

# Substance Use in Young Adults With Schizophrenic Disorders

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## Abstract

Use of nonprescribed mood altering substances is pervasive and problematic in young adults with serious mental illnesses in community care. Fifty-eight percent of young adult clients with clearly defined schizophrenia or schizophrenia-related disorders participating in a long-term community treatment study were rated by staff or themselves as using alcohol, cannabis, or other street drugs several times a week or more. We interviewed in depth a random sample of these "significant users" to obtain their perspective on their frequencies, patterns, histories, contributing factors to, and effects of substance use and their related treatment experiences. Results revealed these clients' substance use to be of long duration and deeply entrenched, with current use often involving multiple substances including both street drugs and substances of "everyday life" (e.g., caffeine, nicotine). Clients reported compelling reasons for use including anxiety reduction, relief of boredom, and a means for social contact. Staff and clients clearly view substance use quite differently, with the latter focusing at least as much on consequences of symptom relief as symptom exacerbation. Treatment implications are discussed.

The use of nonprescribed mood-altering substances is a major unanticipated problem in the community care of young adults with serious mental illnesses (e.g., Schwartz and Goldfinger 1981; Pepper and Ryglewicz 1984; Bergman and Harris 1985; Bachrach 1986; Group for the Advancement of Psychiatry 1986; Ridgely et al. 1986). The com-

munity as treatment arena allows easy access to drugs such as alcohol and marijuana during a developmental period when recreational use of these substances is often substantial. While it is unclear whether young adults with serious mental illnesses use substances more often than demographically similar nonmentally ill persons, many reports suggest that substances have a range of negative effects on the care and course of disorder of seriously mentally ill persons. Problems cited include diagnostic complexity (Freed 1975; Tsuang et al. 1982), symptom onset or exacerbation (Janowsky and Davis 1976; Richard et al. 1985), more frequent hospitalizations (Safer 1987), poorer psychosocial functioning (Pepper and Ryglewicz 1984), interference with treatment (Hall et al. 1979), and overutilization or underutilization of services (Richardson et al. 1985).

Despite widespread discussion of issues surrounding substance use among these young adults, much of the literature is anecdotal and data are often vague or contradictory. Actual occurrence and extent of use is obscured by differing definitions of the patient populations, the substances used, and the terms "use" and "abuse" (Hasin et al. 1985). Additional complexity comes from the suggestions of some researchers that substance use may represent a form of self-medication which brings some relief from symptoms (Hall et al. 1979) and which may allow an identity more acceptable than one of "mentally ill" (Lamb 1982). Thus, treatment-relevant

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research needs to inquire about the potential adaptive functions of substances as well as their disruptive or disorganizing effects.

We report findings of an exploratory investigation of substance use among young adults with clearly defined schizophrenia or schizophrenia-related disorders. We implemented this study in the context of an in-progress 12-year prospective longitudinal investigation of community treatment of young adults with schizophrenic disorders (Test et al. 1985). Our major aims were to determine what proportion of our young adult schizophrenic sample were substance users, and to obtain the patients' perspectives on a variety of factors related to their patterns, history, reasons for, and consequences of use. We believed further information about the patient experience would increase the salience of treatment recommendations. Our findings are generalizable to other community-treated patients with clearly defined schizophrenic disorders who share the demographic characteristics of our subjects.

## Methods

**Subjects.** Subjects for the study were those patients ( $n = 82$ ) who had been randomly assigned to the Training in Community Living (TCL) model as part of an in-progress long-term study of community treatment which began in 1978. Criteria for admission to the long-term study were age 18–30; residency in Dane County, Wisconsin; diagnosis of schizophrenia or schizoaffective disorder by Research Diagnostic Criteria (Spitzer et al. 1978) or *DSM-III* schizotypal personality disorder (American Psychiatric

Association 1980); and less than 12 months of total prior time in psychiatric or penal institutions. Persons with mental retardation, organic brain syndrome, or a primary diagnosis of alcoholism were excluded.

At the time of this substance study (summer 1986), these patients had been in TCL, an intensive, comprehensive "model" community support program, for from 6 months to 8½ years (average = 5.46 years). Details about the TCL program and the design of the long-term study can be found in Test et al. (1985).

