What is Motivation for Change?

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Abstract

Motivation for change is a much-discussed construct in addiction treatment, for which there are many measures, definitions, and conceptions. As part of a larger clinical trial, multiple measures of motivation for change were obtained at intake for 234 adult clients seeking treatment for substance use disorders. Included were measures of readiness, pros and cons of use, self-efficacy, change goals, and decisional balance. A factor analysis (BMDP 4M) was performed using principal factor analysis for initial factor extraction. To allow for the possibility of inter-correlated variables, oblique rotation was used in this analysis (although orthogonal rotation yielded nearly identical results). Four factors emerged representing Readiness (high Taking Steps and high Problem Recognition on SOCRATES), Decisional Balance (SEDU and manipulandum), Change Goals (WIWFT), and Self-Efficacy as a fourth factor with no other measures loading on it. These four factors accounted for 98.6% of the variance among the measures across the clients.

Rationale

Client motivation for change is often discussed as if it were a single attribute, varying in intensity. Yet motivation is measured in highly variable ways, sometimes considered to be interchangeable. Are these various assessment methods simply different ways of tapping a single underlying dimension? To address this question, we administered multiple measures of motivation simultaneously, to clients entering treatment for drug dependence.

Measures of Motivation

1. Readiness for Change. The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), with three factor subscales: (a) Problem Recognition, (b) Taking Steps, and (c) Ambivalence.
2. Pros and Cons. The Self-Evaluation of Drug Use (SEDU). Self-ratings of benefit vs. cost balance on 15 dimensions potentially affected by drug use.
3. Self-Efficacy. Self-assessment of ability to reduce or abstain from drug use (How I See My Drug Use).
4. Goals. A survey (What I Want from Treatment) of goals that clients may wish to achieve in treatment.
5. Decisional Balance. A physical manipulandum allowing the client to represent the overall positive versus negative effects of drugs in the client's life. The client sets a balance bar, and then the angle of deflection is read from a protractor scale on the back of the instrument.

Procedures

As part of a clinical trial of Motivational Interviewing in Drug Abuse Services (MIDAS), 234 adult clients were enrolled and completed baseline measures of motivation for change. Outcome data were obtained via the Form 90 interview and urine drug tests at 3, 6, 9, and 12 months after randomization. Data for 22 of these clients were excluded because of untruthfulness in reporting their drug use outcomes (i.e., n=18 where urine drug tests contradicted self-report of abstinence), or because of incomplete intake data (n=4), leaving a sample of 212 used for analyses.

Results

Participants

The 212 participants were, on average 33 years of age, with 12 years of education and median annual family income of $6,500.   Women comprised 47% of the sample, and in self-designated ethnicity 53% were Hispanic, 33% Anglo, 6% African-American, 2% Native American, and 6% unspecified. The most common presenting drug problems were crack (31%), heroin (25%), and cocaine (23%).

Motivational Factors

Four factors emerged representing:
I. Readiness (high Taking Steps and Problem Recognition)
II. Decisional Balance (SEDU and manipulandum)
III. Change Goals (WIWFT), and
IV. Self-Efficacy as a fourth factor with no other measures loading on it. These four factors accounted for 98.6% of the variance among the measures across the clients. The factor loadings were:

	I	II	III	IV
SOC Taking Steps	**.70**	.10	-.03	-.05
SOC Recognition	**.61**	-.21	.18	.06
SEDU Total	.03	**.78**	-.17	.16
Change Goals	.17	-.12	**.50**	.00
Self-Efficacy	-.02	.01	.04	**.55**
Manipulandum	-.07	**.43**	.26	-.09
SOC Ambivalence	-.03	.07	.21	.09
% added variance	54.4	23.4	11.7	9.1

Intercorrelations among the motivation measures were quite modest. The only r value over .40 was between SOCRATES Taking Steps and Problem Recognition subscales (r = .46). Correlations among the four factors were likewise modest (highest r = -.39 between I and II).

Predicting Drug Use Outcomes

If motivational measures are valid, they might be expected to predict behavior change. Here we used the four factors to predict percent days abstinent (PDA) from illicit drugs across one year of follow-up. This required completed assessment interviews at 3, 6, 9, and 12 months, reducing the analyzed sample to N = 161. Multiple regression analyses (MRA) revealed that motivational measures did not predict baseline drug use. However, the model did reliably account for variance in treatment outcome PDA (R^2 = .06 for motivation measures alone, .17 when baseline drug use was included as a predictor). In both cases, only Factor III (endorsing *fewer* change goals on *What I Want From Treatment*; β = -.23) and Factor IV (higher self-efficacy; β = .19) uniquely predicted higher PDA. Factor I (β = .17; higher problem recognition) and II (β = -.15; decisional balance) were modestly related to higher PDA.

The decisional balance factor was comprised of two measures, which as it turns out loaded in opposite directions. On the SEDU, low scores reflect judgments that, across various life dimensions, drug use is having a generally negative effect (β = -.10). On the manipulandum, however, higher scores reflect an aggregate judgment that drug use is, on the whole, a "bad thing" for the client (β = -.21). Neither of these measures, however, accounted for unique variance above that predicted by baseline PDA.

Does Motivational Interviewing Matter?

In this study, clients were randomly assigned to receive or not receive a motivational interview (MI). We expected that baseline motivation measures might be stronger predictors of outcome PDA among clients who did not receive MI. That is, MI would disrupt the relationship between baseline motivation and outcome PDA. In fact, we found the opposite. Among clients given MI (N = 71), the MRA yielded R^2 = .17. Factors III (β = -.41) and IV (β = .32) again carried most of the variance, but Factor I now also contributed significantly (β = .24). Among clients not given MI, however, baseline motivation measures failed to predict outcome PDA (N = 90; R^2 = .04), and no factor stood out as a predictor.

Conclusions

! Client motivation for change does not appear to be a unitary construct. There was little convergence among different motivational measures.

! Motivational measures at baseline reliably predicted drug use outcomes among clients who had received MI in addition to treatment as usual, *but not* among controls receiving only treatment as usual. This suggests that baseline motivations for change may be mobilized by MI.

! As usual, self-efficacy predicted behavior change (within the MI group)

! Howevr, having *fewer* life change goals predicted higher PDA, suggesting that the more numerous the needs and desires of the client, the less change occurs in drug use.

! Baseline readiness for change modestly predicted outcome PDA, but only in the group receiving MI.

! Decisional balance measures did not predict drug use outcomes, and two different measures showed conceptually opposite relationships to PDA.