

A Clinical Examination of Chronic LSD Use in the Community

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IN THE PAST DECADE there has been rising concern among physicians, lawmakers, clergy and others about the extra-medical use of LSD. Descriptions of heightened creativity due to frequent LSD use at one extreme contrast with warnings of personality deterioration at the other. A multitude of publications have dealt with LSD metabolism, physiology, mechanism of action, behavioral effects, uses in psychotherapy and, more and more, with its adverse effects.¹⁻¹¹ Most of the evidence so far has been from acute studies or from patients with clinical illness related to LSD. We were interested in studying the long-term effects on behavior and mental function in a population that has not had a frank psychiatric disturbance related to LSD. We also wanted to learn more about the actual characteristics of the users themselves, and about the sociological matrix in which this LSD use takes place. We were interested, then, in filling in some of the gaps.

PROCEDURE

For this preliminary report we decided to examine 20 users of LSD. We obtained our sample by an advertisement in a local underground newspaper stating simply that we were interested in interviewing anyone who had used LSD at any time. We also relied on word-of-mouth advertising after contacting and explaining our project to several of the leaders of the local underground community. Those interested in the project then contacted us. Those who had used LSD less than eight times or for less than six months and those who had past psychiatric contact were eliminated.

A total of 50 LSD users volunteered for the study. Of these, about ten were eliminated by the above criteria and the remainder were recontacted so we could complete our sample of twenty subjects. About one-half of those actually eligible for the study came in and took part. Some had moved, while others became suspicious of some type of retribution from authorities; still others seemed to have lost motivation. Volunteers were paid 15 dollars for the four to five hours required by our study, and we feel the financial inducement was a major factor in obtaining from one-third to one-half of our subjects.

The subjects were seen by a psychiatrist and then by a psychologist. The psychiatric examination consisted of a 60-90-minute semi-structured interview. The historical data collected included prior hallucinogen use; the circumstances of LSD use including reasons, frequency, sources, dosage, forms; other drug use; social group composition; bad trips; recurrent hallucinatory phenomena and the benefits and damage from LSD use. An attempt was made to judge the subject's total adjustment and current functioning including

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psychiatric diagnosis, if any. Psychological testing consisted of the MMPI, Bender-Gestalt, Proverbs, Sentence Completion Tests and selected TAT cards.

FINDINGS

Age, Sex and Race

Our sample of 20 included 14 males and six females. It was an all-white group whose ages ranged from 16 to 31 with an average of 22.3 years. Nine were single and 11 married. Seven were students, nine were employed and four were unemployed. The parental families were largely middle class corresponding to social class two and three on the Hollingshead-Redlich scale.

Hallucinogen Usage Prior to LSD

All the volunteers were asked about their usage of other hallucinogens. Without exception, *all* had used other hallucinogens before trying LSD (see Table 1). One-third had used their first hallucinogen in the past two years

Table 1.—Hallucinogen Use Before LSD

Year of First Usage	Number Using Hallucinogen for First Time	Year of First Usage	Number Using Hallucinogen for First Time
1967	0	1962	2
1966	6	1961	1
1965	2	1960	1
1964	2	1959	3
1963	2	1957	1

while 40 per cent had used it in the past three years. Conversely, two-thirds of our sample had over two years of hallucinogen usage and 60 per cent had over three years of usage. The first hallucinogen used in 17 cases was marijuana; peyote was first twice and morning glory seeds once.

We attempted to determine the conscious reasons for hallucinogen use and devised five categories in which replies could be grouped (see Table 2). Subjects were encouraged to give at least three reasons for using the drug and to rank their reasons. By and large there was no difficulty in advancing a main

Table 2.—Reasons for Hallucinogen Usage (Other Than LSD)

Reason	1st Choice	2nd Choice	3rd Choice	4th Choice
Sensory curiosity	15	1	1	1
Insight	0	4	3	0
Escape	1	2	1	0
Persuasion by others	2	3	1	0
Enhancement of personal relations	1	1	1	1
Other	1	1	1	0
	N = 20	N = 12	N = 8	N = 2

reason but it was increasingly difficult to rank other reasons for usage. Thus, curiosity about sensory effects was given as the primary reason for other hallucinogen usage by 15 subjects, persuasion by others was given twice, escape once and enhancement of personal relations once. It is interesting to note that although insight was not the primary reason advanced for this first non-LSD hallucinogen usage, insight was a second or third choice in seven of the 20 volunteers.