**Procedure.** The substance study consisted of two parts: a determination of the extent of substance use among the study patients, and an in-depth interview with a sample of those patients identified as "significant users."

For the first part, we examined ratings made by both the patients' case managers and by the patients themselves of the typical frequency of the patients' substance use over the past 6 months on a 5-point scale (i.e., "never," "almost never," "occasionally," "several times a week," and "daily") for the categories of alcohol, cannabis, and "other street drugs." The latter category included all nonprescription stimulants, depressants, hallucinogens, narcotics, and solvents/inhalants. The case managers, all highly experienced professionals, were the persons on the TCL treatment team who had primary responsibility for their patients' ongoing assessment and program implementation. They knew their patients well because they saw them often (i.e., weekly or biweekly) across a number of years (Brekke and Test 1987). The case managers made ratings on 72 of the 82 patients assigned to the

TCL program; the others were not rated because 5 were deceased, 1 was hospitalized, and 4 were not currently in treatment. These ratings were compared with self-report ratings of substance use which were available for 63 of these patients using the same scale and referencing approximately the same time period. The self-report ratings had been collected through interviews of patients by research staff as part of the long-term study evaluation.

For the second part of the study, we defined a "significant user" as a patient who was rated either by staff or by self as typically using either alcohol or cannabis or some other street drug several times a week or daily during the past 6 months. Forty-two patients (29 males, 13 females), or 58.33 percent of the TCL group, met this criteria. From this group of "significant users" we drew a sex-stratified random sample of 29 patients (17 males, 12 females) to participate in an intensive interview designed to gather details about their past and current substance use. We oversampled the females to provide a large enough number to explore substance use among members of this sex.

The interview was semistructured and for the most part required no ratings by the interviewers, since the items inquired about patient behaviors or perceptions. The interviewers had no relationship to the clinical treatment program. The patients provided informed consent to be interviewed and were guaranteed confidentiality of their disclosures.

## Results

**Frequency of Substance Use Among TCL Patients.** Table 1 presents the results of staff and patient

ratings. Alcohol was clearly the substance used the most frequently and by the most patients, followed by cannabis; all other street drugs combined were used by fewer patients and less frequently. According to staff ratings, the proportion of patients involved in substantial use of substances was

high. Staff rated 58.7 percent of the males and 50.0 percent of the females as using at least one of the substances several times a week or more, and about 25.0 percent of the patients were perceived as being daily users of alcohol or cannabis.

Table 1 shows that the patient self-report ratings suggested less

frequent substance use than the staff ratings. Polychoric correlations (Olsson 1979) between staff and patient ratings for alcohol, cannabis, and other drug use were 0.74, 0.89, and 0.52 (all significant at  $p \leq 0.001$ ). The data thus indicate a clear positive relationship between staff and patient ratings,

**Table 1. Typical frequency (%) of substance use over past 6 months among patients according to staff and patient ratings**

	Staff ratings			Patient self-report		
	Males (n = 46)	Females (n = 26)	Total (n = 72)	Males (n = 43)	Females (n = 20)	Total (n = 63)
<b>Alcohol</b>						
1 never	13.0	19.2	15.3	11.6	20.0	14.3
2 almost never	17.4	15.4	16.7	20.9	30.0	23.8
3 occasionally	26.1	15.4	22.2	34.9	35.0	34.9
4 several times/week	17.4	26.9	20.8	20.9	10.0	17.5
5 daily	26.1	23.1	25.0	11.6	5.0	9.5
<b>Cannabis</b>						
1 never	37.0	53.8	43.1	41.9	73.7	51.6
2 almost never	6.5	7.7	6.9	18.6	10.5	16.1
3 occasionally	15.2	26.9	19.4	18.6	10.5	16.1
4 several times/week	13.0	0.0	8.3	7.0	5.3	6.4
5 daily	28.3	11.5	22.2	14.0	0.0	9.7
<b>Other Street Drugs</b>						
1 never	51.1	65.4	56.3	79.1	89.5	82.3
2 almost never	17.8	19.2	18.3	16.3	10.5	14.5
3 occasionally	24.4	11.5	19.7	4.7	0.0	3.2
4 several times/week	0.0	3.8	1.4	0.0	0.0	0.0
5 daily	6.7	0.0	4.2	0.0	0.0	0.0
<b>At least 1 substance several times/week or more</b>						
1 = no	41.3	50.0	44.4	55.8	78.9	62.9
2 = yes	58.7	50.0	55.6	44.2	21.1	37.1

<sup>1</sup>One female only provided information about alcohol use.

