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# THE USE OF LSD IN TIME-LIMITED PSYCHOTHERAPY

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Numerous investigators have reported impressive improvement rates when LSD has been used as an aid to ongoing psychotherapy, but absence of controls makes these findings difficult to evaluate. In the present study, 21 psychosomatic inpatients and 7 nonpsychotic psychiatric inpatients were randomly assigned to two psychotherapy groups, one of which received five LSD sessions and a second which received five placebo drug sessions during the course of psychotherapy. Patients in both groups were seen twice weekly over a period of 13 weeks for psychotherapy interviews in addition to the drug sessions. As measured by a number of self-report devices and clinical ratings there were no differential effects of treatment, as both groups improved to a modest extent. Twenty of the patients, equally divided between the LSD and the control groups, were followed up after 18 months. At this point the few differences found between the LSD and placebo group favored the latter. The placebo group was more emotionally stable, conscientious, and more socially precise than the LSD group according to self-report measures. There was a tendency for scores on both groups' self-report measures to regress to their pretreatment levels. According to clinical ratings, the gains in level of adjustment shown at post-treatment were maintained at the 18-month follow-up period regardless of the type of treatment received. The results and clinical impressions suggest that LSD is of minimal value as an adjunct in the treatment of marginally motivated and psychologically unsophisticated individuals.

The repeated and regular use of LSD sessions as an adjunct to traditional psychotherapy interviews has been termed psycholytic therapy. Typically, low doses of the drug are administered to aid in the resolution of conflict areas. It has been claimed that the drug reduces the patient's defensiveness and permits access to previously repressed or unconscious material. This model of treatment, originally developed by Sandison (13), was claimed to render accessible to treatment individuals who are usually refractory to conventional therapeutic approaches and to speed up the process of psychotherapy.

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Impressive improvement rates have been reported by a number of investigators who have used the psycholytic method for a wide variety of emotional disorders. Leuner (9, p. 104) reported on a group of 82 patients who "were extracted from the severest examples of chronic disorders and inability to work." An independent rating team who had evaluated these patients 2 to 8 years after psycholytic treatment found that 64 per cent were either recovered or greatly improved. Eisner and Cohen (5) treated 5 inpatients and 17 outpatients with diagnoses including neurotic depression, anxiety states, character disorders and borderline schizophrenia. Using rather stringent criteria of improvement, 73 per cent were rated as improved in follow-up periods of 6 to 17 months. Sandison and Whitelaw (12)

reported the results of psycholytic treatment on 94 patients, the majority of whom had failed to respond to conventional therapy. At follow-up periods ranging from 6 months to 5 years, 65 per cent were recovered or improved, while 35 per cent failed to derive significant benefit. Other investigators have provided favorable reports as to the efficacy of psycholytic therapy (4, 7).

Methodologically, these studies suffer from the failure to employ control groups. It is implied that because many of these patients did not improve from previous treatment, LSD was the crucial factor in their recovery. It is nevertheless possible that they would have improved from subsequent psychotherapy alone or recovered spontaneously. It is particularly difficult to evaluate the role which LSD plays in the treatment process. Since an average LSD session lasts from 8 to 12 hours, the therapist is making an unusual investment of time and attention. This degree of therapist involvement could certainly help the patient to feel that he is cared for in a special way and could be a more important determinant in contributing toward improvement than the action of the drug. Finally, studies in this area have been hampered by lack of stringent criteria for assessing improvement and failure to follow up patients at specified points in time.

One of the goals of the present study was to correct for some of the aforementioned shortcomings by employing a double blind experimental design and using a standard 18-month follow-up period to assess whether LSD is an effective adjunct in psychotherapy with psychosomatic and nonpsychotic psychiatric inpatients.