In our study, curiosity about sensory effects was the most important factor leading to hallucinogen use, followed by desire for some kind of insight into character, persuasion by others and escape.

LSD Usage

In every case, LSD usage was preceded by the usage of some other hallucinogen. The length of LSD usage can be seen in Table 3, from which it is evident that 75 per cent of our sample used LSD for the first time in the past three years. This may be contrasted with the use of other hallucinogens in which only 40 per cent of our subjects used them (usually marijuana) for the first time in the past three years.

Table 3.—Year of First LSD Usage

Year of 1st Usage	Number Using LSD for First Time	Year of 1st Usage	Number Using LSD for First Time
1967	6	1964	1
1966	4	1963	3
1965	5	1962	1

In assessing the reasons for LSD usage, we decided to differentiate reasons for initial and continuing usage. The results of this procedure are summarized in Tables 4 and 5.

Some interesting points emerge in a comparison of the reasons for the use of non-LSD hallucinogens with the use of LSD. We are struck by the importance of insight as a reason advanced for first usage of LSD. Seventeen of our 20 subjects ranked insight as either first or second in degree of importance

Table 4.—Reasons for First LSD Usage

Reason	1st Choice	2nd Choice	3rd Choice
Sensory curiosity	7	9	4
Insight	12	5	0
Escape	0	1	1
Persuasion by others	1	2	1
Enhancement of personal relations	0	0	1
Sexual enhancement	0	1	1
Other	0	0	1

Table 5.—Reasons for Continued LSD Usage

Reasons	1st Choice	2nd Choice	3rd Choice	4th Choice
Sensory Enhancement	9	6	4	0
Insight	7	6	2	0
Escape	2	2	2	0
Enhancement of personal relations	1	5	2	0
Sexual enhancement	0	0	2	2
Other	1	1	1	0

in their first usage of LSD. Simple curiosity about sensory changes is also important in the first use of LSD. In the non-LSD hallucinogen usage, the seeking of insight was not of primary importance. It appears that many LSD "first-timers" have "bought" the notion that there is a qualitative difference between LSD and other hallucinogens as well as a mere quantitative one. Sensory curiosity and desire for insight rank as the only factors of significance in prompting initial usage of LSD.

Reasons for continuing usage of LSD are not the same as for initial use. Desire for continued insight remains important but not quite so important a factor as for first usage. The enhancement of sensory experience is the main factor in continued usage. Increased awareness of and heightened sensitivity to music, colors, taste, etc., together with hallucinatory phenomena, fall within this category. Getting closer to others and escape from or alleviation of stress are also factors which play a part. Use of LSD to increase sexual pleasure is reported by only a few of our subjects and then only as a minor indication for the drug.

The number of "trips" taken varied greatly (see Table 6), the range being from eight to over 250 trips per person. The average number of trips taken was 37.9. If the two subjects taking the greatest number of trips and the two subjects taking the fewest trips are left out, the average becomes 24.3 trips per subject. In the first case, the 37.9 trips (average of all subjects) were taken in an average of 2.7 years. In the second case the 24.3 trips (middle 16 subjects), were taken in an average of 2.8 years.

We attempted to learn something about the amount and form of the dosage as well as sources of supply. LSD users spoke pseudoscientifically of "street mikes" (micrograms of LSD). Most stated they were sure that the dosages they obtained were two to four times more "dilute" than the "pure" chemical. They were all aware of a great variability in quality from batch to batch and some would only use the drug when a supply of "good" LSD ("unwatered"

Table 6.—Number of Trips

Number	0-20	21-40	41-60	61-80	81-100	100 plus
Subjects taking this number	12	5	0	1	1	1

Table 7.—Average LSD Dose ("Street Micrograms")

Dose	300 or Less	301-600	601-900	901-1200	1200 plus
Number	2	11	3	2	2

by amphetamine, lactose) was available in the city. The LSD seemed to come in the usual forms: aspirin tablets, sugar cubes, unknown tablets of various descriptions, impregnated pieces of cardboard, and variously colored capsules. The price per dose varied from about two to ten dollars with an average of four to five. Most of our subjects knew two or three people from whom they could be supplied, and several of them claimed to be sellers. The average dose was about 400-500 mikes (see Table 7). This was probably equivalent to approximately 100-150 $\mu\text{g.}$ of pure LSD. One of the subjects who claimed to have been a drug courier said he had on one occasion ingested over 40,000 $\mu\text{g.}$ of the drug when he had swallowed it to avoid having it found on his person as he was about to be stopped by a government agent. Within several hours the subject had developed a psychotic reaction with disorientation and hallucinations (visual and auditory) lasting for three days before remitting with no apparent prolonged consequences.