<sup>2</sup>One male was not rated by staff on use of other drugs.

but show that staff viewed substance use as a more frequent occurrence than the patients reported. While actual use is unknown, some studies suggest that young adult patients tend to deny or underreport their substance use (Safer 1987). Future studies are advised to use biological measures where possible to assess use.

The only significant gender difference in table 1 was that staff rated a greater proportion of the males as using cannabis several times a week or more ( $\chi^2 = 5.60$ ,  $df = 1$ ,  $p \leq 0.05$ ).

**Characteristics of the "Significant User" Interview Sample.** Characteristics of the interview sample appear in table 2. Age and diagnostic characteristics are influenced by the admission criteria for the long-term study. It can be noted in table 2 that at the time of the substance study the majority of the patients were living in independent settings in the community and that somewhat over half were involved in some kind of instrumental role, if sheltered employment and homemaking are included. The patients received varying degrees of assistance from the treatment program staff in establishing and maintaining these residential and instrumental situations (Test et al. 1985).

To provide perspective on how the significant user interview sample might differ from TCL patients who used substances less frequently, we compared, within gender, the table 2 data of the significant user interview group with data from those TCL patients whose typical pattern of use of all of the substances during the past 6 months had been rated by staff as either "never," "almost never," or "occasional" (17 males, 13 females). The interview sample males were

highly similar to the occasional/never user males on all but two of the table 2 variables. The occasional/never users revealed significantly higher educational attainment at study entry than the significant user males ( $\chi^2 = 8.04$ ,  $df = 2$ ,  $p \leq 0.05$ ). Specifically, in contrast with the table 2 male data, 64.7 percent of the occasional/never user males had some college or more, 29.4 percent had at least a high school diploma, and 5.9 percent had less than a high school education. Second, fewer of the occasional/never user males were living alone at the time of the substance study ( $\chi^2 = 10.33$ ,  $df = 2$ ,  $p \leq 0.01$ ). In contrast to the significant user interview sample males (table 2), only 23.5 percent of the occasional/never users were living alone, 41.2 percent were living with unrelated persons, and 35.3 percent with related persons. For the females, the only variable approaching a significant difference was diagnosis. If this variable is collapsed into schizophrenia versus other, a greater proportion of the significant user interview females (see table 2) were diagnosed as having schizophrenia when compared to the occasional/never user females ( $\chi^2 = 3.74$ ,  $df = 1$ ,  $p \leq 0.05$ ). Diagnoses of the latter group were 46.2 percent schizophrenia, 46.2 percent schizoaffective, and 7.7 percent schizotypal personality disorder.

The remaining data in this article pertain to the "significant user" interview group of 29 who represent a sex-stratified random sample of the 42 community treatment patients who were "significant" substance users. Findings are thus generalizable to these significant users, not to the entire treatment group. All of the findings reported below were tested for gender differences but none were significant

using an  $\alpha$  level of 0.05. We caution against concluding that no gender differences exist on these substance-related variables, however, since our statistical power was low due to small sample size.

**Current Substance Use Among Interview Sample Patients.** Patients were asked which substances they had used in the past 3 months (a standard list was read), how often they had used each substance, and the amount they typically used. Results appear in table 3.

Table 3 reveals that the average frequency and amount of use of alcohol and marijuana was quite high, particularly if some degree of underreporting is taking place (Safer 1987). Use of "other street drugs" in the past 3 months was less common, with 34.5 percent using at least one such substance. More specifically, six (20.7 percent) had used stimulants within the past 3 months (cocaine in three cases), four (13.8 percent) had taken sedative/hypnotics (nonprescribed valium, sleeping pills, or painkillers); three (10.3 percent) had used hallucinogens (most often LSD); and two (6.9 percent), narcotics (opium or percodan). About 69 percent of patients had used at least two substances (usually alcohol and cannabis), together or individually, over the past 3 months, and over 25 percent had used three or more. Two of the patients in the interview sample said they had not used any substances during the past 3 months.

