



Short communication

## Therapeutic communities for drug addicts: Prediction of long-term outcomes

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### Abstract

The study, conducted among 167 heroin addicts from three therapeutic communities (TCs) in Israel, examined their drug use 15 months after their departure from the community and the contribution of sociodemographic characteristics, time in community, psychopathology, self-esteem, and locus of control to successful outcome. The findings show that about half the clients were clean at follow-up, that over 90% of those who completed the program were clean, and that the longer the client stayed in the TC, the more likely he or she was to be clean later. Drug use at follow-up was positively associated with prior criminal activity and negatively associated with living with a partner before entering the TC. In addition, high self-esteem and an independent locus of control (not believing that one's life was controlled by powerful others) were also associated with being clean at follow-up.

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### 1. Introduction

In recent years, the therapeutic community (TC) has become a widespread treatment alternative for drug addicts. TCs have been widely studied with emphasis on their effectiveness. While studies have consistently reported decline in drug use and criminal behavior alongside increased prosocial behavior, such as employment among TC

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residents (e.g., Carroll & McGinley, 2000; De Leon, Andrews, Wexler, Jaffe, & Rosenthal, 1979), less is known about the factors that contribute to the TC's effectiveness.

The aims of the present study are (a) to examine the outcomes of clients in three TCs in Israel and (b) to examine possible predictors of the outcomes using a multivariate model that includes information on retention and length of stay in care, sociodemographic characteristics, psychiatric symptoms, and the personality features of locus of control and self-esteem.

## 2. Method

### 2.1. Sample and procedure

The sample consisted of 167 TC clients from three TCs in Israel. All the participants were addicted to heroin. Eighty-four percent of the participants were male. Ages ranged from 20 to 45 years ( $M=31.5$ ,  $S.D.=5.2$ ). Length of stay in the TC ranged from 1 to 100 weeks ( $M=36.1$ ,  $S.D.=32.2$ ). Three quarters (76.6%) of the participants had dropped out of treatment before completion of the 13-month program.

Data were collected in three phases: sociodemographic features were gathered at entrance to the TC; psychiatric symptomatology, locus of control, and self-esteem were monitored before leaving the TC; and outcome data were gathered via telephone interviews, conducted on the average of 15 months ( $S.D.=4.8$ ) after the client had left the TC. The follow-up data were validated by a reliable informant who knew the participant. In case of discrepancy, the client was deemed not to be drug free.

### 2.2. Variables

#### 2.2.1. Dependent variable

*Drug use*: participants were asked whether they were clean or not at the time of the follow-up interview.

#### 2.2.2. Independent variables

*Sociodemographic characteristics*: over 100 items were included, concerning family background, education, employment, criminal history, patterns of drug use, and previous detoxification attempts.

*Retention*: length of stay in the community and dropping out.

*Psychopathology* was measured by the Brief Symptom Inventory (Derogatis, 1977).

*Locus of control* (Levenson, 1981): this scale assesses three factors: *internality*: reflecting the belief that one controls one's life, *powerful others*: reflecting the belief that one's life is controlled by powerful others, and *chance*: reflecting the belief that one's life is controlled by chance and luck.

*Self-esteem* was measured by the Rosenberg's (1965) scale.

### 3. Results and discussion

#### 3.1. Outcome measures at follow-up

Half (49.7%) of the participants were clean at follow-up. This rate is similar to that found among Swiss heroin addicts (Uchtenhagen & Zimmer-Hofler, 1987), but higher than that found in most other studies of TC outcomes after a similar amount of time (Carroll & McGinley, 2000). The relatively high success rate can be attributed either to the fact that the TC clients in this study were a preselected group, or because the current sample consisted of heroin addicts while other studies included persons addicted to crack.

#### 3.2. Associations between sociodemographic characteristics and drug use at follow-up

Only two sociodemographic features were associated with drug use at follow-up; accordingly, clients who lived with a partner when they entered the TC were more likely to be clean than clients who lived alone (30% vs. 15%,  $\chi^2=4.96$ ;  $df=1$ ,  $P<.05$ ), and clients who had engaged in theft prior to entry were less likely to be clean than those who had not (16% vs. 38%,  $\chi^2=9.82$ ;  $df=1$ ,  $P<.05$ ).