The frequency of LSD usage was quite variable in our sample. Questions relating to the most recent third of the usage period of two to four years revealed that 14 of our subjects were currently using LSD less frequently than in the past, and two had ceased use altogether (after 11 and 35 trips, respectively). Usage in four had remained fairly stable and in two subjects was increasing. These data are reported in Table 8.

The 14 subjects with decreasing usage had averaged 22.5 trips in contrast to the stable and increasing groups who averaged 76.8 and 67.5 trips respectively. The stable and decreasing groups averaged 700 and 680 street mikes every five or six weeks while the increasing group average was 1750 street mikes every five days. The use of LSD in groups of three to five people is

Table 8.—Usage Frequency

Usage Frequency	Increasing	Stable	Decreasing
Number in group	2	4	14
Periodicity of usage (current)	Every 5 days	Every 5 weeks	Every 6 weeks
Average dose	1750 $\mu\text{g.}$	700 $\mu\text{g.}$	680 $\mu\text{g.}$
Total number of trips	135	307	315
Mean number of trips per subject	67.5	76.8	22.5
Period of use (years)	2.5	3.5	2.5
Unpleasant trips	Both had "bad" trips	3 of 4 had "bad" trips	10 of 14 had "bad" trips
Recurrent trip phenomena	50%	25%	64%

common and there was a tendency for the decreasing use group to have more people present at the time of use than the other two groups.

Eleven subjects had recurrences of "trip phenomena" afterward. These included brief episodes of depersonalization, disorientation, visual and auditory hallucinations and illusions. Most recurrences took place within one month of the trip but some were as long as three months afterward. Most lasted from several minutes to several hours with the extremes being from a few seconds to two days. The latter recurrence was a full-blown repetition of the original trip occurring without further drug use several months later. The most common types of recurrence, however, were brief episodes of depersonalization, disorientation and the spontaneous appearance of color hazes or curtains. Some described peculiar, transient, tactile phenomena (itching skin) and brief episodes of recurrent anxiety, depression or paranoid thought, all of which had been present during the original trip. More bizarre recurrent visual hallucinations included the appearance of "devils faces." Such recurrences were extremely upsetting to some of the subjects and were one of the main factors responsible for their decreasing use of the drug.

Of our 20 subjects, 15 had unpleasant trips at some time. The word *unpleasant* is used to indicate that these were not the *bad* trips (generally temporary serious psychotic adverse reactions occurring during LSD use) commonly referred to, but trips running the gamut from those with mild unpleasant features (e.g., temporary anxiety or paranoid ideation) to those full-blown, terrifying, temporary psychotic episodes lasting usually a matter of hours. The bad trip then can be seen as a quantitative intensification of the usual trip phenomena rather than a qualitatively distinctive experience.

Most of our subjects emphasized that the mental set of the individual coming to the LSD experience was the most important determinant of whether the trip was good or bad. If the subject was relaxed, happy, and with friends in a secure setting, the trip would usually be a good one, but if there was depression, insecurity, the presence of untrusted strangers and fear of discovery, a bad experience would often result. There was often an attempt made to manipulate circumstances to insure the most favorable outcome. Music, suitable lighting, compatible companions, marijuana beforehand to relax, were all used. It was recognized that a non-tripping companion would be of inestimable help in the event of a "bummer" and frequently this avenue of protection would be used. If the tripper in trouble could not be "talked down," drugs, often chlorpromazine, were commonly available. One subject showed us an elaborate ring which he wore, flipped open the top and pointed to the 100 mg. chlorpromazine tablet within. Bad trips had been the cause of a few of our subjects' decreasing their usage of LSD. We may briefly categorize the types of unpleasant trip reactions reported to us as follows: anxiety, depression, panicky feelings and disorientation (experienced by 13 subjects, 65%); paranoid ideation (experienced by 7 subjects, 35%); and visual and auditory hallucinations of an unpleasant nature (experienced by 5 subjects, 20%). Again, these were symptoms occurring during *some* trips only, and the figures refer to the proportion of our sample which experienced the symptoms at one time or another.