Table 3 also demonstrates that use of other common mood-altering substances (caffeine, nicotine) was pervasive and frequent.

**Context and Reasons for Use of Most Typical Substance.** Of the 27 patients who had used substances

**Table 2. Characteristics of the "significant user" interview sample**

	Men (n = 17)		Women (n = 12)	
Mean (SD) age at time of substance study	29.88	( 4.09)	29.25	( 4.29)
Marital status <sup>1</sup>				
Single	17	(100.0%)	7	(58.3%)
Separated/divorced	0		3	(25.0%)
Married	0		2	(16.7%)
Diagnosis				
Schizophrenia	13	(76.5%)	10	(83.3%)
Schizoaffective	3	(17.6%)	2	(16.7%)
Schizotypal personality disorder	1	( 5.9%)	0	
Mean (SD) age at TCL study admission	23.71	( 3.04)	24.25	( 3.79)
Mean (SD) age at 1st mental health contact	19.65	( 6.00)	20.42	( 4.14)
Had previous inpatient admission before TCL study entry	13	(76.5%)	10	(83.3%)
Mean (SD) age at 1st inpatient admission, if admitted	21.08	( 2.93)	22.50	( 4.30)
Mean (SD) duration in days of all inpatient admissions before study entry, if admitted	42.92	(45.55)	75.40	(71.36)
Educational level at TCL study entry				
Some college or more	3	(17.6%)	2	(16.7%)
H.S. diploma	10	(58.8%)	9	(75.0%)
Less than H.S. grad.	4	(23.5%)	1	( 8.3%)
Living situation—Current				
Independent	15	(88.2%)	10	(83.3%)
Sheltered	2	(11.8%)	1	( 8.3%)
Family	0		1	( 8.3%)
Institution	0		0	
With whom live <sup>1</sup>				
Alone	12	(70.6%)	3	(25.0%)
Unrelated persons	5	(29.4%)	4	(33.3%)
Related persons, including significant others	0		5	(41.7%)
Instrumental role—Current				
Market job	5	(29.4%)	3	(25.0%)
Homemaker (caring for partner/or children)	0		3	(25.0%)
Sheltered job	4	(23.5%)	2	(16.7%)
None	8	(47.1%)	4	(33.3%)

Note —TCL = Training In Community Living.

<sup>1</sup>Gender difference significant at  $p < 0.01$ .

**Table 3. Substance use during the past 3 months among interview sample patients**

Substance		No. and % of subjects using at all—past 3 months (males = 17; females = 12)		Frequency of use among those who used at all (days/wk)		Amount among those who used at all (amount/day of use)	
		No.	%	Mean	SD	Mean	SD
Alcohol	Males	15	88.2	3.9	2.7	4.5 drinks	1.8
	Females	10	83.3	4.2	2.3	3.8 drinks	2.7
	Total	25	86.2	4.0	2.5	4.2 drinks	2.2
Cannabis	Males	14	82.4	3.3	2.7	1.7 joints <sup>1</sup>	0.8
	Females	8	66.7	3.0	2.4	1.3 joints <sup>2</sup>	0.8
	Total	22	75.9	3.2	2.5	1.6 joints <sup>3</sup>	0.8
Other street drugs	Males	5	29.4	Sporadic		Varies	
	Females	5	41.7				
	Total	10	34.5				
Coffee	Males	16	94.1	6.4	1.4	5.9 cups	3.7
	Females	9	75.0	5.8	1.8	6.1 cups	7.4
	Total	25	86.2	6.2	1.5	6.0 cups	5.2
Pop	Males	8	47.1	5.5	2.8	2.4 cans	1.8
	Females	6	50.0	6.5	0.8	2.3 cans	1.6
	Total	14	48.3	5.9	2.2	2.4 cans	1.6
Cigarettes	Males	16	94.1	7.0	0	1.6 packs	0.7
	Females	12	100.0	7.0	0	1.5 packs	0.7
	Total	28	96.6	7.0	0	1.5 packs	0.7
Prescribed psychotropics	Males	16	94.1	Not assessed		Not assessed	
	Females	12	100.0				
	Total	28	96.6				