A word should be said about the nature of the patient sample used in this study. Because LSD had been claimed to be effective in temporarily circumventing the individual's usual defensive structure and allowing access to unconscious processes, the drug appeared to hold special promise in the treatment of patients who rely heavily upon repression and denial in dealing with psychological conflicts. Patients suffering from psychosomatic, psychophysiological and conversion reactions tend to use defenses which screen the motivational origins of their difficulties from conscious awareness. These patients are frequently resistant to psychotherapy since they prefer to attribute their difficulties to somatic causes. Ling and Buckman (10) reported a number of case studies in which they successfully used LSD to treat patients of this type. Thus, to determine whether LSD would be effective in treating individuals who ordinarly would not be considered promising prospects for intensive psychotherapy, a predominantly psychosomatic patient population was used.

## METHOD

### SUBJECTS

The subjects consisted of 28 patients admitted to Topeka Veterans' Administration Hospital. Of these, 21 were admitted to the psychosomatic service, which specialized in the diagnosis and treatment of psychophysiological, psychosomatic and conversion disorders. The most common physical complaints for patients in this group were headaches, stomach trouble, back pain, dizziness, and numbness in various areas of the body. In addition to their physical symptoms, these patients in most instances complained of chronic anxiety, tension and dissatisfaction with life. Patients were not considered for the program until they had undergone a thorough physical work-up and psychiatric evaluation. Only those patients whose physical symptoms were either psychogenic in origin or secondary to their emotional problems were selected.

An additional 7 patients were drawn from one of the psychiatric admitting services. These patients were referred by the psychiatrist who evaluated them as being able to benefit from psychotherapy. Patients were excluded from consideration if there was

any evidence of organic brain damage, mental deficiency or current thought disorder. Of the psychiatric patients, 5 were diagnosed as personality disorders, and 2 as schizophrenic reactions in remission.

If the patient was considered a suitable candidate for the study, the outline of the program was described to him. He was told that he would either receive LSD or another drug and that the conditions would be double blind. Whichever drug he received, it would remain the same throughout the five-session treatment series. Approximately half of the patients to whom the program was proposed refused to participate, usually because of their anxieties in regard to receiving LSD.

Patients were randomly assigned to either the LSD group or placebo group on a double blind basis. There was a total of 14 patients in the LSD group, of whom 11 were psychosomatic patients, and 14 in the placebo group, of whom 10 were psychosomatic patients. The mean age for the LSD group was 42.7 years as compared to 39.6 years for the placebo group. Both groups' mean educational attainment was at the high school graduate level. Six LSD patients and 7 placebo patients were married. Average time unemployed in the year preceding hospitalization was 7.9 months for the LSD group and 4.2 months for the placebo group.

### TREATMENT PROCEDURE

The treatment program was identical for both groups with the exception of the drug administered during the drug session. The duration of the program was 13 weeks. Throughout this period patients were seen twice a week for hourly psychotherapy sessions.

The general focus on therapy was to assist the patient in achieving greater insight and self-awareness, resolving maladaptive patterns of response and providing reinforcement for the patient's latent strengths and resources. Prior to the first drug session, one of the primary aims of the therapist was to work toward development of good rapport which hopefully would enable the patient to feel secure in exploring deep levels of his psyche during the drug experience.

Five drug therapy sessions were conducted. The first drug session was given in the fourth week of the psychotherapy course and subsequent sessions were given on a biweekly basis.

The LSD patients received 50 $\mu$g of LSD in their first drug session. In subsequent sessions the dosage was raised in increments of 50 $\mu$g. Thus, in the fifth and final session, the dosage was 250 $\mu$g. In three instances, there was a slight departure from this regimen. Two patients received 300 $\mu$g in their final session, and 1 patient terminated treatment after four sessions.

The placebo group received a combination of 25 mg of librium and 25 mg of ritalin in each of their drug sessions. One placebo patient had only four sessions. The identity of the drug being administered was masked in the following way. The placebo group received capsules containing librium and ritalin which were swallowed with a glass of water. The LSD group received identical looking capsules containing an inert substance, whereas the "water" contained the LSD.

