past 30 (Mean, sd)	9.8	8.5	8.7	9.5	9.3	9.0	3.19
ASI composite scores (Mean, sd)							
Medical	0.23	0.32	0.27	0.35	0.25	0.33	3.92*
Employment	0.65	0.28	0.72	0.28	0.68	0.28	11.83*
Alcohol	0.22	0.23	0.21	0.24	0.22	0.24	0.61
Drug	0.15	0.12	0.12	0.12	0.13	0.12	15.52**
Legal	0.11	0.18	0.19	0.21	0.15	0.2	29.25**
Family	0.2	0.23	0.19	0.23	0.19	0.23	0.64
Psychiatric	0.21	0.22	0.28	0.24	0.24	0.23	18.56**
SIP-R (Mean, sd)	25.0	13.1	20.4	13.8	22.8	13.6	25.76**

*$p < 0.05$

**$p < 0.01$

Table 2

Inter-item, Inter-subscale, and Total score correlations clustered by Subscale †

	TOT	PHY	Item 2	Item 10	Item 12	SOC	Item 3	Item 11	Item 17	INTRA	Item 1	Item 4	Item 15	INTER	Item 13	Item 14	Item 16	IMP	Item 5	Item 6
PHY	.89**																			
Item 2	.73**	.61**																		
Item 10	.66**	.64**	.53**																	
Item 12	.74**	.68**	.57**	.61**																
SOC	.92**	.78**	.68**	.61**	.69**															
Item 3	.78**	.72**	.69**	.52**	.60**	.67**														
Item 11	.77**	.71**	.57**	.59**	.64**	.80**	.64**													
Item 17	.77**	.66**	.56**	.52**	.60**	.78**	.62**	.79**												
INTRA	.91**	.76**	.69**	.60**	.64**	.78**	.75**	.67**	.66**											
Item 1	.76**	.67**	.63**	.53**	.55**	.67**	.67**	.58**	.56**	.80**										
Item 4	.78**	.68**	.62**	.53**	.56**	.70**	.70**	.59**	.57**	.79**	.78**									
Item 15	.81**	.70**	.60**	.57**	.62**	.72**	.65**	.62**	.66**	.71**	.67**	.67**								
INTER	.89**	.73**	.59**	.58**	.67**	.77**	.66**	.68**	.70**	.78**	.64**	.67**	.77**							
Item 13	.73**	.63**	.51**	.52**	.57**	.67**	.58**	.60**	.62**	.69**	.56**	.59**	.65**	.73**						
Item 14	.74**	.62**	.52**	.49**	.56**	.65**	.56**	.58**	.60**	.66**	.53**	.57**	.67**	.77**	.71**					
Item 16	.78**	.69**	.55**	.54**	.66**	.71**	.62**	.63**	.65**	.74**	.62**	.63**	.73**	.71**	.63**	.68**				
IMP	.84**	.69**	.63**	.51**	.60**	.73**	.72**	.62**	.63**	.71**	.62**	.64**	.63**	.67**	.56**	.60**	.61**			
Item 5	.73**	.64**	.58**	.47**	.55**	.67**	.67**	.55**	.57**	.65**	.58**	.59**	.57**	.61**	.52**	.55**	.55**	.70**		
Item 6	.76**	.64**	.59**	.48**	.54**	.69**	.68**	.58**	.60**	.68**	.60**	.63**	.61**	.63**	.53**	.57**	.59**	.73**	.73**	
Item 7	.56**	.48**	.44**	.35**	.43**	.52**	.49**	.45**	.45**	.48**	.42**	.43**	.44**	.47**	.39**	.42**	.43**	.56**	.51**	.54**

** $p<0.01$

† Corresponding item was removed from calculation of score

TOT = Total Score; PHY = Physical; SOC = Social; INTRA = Intrapersonal; INTER = Interpersonal; IMP = Impulse Control

Table 3

Correlation of SIP-R with Other Measures at Baseline

	Physical	Social	Intra-personal	Inter-personal	Impulse control	Total score
ASI medical	.20**	.12**	.16**	.14**	.09*	.16**
ASI employment	.07*	.08*	.04	.08*	.06	.07*
ASI alcohol	.25**	.25**	.33**	.25**	.23**	.29**
ASI drug	.41**	.43**	.41**	.42**	.46**	.48**
ASI legal	−.01	−.01	−.03	.03	.03	<.01
ASI family/social	.28**	.30**	.32**	.33**	.28**	.34**
ASI psychiatric	.32**	.28**	.38**	.36**	.28**	.37**
Days of primary drug use during past 28	.09*	.11**	.06	.04	.03	.07*
HRBS Sex Risk	.16**	.14**	.11**	.13**	.15**	.16**
HRBS Drug Risk	.01	−.02	<.01	<.01	.02	< .01
URICA – readiness	.49**	.54**	.65**	.56**	.47**	.61**
SDSS primary drug dependence severity †	.45**	.51**	.46**	.46**	.48**	.54**
DSM primary drug dependence criteria †	.40**	.48**	.41**	.43**	.43**	.49**

* $p < 0.05$

** $p < 0.01$

† MET Study only (N=464)

Table 4

SIP-R Total Score Differences

	SIP-R Total Score			
Variable	**Mean**	**sd**	**F**	**p**
Gender			17.91	<.001
Male	21.4	13.9		
Female	25.4	12.7		
Race/Ethnicity			1.61	ns
Caucasian	22.7	13.5		
African Am	23.7	13.4		
Hispanic	22.7	15.5		
Multiracial	22.4	13.2		
Other	15.0	14.9		
Primary drug			51.86	<.001
Alcohol	20.1	13.0		
Cocaine	30.1	11.4		
Marijuana	12.4	10.7		
Opioids	29.2	12.2		
Methamphetamine	27.6	11.3		
Other	30.4	11.5		
Legally mandated			190.61	<.001
No	28.1	11.7		
Yes	16.5	13.0		