<sup>1</sup> n = 13<sup>2</sup> n = 6.<sup>3</sup> n = 19.

over the last 3 months, 17 reported that the substance they used most typically was alcohol; 7, cannabis; 2, alcohol and cannabis together; and 1, cocaine. One-third of patients usually used their most typical substance alone; the other two-thirds with friends, acquaintances, or family members. By far the most frequent place of use was in the patient's or someone else's residence, followed by use in a bar or outdoors. Patients most often obtained alcohol from a bar or store, and cannabis and other drugs

from friends or acquaintances. Seventy percent usually paid money for the substance; the others exchanged services or got it for nothing.

Subjects were asked through free response and inspection of a list to provide their reasons for use of their most typical substance and to indicate which reason was "most significant." Results appear in table 4.

**Change in Symptoms After Use of Most Typical Substance.** In an

attempt to understand the extent to which substance use may serve an adaptive function of self-medication as opposed to symptom exacerbation (cf. Hall et al. 1979), we asked patients which of a list of eight symptoms (see table 5) they had experienced during the past 3 months and, for each, whether use of their most typical substance generally made the symptom worse, better, or caused no change. Since the number of patients who reported experiencing any particular one of the various symptoms was

**Table 4. Reasons for use of most typical substance**

Reasons	No. & % who mentioned this reason (n = 27)	No. & % who said this was most significant reason (n = 26) <sup>1</sup>
To relieve boredom	17 (63.0%)	5 (19.2%)
Something to do with friends	12 (44.4%)	5 (19.2%)
To feel less anxious, more relaxed	12 (44.4%)	4 (15.4%)
To make it easier to sleep	11 (40.7%)	0 ( 0.0%)
To make side effects more tolerable	5 (18.5%)	2 ( 7.7%)
To relieve pain	4 (14.8%)	1 ( 3.8%)
To feel good about oneself	4 (14.8%)	1 ( 3.8%)
To have more energy	3 (11.1%)	1 ( 3.8%)
To decrease hallucinations	2 ( 7.4%)	2 ( 7.7%)
To stay awake	2 ( 7.4%)	0 ( 0.0%)
To feel normal	2 ( 7.4%)	0 ( 0.0%)
To feel better physically	2 ( 7.4%)	0 ( 0.0%)
To feel more likable	1 ( 3.7%)	0 ( 0.0%)
Other (scattered reasons)	20 (74.1%)	5 (19.2%)

<sup>1</sup>Most significant reason for 1 patient is unknown. Percents in this column are based on n = 26.

small, findings about patient perceptions of symptom change after substance use must be regarded as suggestive only.

Table 5 indicates that patients who reported experiencing the symptoms listed usually did per-

ceive some effect of substance use on their symptoms. For each particular symptom, substance use produced relief for some patients and exacerbation for others. For five of the eight symptoms (anxiety, sleep problems, depression, voices,

**Table 5. Patient reports of symptoms experienced and their changes after use of "most typical" substance (n = 27)**

Symptom/state	No. & % who experienced it in past 3 mo.	After substance use, symptom		
		Gets worse	Stays the same	Gets better
Feel anxious	16 (59.3%)	2	6	8
Trouble sleeping	14 (51.9%)	3	2	9
Depressed/blue	13 (48.1%)	2	3	8
Feel paranoid	10 (37.0%)	5	2	2 <sup>1</sup>
Hear voices	8 (29.6%)	1	1	6
Medication side effects	8 (29.6%)	2	2	4
Feel bad physically	8 (29.6%)	3	4	1
Feel alienated	6 (22.2%)	2	2	2

<sup>1</sup>Change after substance use was not reported by 1 patient who experienced this symptom

and side effects), the number of patients who reported positive changes was greater than the number who reported negative consequences.

The above data and more direct questioning suggested that for study subjects the relationship between substance use and symptoms differed not only across patients but, for many patients, across experiences and/or symptoms and/or substances. Anecdotal reports indicated that many patients were aware of such variation and attempted to self-manage their substance selection and amount in order to gain the most advantageous benefit-to-cost ratio of consequences.