The setting for the drug sessions was a private hospital room especially designed for this purpose, with homelike furnishings, pictures on the wall, etc. The therapist remained constantly in attendance with the patient for at least 7 hours. Afterward, a nurse was available to sit with the patient if he desired, while the therapist remained on call. When it appeared that LSD had been administered, the patient was usually encouraged to explore his inner experience by passively surrendering to the effects of the drug and confronting any material that came up. A variety of different types of music was selected by the therapist and played on the stereo phonograph in an attempt to enhance the depth and intensity of

the experience. In instances where it became obvious that the patient had received a placebo, the time would usually be spent in verbal interaction somewhat akin to a marathon psychotherapy interview.

One Ph.D. psychologist with several years of therapeutic experience treated 15 patients (8 LSD and 7 placebo patients). Eight psychology interns each treated 1 patient, and five psychiatric residents in their second year of training each treated 1 patient.

### TESTING PROCEDURE

Cartwright *et al.* (2) have pointed out that no one measure and no one score based on a single method appear to provide in themselves an adequate measure of effect of therapeutic change. The rationale guiding the selection of measures to evaluate patient improvement was to utilize a multiple criteria approach designed to sample a range of areas generally agreed upon as reflecting personality changes toward more optimal modes of adjustment and satisfaction in living. The MMPI, Cattell's Sixteen Personality Factor (16-PF) Questionnaire (3), Hilden Q-Sort (HQS) Decks 13 and 14 (8), and Philosophies of Human Nature (PHN) Scale (18) were administered to all subjects during the first week of the therapy program and at the conclusion of treatment 12 weeks later. The Rorschach and Thematic Apperception Test were also administered by a psychologist at the same points in time, and the impressions obtained therefrom formed part of the basis upon which he later rated the patient. Each patient was rated by two independent judges on the Wittenborn Psychiatric Scales (17) and the California Q-Set (1) before and after treatment. One judge was a psychologist who administered the objective and projective tests. The second judge was the therapist assigned to the case.

### PATIENT SELF-REPORT MEASURES

*1. MMPI.* The following variables were used to assess therapy outcome: L (Lie), F (Validity), K (Defensiveness), Hs (Hypochondriasis), D (Depression), Hy (Hysteria), Pd (Psychopathic Deviate), Mf (Femininity of Interest), Pa (Paranoia), Pt (Psychasthenia), Sc (Schizophrenia), Ma (Hypomania), Si (Social Introversion), and Es (Ego Strength).

*2. The 16-PF* is a factor-analytically derived questionnaire designed to measure the major dimensions of personality. Data are presented in sten scores with M = 5.5 and S.D. = 2.00. The following 16 primary bipolar dimensions were measured: A (Reserved and Detached *vs.* Outgoing and Warmhearted); B (Less Intelligent *vs.* More Intelligent); C (Lower Ego Strength *vs.* Emotionally Stable); E (Submissive *vs.* Assertive and Independent); F (Sober and Prudent *vs.* Happy-Go-Lucky and Impulsively Lively); G (Weaker Superego Strength *vs.* Stronger Superego Strength); H (Shy and Restrained *vs.* Venturesome and Socially Bold); I (Tough-Minded and Self-Reliant *vs.* Tender-Minded and Dependent); L (Trusting *vs.* Suspicious), M (Practical and Conventional *vs.* Imaginative, Wrapped Up in Inner Urgencies); N (Forthright *vs.* Shrewd and Calculating); O (Placid and Self-Assured *vs.* Apprehensive and Guilt-Prone); Q1 (Conservative *vs.* Experimenting and Free-Thinking); Q2 (Group-Dependent *vs.* Self-Sufficient); Q3 (Undisciplined Self-Conflict *vs.* High Self-Concept Control); Q4 (Relaxed and Tranquil *vs.* Tense and Frustrated).

*3. Decks 13 and 14 of the HQS* were used to measure self-acceptance. Each deck consisted of a series of 50 descriptive statements that were sorted by the patient into a forced-normal distribution from "most like him" to "least like him." Each deck was first sorted with the instruction to "describe yourself as you see yourself now" and afterward sorted on the basis of "your ideal, the person you would most like to be." The correlation between self and ideal sorts was taken as a measure of self-acceptance and self-satisfaction. Studies have demonstrated

that normals have higher self-ideal correlations than neurotics (14) and that correlations tend to increase with improvement in psychotherapy (11).