#### 3.3. Association between retention and time in TC and drug use at follow-up

- (A) Of those who had completed the program, 94.9% were clean, as compared with 35.9% of those who had dropped out ( $\chi^2=41.53$ ,  $df=3$ ,  $P<.001$ ).
- (B) Participants who were clean had been in the TC in a longer period ( $M=12.34$ ,  $S.D.=7.69$  months) than those who were not clean [ $M=4.56$ ,  $S.D.=4.92$  months;  $t(165)=7.84$ ,  $P<.001$ ].
- (C) Once a client had stayed in the TC for about a half year, the longer he or she stayed thereafter, the more likely he or she was to be clean at follow-up (see Fig. 1).

#### 3.4. Associations between psychological symptomatology and personality characteristics and drug use at follow-up

As seen in Table 1, clients who used drugs at follow-up reported higher levels of obsessive–compulsive and psychotic symptoms than those who were clean. Clients who were clean at follow-up were less inclined than those who were not to believe that their lives were governed by powerful others or by chance, and to have higher self-esteem.

#### 3.5. Multivariate model

The stepwise discriminant model employed 3 of the 15 predictive variables we provided (see Table 2). Together, the 3 variables classified 76% of the participants correctly. Results revealed that clients who stayed longer in the TC, who were less inclined to perceive their

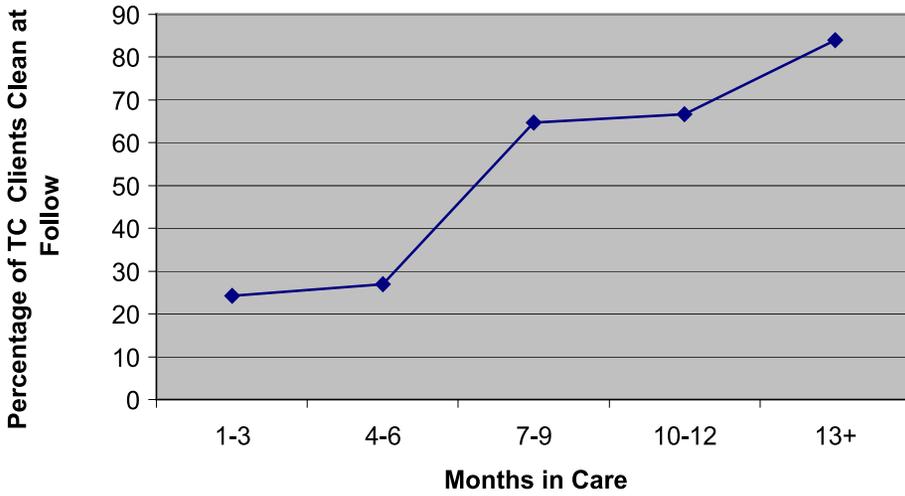


Fig. 1. Probability of staying clean as a function of length in care.

Table 1

Means and standard deviations for psychiatric symptoms, locus of control, and self-esteem at exit for clean and unclean participants

	Exit		<i>t</i>
	Clean <i>M</i> (S.D.)	Unclean <i>M</i> (S.D.)	
<i>BSI</i>			
General measure	1.30 (0.49)	1.42 (0.59)	− 1.31
Somatization	0.89 (0.61)	0.93 (0.69)	− 0.37
Obsessive–compulsive	1.55 (0.58)	1.79 (0.72)	− 2.06*
Interpersonal sensitivity	1.45 (0.59)	1.46 (0.72)	− 0.64
Depression	1.25 (0.61)	1.44 (0.66)	− 1.69
Anxiety	1.73 (0.56)	1.83 (0.72)	− 0.86
Hostility	1.34 (0.7)	1.56 (0.90)	− 1.62
Phobic anxiety	1.28 (0.51)	1.31 (0.71)	− 0.29
Paranoid ideation	1.44 (0.61)	1.55 (0.67)	− 0.99
Psychoticism	1.16 (0.58)	1.43 (0.64)	− 2.54*
<i>Locus of control</i>			
Chance	3.83 (0.56)	3.49 (0.65)	2.90**
Powerful others	3.95 (0.55)	3.38 (0.81)	4.34***
Internality	3.66 (0.49)	3.72 (0.45)	− 0.62
<i>Self-esteem</i>			
Self-esteem	3.11 (0.40)	2.82 (0.46)	3.90***

\* =  $p < 0.05$ .

\*\* =  $p < 0.01$ .

\*\*\* =  $p < 0.001$ .

Table 2  
Discriminant model

Predictor variable	Standardized canonical coefficients	Eigenvalue	Canonical correlation	Wilks' $\lambda$	Significance
Length of stay in the community	0.79	0.59	0.61	0.63	$P < .001$
Powerful others	0.54				
Chance	0.37				

lives as governed by powerful others, and who viewed themselves as having more control over their lives, were more likely to be clean at follow-up.

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