**Feelings Before and After Last Use of Most Typical Substance.**

After assisting patients to recall the time and place of the most recent use of their most typical substance, we asked them to select from a list of 17 feelings those which reflected how they felt before their substance use, and how they felt after use.

The feelings most commonly reported before substance use were "anxious or nervous" by 48.1 percent; "friendly" by 40.7 percent; and "bored" and "energetic," each by 33.3 percent. These are consistent with the most often cited reasons for use—that is, to reduce anxiety, have something to do with friends, relieve boredom, and make it easier to sleep.

The most commonly reported feelings after substance use were "happy" and "satisfied," each by 33.3 percent; and "friendly" and "excited," each by 29.6 percent. There was much variation among patients in how feelings changed after substance use. About 44.4 percent showed a decrease, but 25.9

percent showed an increase in the number of negative feelings reported; 40.7 percent showed an increase, but 37.0 percent showed a decrease in the number of positive feelings reported.

**Negative Consequences of Use of Most Typical Substance.** The 27 patients who had used substances within the past 3 months had at some time in their lives experienced a range of negative consequences as a result of use of their most typical substance. The percentages of patients responding affirmatively to each of a presented list of negative consequences are as follows: less money/money problems, 48.1 percent; problems keeping appointments, 40.7 percent; legal problems, 25.9 percent; hospitalizations, 25.9 percent; worsened physical problems, 18.5 percent; accident prone/car accidents, 14.8 percent; break-up of a significant relationship, 14.8 percent; loss of a job, 14.8 percent; children taken away, 0.

**Is Substance Use a "Problem"?**  
**Staff and Patient Perceptions.** Interview sample patients were asked, "Do you consider your use of substances to be a problem for you?" For the 28 patients who answered this question, 14 saw their use as a problem and 14 did not. Among the former group, 12 said alcohol was a problem (a "mild" problem for 8 and a "significant" problem for 4) and 6 said cannabis was a problem ("mild" for 1; "significant" for 5).

The case managers of these 28 patients also rated whether they thought the patient's substance use was a problem. Staff viewed use as a problem for 26 of the 28 patients. When staff and patient views on "problem" versus "no problem" were compared, the eyes of the

beholder clearly made a difference ( $\chi^2 = 10.59$ ,  $df = 1$ ,  $p \leq 0.001$ ).

**History of Substance Use.** We asked the patients at what age they had first used alcohol, cannabis, and other street drugs, and then asked them to trace their use of each substance across a developmentally anchored timeline and to indicate significant increases or decreases in their amount of use. This part of the interview was less structured and, while the results are helpful in providing a general sense of patients' history of use, we have less confidence in the reliability of the specific ages cited (see table 6) which designate ages when amount of use changed.

The most striking findings of table 6 are the several indicators that significant use of alcohol and cannabis began early and has been a longstanding practice among a majority of our respondents. Meanwhile, a complete history of use of other street drugs was not obtained from most patients, but patients provided evidence of at least experimentation with many other nonprescribed drugs. Further data supporting steady and deeply entrenched patterns of substance use were obtained when we inquired about patients' attempts to abstain from one or more of their most often used substances. Of the 28 patients giving information, 24 (85.7 percent) said they had made at least one attempt to abstain. Among these 24 patients, 12 reported no or only short-lived success, 7 reported partial success, and 5 said they were fully successful in stopping use of a drug from the time of attempted abstinence to the present. (The latter were not necessarily drug free, however, as most patients used multiple drugs.)

A family history of heavy substance use was present in some cases. Specifically, five patients (17.2 percent) reported that one or both of their parents had received treatment for substance abuse; four additional patients (13.8 percent) said their siblings had received treatment.

**TCL Interventions and Their Perceived Usefulness.** We showed patients a list of interventions which the TCL program uses for substance problems and asked patients which, if any, they had received, and which they believed to have been helpful. Results appear in table 7.

It can be seen that "money management" (i.e., direct assistance in budgeting, often consisting of daily or weekly, rather than monthly, allocation of funds) was seen as useful by the largest majority of recipients. Education from staff about alcohol and drugs and their effects on the given patient was also reported as helpful by a majority of the patients involved in this intervention.