*4. The PHN* is a 96-question Likert-type scale that purports to measure a person's beliefs about the interpersonal aspects of human nature. High scores on the first four scales entitled Trustworthiness, Altruism, Strength of Will, and Independence indicate a positive conception of human nature on these dimensions. An additional two scales are entitled Complexity and Variability. Complexity assesses the extent to which people are seen as complex and hard to understand. Variability measures the extent to which people are seen as different from one another.

JUDGES' RATINGS

*1. The Wittenborn Psychiatric Rating Scales (WPRS)* are a procedure for recording the observed behavior of psychiatric patients and for describing them according to their current symptoms. The scales, which fall into nine clusters derived through factor analysis, provide for the assignment of numerical values to indicate the presence and degree of pathological symptoms in the patient. Changes in six of the scales labeled Acute Anxiety, Conversion Hysteria, Manic State, Depressed State, Paranoid Condition, and Phobic-Compulsive were used to assess outcome. The mean of the two judges' ratings was used for purposes of analysis.

*2. The California Q-Set (CQS)* consists of 100 statements which are intended to provide a comprehensive description of an individual's personality in contemporary psychodynamic terms. The personality description was obtained by having the rater sort the statements into nine categories from most to least salient, with a fixed number of statements assigned to each category so as to provide a forced-normal distribution. The patient sorts were correlated with a defining Q-Sort of the "optimally adjusted individual" based on the pooled judgments of nine psychologists. The resulting correlation was called, for purposes of this study, the California Adjustment Index, and is considered a measure of adaptability and level of personal integration. The mean of the judges' ratings was used as the dependent variable. The coefficient of inter-rater reliability ranged from +.57 at post-test to +.82 at 18-month follow-up.

18-MONTH FOLLOW-UP PROCEDURE

At 18 months, subjects repeated the same battery of tests they had taken at pre- and post-treatment, which included the MMPI, 16-PF, PHN, and HQS. In addition, they were given a standard interview to describe changes in major areas of their lives during the interim period.

Subjects were also independently rated by a psychologist and psychiatrist on the CQS. The psychologist was the same individual who had rated the subject at previous points in time, and was aware of the type of treatment the subject had received. The psychiatrist had had no prior contact with the subject and was not informed about whether the subject had previously received LSD or a placebo.

RESULTS

Data were analyzed by means of $t$ tests to assess whether there were any initial differences between the LSD and placebo groups on the 38 psychometric variables and 7 clinical judgment variables employed. The one significant difference which occurred on the Variability scale of the PHN was probably a chance effect. Thus the random assignment was successful in that the groups may be considered to have been equivalent at the beginning of treatment on the assessment measures.

In the evaluation of treatment outcome, analysis of covariance (6) was used with initial scores on the various measures serving as the covariate controls. Through this technique, adjustments were effected in the

terminal scores which compensated for any differences on the initial variables.

For economy and clarity of presentation, mean pre- and post-treatment self-report scores are presented only for the MMPI since it is the most widely used of the personality inventories. Inspection of Table 1 reveals that there were no significant differential effects. Similarly, there were no significant differences between groups on the 16-PF, PHN, and HQS. In other words, on none of the 38 self-report variables used did the means of the two groups differ significantly after treatment.