Other Drug Use

At the time of the interview, all of the subjects used marijuana and four-fifths used amphetamines. Half had tried heroin or other narcotics but none were continuing to use them and none had become addicted. About two-thirds had experimented with hallucinogens other than LSD or marijuana.

During the LSD trip itself, 18 of 20 habitually used marijuana and eight had used amphetamine from time to time. According to our subjects the use of these ancillary agents during the trip served certain specific purposes. Marijuana was used at the beginning of the trip to relax and ensure a good response, during the trip to smooth it and to prolong it, and after the trip to smooth descent. Amphetamine was used during long trips to keep the subject awake.

Relationship with Parents

A common theme in this sample of subjects related to a background of seriously disturbed parent-child relationships. Most striking was the history of strongly negative feeling for one or both parents in 15 of the 20 subjects. Only eight subjects had a strongly positive feeling for one or both parents. There were six subjects who had a strongly negative feeling toward both parents but only three who had a similar positive feeling for both parents. Three-quarters of the entire sample had left home after chronic stressful relationships with parental figures.

Test Results

The MMPI, Bender-Gestalt, Sentence Completion, TAT and Proverbs tests were administered. In general, no consistent patterns of neurosis, psychosis or organicity were seen. The Bender-Gestalt drawings were of adequate form. The MMPI commonly showed elevation of the Ma and Pd scales and an emphasis on denial of psychiatric symptoms. The subjects were seen as aggressive, active individuals showing rebellious attitudes with accompanying anger and depression. There was little reporting of neurotic symptomatology or of defensive patterns but interpersonal difficulties were seen as were unusual patterns of ideation and preoccupations with ego identity. On Sentence Completion (and confirmed by other tests), the subjects tended to fall into two broad groups. One was made up of those "sold" on LSD, a group characterized by scorn for society and its values, denial of problems and falling within the "hippie" configuration. They tended toward a central position of "all is now fine." The other group were more "neurotic" in essence. They were more aware of their problems, of difficulty in communication, had depressive concerns and seemed to be using LSD as an escape or defense.

Diagnosis and Current Adjustment

It is difficult to be specific in terms of psychiatric diagnosis. No psychotic or organic illness was present and no evidence of a clear neurotic disorder could be discerned in any of our subjects. With only three could we be comfortable in not making any diagnosis (i.e., well); 17 of the 20 were classified as having

character or personality disorders, most commonly passive-aggressive personality. A small minority showed a basically schizoid adjustment.

The overall clinical impression based on appraisal of current functioning indicated that ten of the subjects were functioning poorly in terms of work and sexual adjustment, while seven of the subjects had a borderline adjustment. Three subjects functioned well. The subjects whose adjustment was judged poor had frequent job changes and were relatively ineffective in the work area. Their heterosexual and love relationships were accompanied by a good deal of anxiety and difficulty. They were the subjects who had most difficulty in interpersonal relationships. Often they had no definite goals. At the other extreme, three subjects were functioning quite satisfactorily in terms of their adjustment. Seven were between these two states of adjustment and so are called borderline.

An example of a well-functioning individual who did not receive a psychiatric diagnosis is S. J. He is a 26-year-old man who manages musical groups. His mother is a teacher and his father is an executive. The parents have been supportive of his interest in music and living as a leader of a hippie community. He is married and has a child, getting along well with his wife. He has been arrested for possession of marijuana, served a jail sentence and is presently facing another similar charge. He received a college degree in English and spends much of his time writing. He undertook his present commitment to cultural leadership in the underground community after an intense period of introspection in his early twenties. His examination as well as his psychological tests, shows emotional lability and an increased amount of energy with many rebellious and nonconforming attitudes.

An example of a poorly adjusted member of the group is a 20-year-old single female student who felt very uncertain about how she should act toward people. She had few friends and felt alienated because most relationships were hypercritical. Her self-esteem was low and she was depressed and ruminative about the fact that she was unable to establish a meaningful human relationship. She was quite childlike and dependent and felt that she was not worthwhile. She lived alone, worked part-time and was quite dependent on the use of drugs to protect her against feelings of low self-esteem and depression.

SUMMARY AND CONCLUSIONS

The 20 subjects in our study were paid volunteers who had taken LSD eight or more times outside a medical setting. They ranged in age from 16 to 31 with an average of 22 years. About half were married and half were employed full time. One-third were students and one-fifth were unemployed. Two-thirds were male. All were white and most were from a middle class background.