## Discussion

This study provides clear evidence that substance use is an issue that clinicians in community care programs cannot ignore, as it may affect a majority of young adult patients with schizophrenic disorders. While numerous other reports have noted this problem among young adults with serious mental illnesses, none have focused on such a clearly defined group of persons with schizophrenic disorders. We found a 6-month incidence rate of 58.3 percent "significant users" according to either staff or self-report among a study sample that excluded patients with a primary



**Table 6. History of use of substances (total n's on which means or percents are based are given in parentheses)**

	Alcohol	Cannabis
Ever used	100.0% (n = 29)	100.0% (n = 29)
Mean age at first use	14.5 (n = 29)	16.9 (n = 25)
<b>Regular use</b>		
Ever used regularly <sup>1</sup>	100.0% (n = 29)	100.0% (n = 23)
Mean age at first regular use	16.7 (n = 28)	18.1 (n = 23)
Used regularly at least 1 year before age 18	67.9% (n = 28)	47.8% (n = 23)
Used regularly at least 1 year after age 18	100.0% (n = 27)	91.3% (n = 23)
Used regularly continuously from first use to present	77.8% (n = 27)	56.5% (n = 23)
<b>Heavy use</b>		
Ever used heavily <sup>2</sup>	86.2% (n = 29)	86.4% (n = 22)
Mean age at first heavy use	18.3 (n = 24)	18.4 (n = 19)
Used heavily at least 1 year before age 18 (as a % of heavy users)	37.5% (n = 24)	47.4% (n = 19)
Used heavily at least 1 year after age 18 (as a % of heavy users)	100.0% (n = 23)	89.5% (n = 19)
Used daily for at least 2 months	75.0% (n = 28)	71.4% (n = 21)
Received treatment for substance problems	41.4% (n = 29)	19.2% (n = 26)
Received treatment for substance problems more than once	24.1% (n = 29)	0.0%

<sup>1</sup>Regular use = weekly or almost weekly for at least 3 consecutive months.

<sup>2</sup>Heavy use = for alcohol, use for at least 3 months of any amount 4 times a week or more or of an intoxicating amount 2-3 times a week, for cannabis, use for at least 3 months of any amount 3 times a week or more.

diagnosis of alcoholism. Since we defined "significant use" by frequency of use alone, not all of these persons are necessarily "abusers." But staff rated the use of 92.9 per-

cent of a random sample of these "significant users" as "problematic," meaning that it resulted in substantial interference with the patient's social or psychological

functioning. Additionally, unlike other studies that have emphasized substance use to be primarily a problem of young male patients (Schwartz and Goldfinger 1981; Hasin et al. 1985; Safer 1987), our data suggest this is an issue for young women as well.

Patients in the current sample were being treated in one of the most assertive and progressive community support programs in the country (Stein and Test 1985). It is not clear whether or how findings would change in similar patients being treated in less intensive programs or in different kinds of models. In general, one might expect even greater use among patients with fewer social supports and daily activities and more untreated psychotic symptoms. It is possible, however, that aspects of our program, such as the large number of patients living in inde-

**Table 7. Patient perception of the usefulness of those TCL treatment interventions for substance use which they had received**

Intervention	No. who received (of n = 29)	Helpful	Not helpful	Missing information re: helpfulness
1:1's talking about use	22	10	9	3
Money management	12	9	1	2
Education re: alcohol/drugs	9	5	2	2
Detoxification admission	7	3	4	0
Drug & alcohol group	7	2	5	0
Drug/alcohol counseling (outside of TCL)	3	2	1	0
Inpatient treatment	0	0	0	0

Note.—TCL = Training in Community Living.

pendent rather than in family or sheltered settings, might allow greater access to the various substances (Test et al. 1985). Studies of substance use among clearly defined patients being treated in different models are needed.

While, with a few exceptions (e.g., Bergman and Harris 1985), most previous studies have investigated the issues of substance use and mental illness from a staff perspective, the current study emphasized the patient's vantage point. When our findings are juxtaposed with staff-centered reports, it becomes clear that staff and patients view substance use in very different ways. Staff more often see the "symptom exacerbation" and/or "amotivational" consequences of substance use, whereas from patients' reports, the "self-medication" functions and struggles for adaptation through substance use appear more significant. Indeed, while the major reasons for substance use cited by patients may or may not differ from reasons nonmentally ill persons provide (e.g., to reduce boredom, relieve anxiety, and have something to do with friends), it is undeniable that these factors have great salience for persons who have little daily structure, are usually very uncomfortable with symptoms or side effects, and have serious problems with social relationships. As one good-looking young man with 10 years of psychotic symptoms said of himself and his friends, "We can't get a date, so we go smoke some pot."