TABLE 1

*Mean Pre- and Post-Treatment MMPI Scores and Tests of Significant Differences*

| Scale | LSD $N = 14$ | | Placebo $N = 14$ | | $F$ LSD vs. Placebo | $t$ Pre vs. Post |
|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | | |
| L | 44.7 | 47.8 | 51.3 | 52.8 | .15 | .87 |
| F | 60.9 | 64.9 | 59.2 | 60.0 | 1.19 | .62 |
| K | 54.7 | 55.0 | 54.1 | 54.2 | .02 | .60 |
| Hs | 76.0 | 73.5 | 78.8 | 73.2 | .77 | 2.35[a] |
| D | 84.1 | 74.4 | 78.0 | 70.9 | .01 | 2.56[a] |
| Hy | 74.9 | 72.8 | 76.0 | 69.9 | .63 | 1.63 |
| Pd | 76.0 | 70.0 | 71.9 | 74.9 | 2.13 | .43 |
| Mf | 62.0 | 61.8 | 60.0 | 62.0 | .27 | .49 |
| Pa | 61.1 | 62.1 | 60.9 | 61.9 | .00 | .18 |
| Pt | 78.2 | 75.0 | 72.9 | 69.9 | .12 | .78 |
| Sc | 73.1 | 73.4 | 74.0 | 68.9 | .18 | .10 |
| Ma | 64.1 | 69.0 | 59.8 | 61.0 | 2.47 | 1.44 |
| Si | 55.2 | 53.1 | 56.0 | 51.5 | .30 | 2.12[a] |
| Es | 54.4 | 53.2 | 51.5 | 53.6 | 1.13 | .33 |

[a] $p < .05$.

Mean scores of the judges' ratings on the California Adjustment Index increased from −.261 to +.023 for the LSD group and from −.197 to +.033 for the placebo group. The difference was not significant. Table 2 lists the judges' ratings on the WPRS. The placebo group showed significantly greater decreases on the Manic State and Paranoid Condition scales. The magnitude of change in both cases was slight, but reliable. These two "significant" differences are quite likely due to chance considering the large number of potential differences examined.

Although post-treatment mean differences between the LSD and placebo groups were virtually nonexistent, a number of significant changes, all in the direction of improvement, occurred from pre- to post-testing in both groups.

On the 16-PF, a change significant at the .05 level was obtained on factor C and at the .01 level on factor H. Thus, patients showed an increase in emotional maturity (factor C) and were more venturesome and socially spontaneous (factor H) at post-treatment. Changes in both groups on the MMPI significant at the .05 level occurred on the Hs (Hypochondriasis), D (Depression) and Si (Social Introversion) scales in the direction of lessened symptomatology and greater social outgoingness. There were significant increases in self-ideal correlations on Deck 13 ($t = 3.57$, $p < .02$) and

TABLE 2

*Mean Pre- and Post-Treatment Ratings on Six Wittenborn Psychiatric Rating Scales*

| Scale | LSD $N = 14$ | | Placebo $N = 14$ | | $F$ LSD vs. Placebo | $t$ Pre vs. Post |
|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | | |
| Acute anxiety | 3.79 | 2.57 | 3.11 | 2.25 | .14 | 4.50[a] |
| Conversion hysteria | 4.89 | 3.50 | 5.82 | 4.96 | 1.31 | 3.45[b] |
| Manic state | 2.25 | 2.29 | 1.93 | 1.61 | 4.51[c] | 1.00 |
| Depressed state | 3.18 | 2.14 | 3.36 | 2.18 | .05 | 5.63[a] |
| Paranoid | 1.89 | 1.86 | 1.71 | 1.39 | 4.34[c] | 1.44 |
| Phobic-compulsive | 2.79 | 2.07 | 1.89 | 1.46 | .73 | 2.64[c] |

[a] $p < .001$.
[b] $p < .01$.
[c] $p < .05$.

Deck 14 ($t = 3.45$, $p < .01$) of the HQS, indicative of enhanced self-acceptance. Considering both groups together, the mean correlation increased from +.375 to +.534 on Deck 13, and from +.150 to +.395 on Deck 14. The only significant pre- to post-treatment change on the PHN occurred on the Trustworthiness scale ($t = 2.52$, $p < .02$), human nature being viewed as more trustworthy after treatment.

Patients were rated as showing significantly less psychopathology on four of the six WPRS scales employed. These were: Acute Anxiety, Conversion Hysteria, Depressed State, and Phobic-Compulsive. With the exception of the last scale, all differences were significant at the .01 level or beyond. The pre- to post-treatment increase on the California Adjustment Index was significant at the .01 level. In other words, patients were evaluated by raters as being better adjusted and integrated at post-treatment irrespective of the type of treatment they received.

