



Construct and Predictive Validity of Composite Measures of Motivation to Change derived from the URICA

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I. INTRODUCTION

Motivation to change is considered an important component of treatment readiness and response among patients with addictive disorders. This process is thought to play a key role in substance abuse treatment, from recognizing the need for change, seeking treatment, responding to treatment and sustaining changes in behavior following treatment. A better understanding of how to best measure motivation to change and how motivation relates to successful behavior change among both drug and alcohol abusers would broaden our understanding of the role of motivation in the treatment of addictions.

II. METHODS

Two multi-site, randomized clinical trials involving comparisons of motivational interventions with standard care were conducted in the National Institute on Drug Abuse Clinical Trials Network (CTN). Patients with primary drug dependence and primary alcohol dependence entering outpatient substance abuse treatment participated in either a three-session Motivational Enhancement Therapy (MET) study (n=431) or a one-session Motivational Interviewing (MI) study (n=423). The construct and predictive validity of two composite measures of motivation to change derived from the University of Rhode Island Change Assessment (URICA): Readiness to Change (RTC) and Committed Action (CA) were evaluated. Motivation at baseline was examined as a potential moderator of treatment outcome. Motivation at 4 weeks was also examined as a potential mediator of treatment outcome at 12 weeks.

III. MEASURES

• Motivation to Change: The University of Rhode Island Change Assessment Scale (URICA), a 32-item self-report inventory, measures patient motivation. The URICA has four subscales corresponding to the stages of change from the Transtheoretical model of behavior change: Precontemplation, Contemplation, Action and Maintenance. The URICA was administered at baseline and four weeks after completing the single session of MI or three sessions of MET. Two composite measures of motivation were examined: Readiness to Change (RTC) and Committed Action (CA). RTC is calculated by subtracting the Precontemplation subscale score from the sum of the Contemplation, Action and Maintenance subscales (Project MATCH Research Group, 1997). CA is calculated by subtracting the Contemplation subscale score from the Action subscale score (Pantalon et al, 2002).

• Substance Use and Treatment Retention: Self-reports of substance use were collected via a substance use calendar using the timeline follow-back procedures and verified using biological measures. Treatment retention data were 3 months following completion of the study protocol and were based on self-report and verified using client records.

IV. DATA ANALYSIS

Confirmatory factor analysis was used to evaluate the a priori four factor structure URICA across patient population using procedures defined by Byrne (2001).

The potential moderating effect of RTC and CA on treatment outcomes was examined using procedures defined by Aiken & West (1991). Unstandardized beta coefficients, 95% confidence intervals and p values are reported for interaction effects in the baseline models. The change in F statistic, degrees of and p value are reported for subsequent models that assess the potential linear, curvilinear and main effects.

The potential mediating effect of RTC and CA on treatment outcomes was evaluated using procedures defined by Kraemer et al (2002). Unstandardized beta coefficients and 95% confidence intervals are reported

V. RESULTS

- The a priori factor structure of the URICA was confirmed among patients with primary drug and primary alcohol use. The factor structure was not invariant across groups. Differences were identified in items 11 and 15 of the Precontemplation subscale of the URICA.
- RTC was significantly associated with fewer days of drug use among patients with primary drug use and lower treatment retention among patients with primary alcohol use. CA was not significantly associated with treatment outcomes.
- Neither RTC nor CA at baseline were found to moderate treatment outcomes.
- Neither RTC nor CA at 4 weeks were found to mediate treatment outcomes.

CONFIRMATORY FACTOR ANALYSIS

	χ^2	DF	χ^2/DF	CFI	IFI	GFI	RMSEA
Drug	834	397	2.1	.94	.94	.90	.05
ETOH	893	397	2.3	.92	.92	.86	.06
Free Model	1728	794	2.2	.93	.93	.88	.04
Constrained	1777	822	2.2	.93	.93	.88	.04

PREDICTIVE VALIDITY

	Alcohol		Drugs	
	Readiness to Change	Committed Action	Readiness to Change	Committed Action
% Days Substance Use	.02	-.09	-.15**	.05
% Days in Treatment	-.18**	-.01	-.09	.03

TEST OF MEDIATION

	Step	χ^2	DF	$\Delta \chi^2$	ΔDF	p
Free Model	A	1728	794	50	28	< .01
Constrained		1777	822			
Precontemplation	B	1750	801	22	7	< .01
Precontemplation		1734	799	6	5	NS
Contemplation	C	1749	807	21	13	NS
Action	D	1757	814	29	20	NS
Maintenance	E	1761	827	6	6	NS
Variances	F	1769	825	41	31	NS
Covariances	G	1780	831	52	37	NS

TEST OF MODERATION

	ALCOHOL			
	Readiness to Change		Committed Action	
	% Days in Tx	% Days Used	% Days in Tx	% Days Used
Interaction*	.06 (-.41, .53)	.80	-.01 (-.25, .22)	.91
Linear**	.82 (3, 288)	.49	.87 (3, 244)	.46
Curvilinear**	1.2 (2, 288)	.31	1.3 (2, 244)	.28
Main Effect**	3.2 (4, 288)	.02	.69 (4, 244)	.6
			.63 (3, 289)	.60
			1.34 (3, 245)	.25
	DRUGS			
	Readiness to Change		Committed Action	
	% Days in Tx	% Days Used	% Days in Tx	% Days Used
Interaction*	-.27 (-.81, .27)	.32	.08 (-.27, .42)	.66
Linear	.60 (3, 383)	.61	1.9 (3, 304)	1.4
Curvilinear	.40 (2, 383)	.67	2.7 (2, 304)	.07
Main Effect	1.3 (4, 383)	.27	3.0 (4, 304)	.02
			.58 (4, 384)	.68
			1.0 (4, 305)	.40

VI. CONCLUSIONS

The construct validity of the URICA was confirmed separately in a large sample of drug and alcohol-dependent subjects. Among primary alcohol and drug users, neither RTC nor CA were found to moderate or mediate treatment outcomes in either trial. Increased motivation to change, as measured by the composite scores of motivation derived from the URICA, does not appear to influence treatment outcome.

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