All had used other hallucinogens before LSD and all continued to use marijuana to the present. Curiosity about sensory effects was the principal reason advanced for this non-LSD hallucinogen usage. Half of the sample had experimented with narcotics in the past but none had become addicted and none had continued in their use. Most did occasionally continue to use amphetamines.

The period of LSD usage was six months to five years and the number of trips varied from eight to more than two hundred. The average subject had taken 38 trips and was utilizing LSD with decreasing frequency. Most felt initially that LSD would give them increased self-awareness and insight. However, with continued use, the enhancement of sensation became the most important aspect of its usage.

The "bad trip" is seen as a quantitative rather than a qualitative phenomenon with three quarters of our sample having experienced such a trip at least once. About one-half of our subjects also had recurrences of phenomena first experienced during trips from a few days to three months after they last took the drug. Bad trips and recurrences were reported as important factors in decreasing usage of the drug. All planned to continue in the use of marijuana.

Three-quarters of our subjects had a history of strikingly bad relations with one or both parents. This led to premature departure from the family home. Difficulty with authority seemed to be generalized from the home to the world and most of our subjects seemed to be reacting to what was perceived as a hostile, meaningless environment.

Most showed evidence of personality trait disturbance with passive-aggressive personality being the most common psychiatric diagnosis. There was no evidence of psychosis, neurosis or organicity on clinical or test grounds even though some neurotic elements, anxiety and depression, were commonly present. Our volunteers were a poorly adjusted group with only three functioning well. Half were getting along poorly in terms of job efficiency, sexual adjustment, interpersonal relationships and self-satisfaction. The presence of three relatively well adjusted LSD users who do not require a psychiatric diagnosis is of interest. It raises the question again of the relationship between individual and social pathology. Can a member of a socially deviant group within the larger culture be considered healthy even if he is free from symptoms?

The presence of long-standing personality disorders appeared to be very frequent, then, among chronic users of LSD. It must be noted that these disorders in every case apparently antedated the use of the drug and did not appear to be worse in two to three years of LSD use. The LSD constitutes a type of defensive maneuver in the attempt at homeostasis. The adjustment difficulties of our subjects also appear to be unrelated to the LSD. A control group of comparable age, social class, milieu and psychopathology without LSD use would be valuable. The picture presented is also complicated by the use of drugs other than LSD. The behavioral adjustment in terms of work, love and sense of fulfillment must reflect the personality and the milieu as well as drug use. Many subjects claimed increased self-knowledge, enhancement of artistic or creative faculties, improvement in work and in interpersonal relations. Clinically, however, these claims could not be substantiated although it is possible to argue that these subjects would have been *worse* if they had not used LSD. We certainly could come to no such conclusion and it is our impression that while the group shows no evidence of increasing personality or social disorganization due to the use of LSD, we have not demonstrated any evidence of significant benefit.

Three studies of chronic LSD users have been reported in 1968. The description of the subjects is similar to our own but each of the investigators refers to evidence of brain dysfunction. Our study did not disclose any soft or firm evidence of brain dysfunction. The disorientation, confusion and memory gaps described by Sidney Cohen¹² as being like a head injury from a punch were not noted in our examinations. The frequent belief in magic and the elimination of competitive ego games noted by David E. Smith¹³ were present in our subjects and appeared to antedate LSD use. Unlike Dr. Smith, however, we did not see any after effects of LSD, perhaps because none of our subjects had recently taken LSD. There was close agreement in the description of subjects between our study and that of Blacker¹⁴ but we did not notice the unusual facial muscle tone or difficulty in associative thinking that he did in LSD users. Blacker conducted psychiatric, cognitive, perceptual and EEG tests but did no conventional psychological testing. His findings are suggestive of minimal brain damage but he says the evidence remains inconclusive.

The intense interest, attraction and fear of LSD should not prevent LSD research, including studies of chronic use. A need and demand for information about LSD is still present despite a virtual ban on such research in the United States since 1966.¹⁵⁻¹⁸

We have reported only a portion of our findings in a preliminary study of the environment, the functioning and the personality of the acidhead. Further studies of perception and central nervous system functioning are indicated. The effects of chemically pure LSD may differ from the adulterated forms available in the community. We have noted the strong tendency to decreasing use among the chronic users despite frequent use for several years. This suggests that the social issue of LSD will decrease in importance.

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