Clinicians must pay attention to the fact that, while symptom exacerbation is undoubtedly a very real consequence of substance use at some times, patients may be more likely to associate substances with symptom relief. "I use substances to regulate my system," said one

patient; and another, referring to her almost daily marijuana use, said, "It's the only way I have to relax."

Two limitations of the current study point to critical areas for future research. The first is that we did not compare substance use in our young adult patient sample with that in a sample of nonmentally ill young adults. Thus, we do not know if the incidence, patterns, or reasons cited for substance use differ between persons with schizophrenia and other young adults. While it is tempting to relate our findings to surveys of broader samples (e.g., O'Donnell et al. 1976; Miller et al. 1983; Robins et al. 1984), we could find no community studies with the necessary sampling and definitional similarities to make meaningful comparisons (Hasin et al. 1985). A study comparing substance use in schizophrenic persons and a demographically similar sample of nonmentally ill persons in the same community and using the same interview tool would greatly enhance understanding of both the similarities and uniquenesses of substance use in persons with dual problems.

A second limitation is that our small sample size did not allow a separate and comparative analysis of the various drugs of choice. Indeed, there is good reason to believe that the circumstances and reasons for use, and the psychiatric repercussions, of alcohol, cannabis, and the stimulants, depressants, and hallucinogens subsumed under the category of "other street drugs" vary substantially in both mentally ill and nonmentally ill persons (e.g., Bergman and Harris 1985; Grinspoon and Bakalar 1985). A comprehensive study of the different effects of each drug on persons with schizophrenia would

inform providers who must carefully individualize treatment in ways that we emphasize below.

**Treatment Implications.** The following comments about treatment emerge from the findings of this study and from insights gained through our clinical work.

1. A detailed, individualized assessment of current and past substance use should be made with all young adults with schizophrenic disorders who are treated in community programs. Then, over time and in the context of a significant clinical relationship, attempts should be made to discover "what leads to what"—in other words, what positive and negative consequences of what substances or combinations of substances in what situations have been observed by staff or experienced by the patient.

2. Treatment should focus specifically on substance use which is problematic for the individual patient—that is, on those substances, or amounts, or patterns of use which lead to negative consequences. Staff may need to work with patients over a long period to help them to understand what the negative consequences are in ways that are meaningful to them, and at the same time to assist them in finding more adaptive ways of meeting the needs that substances now appear to serve (e.g., relief of boredom, anxiety reduction, socialization, stress or symptom management).

3. A variety of specific approaches to substance problems need to be developed, with outcomes assessed empirically. From the current study, it appears that both external controls, such as "money management," and efforts to facilitate internal control might be useful. Since a number of

patients already appear to experiment with "self-management" to avoid harmful substances and to find those which are more benign, staff might work collaboratively with patients to see if they can become more effective self-managers, at least with those patients for whom a goal of abstinence seems currently unrealistic. Biological measures of substance use such as breath and urine samples might be incorporated into such programs to provide patients with feedback about their current use levels.

4. Such efforts to help patients change substance use habits need to be implemented over the long run (i.e., over a period of years rather than weeks or months), since these patterns are often deeply entrenched and positively reinforcing. Both patients and staff need many opportunities to "start over" in this work.

5. All the while, young adults who are seriously disabled by schizophrenia need to be involved in comprehensive, ongoing community support programs, with abstinence from substance use not made a precondition for either admission or continuation. There appears little hope that these persons would be able to cease substance use on their own and, further, such preconditions would prevent many seriously mentally ill people from receiving available treatment. On the more positive side, data from this study indicate that even though many of these persons are using substances to a significant degree, they are, with intensive community support, able to live in the community and participate in meaningful work activities.

Substance use among young people with schizophrenia is clearly a problem to contend with in this era

of community care. Future reports from our long-term study will return to this issue.

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