### 18-MONTH FOLLOW-UP RESULTS

Follow-up data were obtained on 20 of the 28 patients who participated in the program. Ten were in the LSD group and 10 in the placebo group. It is perhaps noteworthy that the psychosomatic patients were more co-operative about fulfilling their commitment to participate in the follow-up phase of the study. Of the 21 psychosomatic patients, 19 returned to the hospital for follow-up. The remaining 2 patients had moved and could not be located. Only 1 of the 7 psychiatric patients returned despite repeated invitations for them to do so.

An analysis of covariance was computed for each of the measures with pretreatment scores serving as the covariate controls. Table 3 summarizes the pre- and 18-month scores on the 16-PF, the test on which most of the significant differences between groups occurred. There were significant differential effects at the .05 level on factors C, G, and Q3. The placebo group showed greater changes in the direction of becoming more emotionally stable (factor C), more conscientious and persevering (factor G), and more controlled and socially precise (factor Q3) 18 months after treatment as compared to the LSD group. Trends significant at the .10 level were found on factors M and N, the LSD group having become somewhat more imaginative and careless of practical matters (factor M), and more natural and forthright (factor N). On the MMPI, a significant difference between groups was found on the Paranoid (Pa) scale. The LSD group showed a significant elevation from its pretreatment mean score whereas the placebo group remained unchanged. The LSD group also showed a trend toward greater femininity of interests on the Mf scale of the MMPI ($F = 4.09$, $p < .10$). The placebo group was unchanged on this dimension. There were no other differences between groups on the self-report measures.

The mean California Adjustment Index, reflecting the clinical ratings of the two judges, did not differ significantly for the two groups.

TABLE 3

*Mean Pre- and 18-Month Follow-Up Scores on the 16-PF and Tests of Significant Differences*

| Scale | LSD $N = 10$ | | Placebo $N = 10$ | | $F$ LSD vs. Placebo | $t$ Pre vs. Post |
|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | | |
| A | 5.50 | 5.70 | 5.10 | 5.10 | .17 | .35 |
| B | 7.10 | 7.00 | 6.50 | 7.20 | .48 | .95 |
| C | 3.10 | 3.20 | 3.80 | 5.60 | 6.42[a] | 1.70 |
| E | 4.40 | 4.70 | 3.60 | 4.30 | .00 | 1.04 |
| F | 4.50 | 4.50 | 4.80 | 4.90 | .11 | .09 |
| G | 5.50 | 4.30 | 4.50 | 5.70 | 6.86[a] | .00 |
| H | 3.80 | 4.90 | 5.00 | 4.80 | 2.13 | 1.14 |
| I | 5.90 | 5.90 | 6.20 | 5.70 | .34 | .72 |
| L | 6.60 | 6.80 | 5.90 | 5.00 | 1.90 | .59 |
| M | 5.30 | 6.80 | 5.40 | 5.50 | 4.13[b] | 2.06 |
| N | 5.70 | 5.10 | 5.40 | 5.50 | 3.57[b] | .61 |
| O | 7.40 | 6.80 | 6.80 | 5.90 | .51 | 2.07 |
| Q1 | 5.10 | 4.80 | 5.40 | 4.40 | .28 | 1.09 |
| Q2 | 6.20 | 5.90 | 5.70 | 6.00 | .16 | .00 |
| Q3 | 5.10 | 4.70 | 5.60 | 6.90 | 4.85[a] | .86 |
| Q4 | 8.00 | 7.10 | 7.00 | 6.30 | .14 | 1.33 |

[a] $p < .05$.
[b] $p < .10$.

After 18 months, there was a tendency for self-report measures to regress to their pretreatment levels, irrespective of the type of treatment involved. Table 4 lists pre- and 18-month MMPI scores and shows that on most scales, the 18-month scores are slightly higher than at pretreatment. Apart from the aforementioned differential effects there were no significant differences between pretest and 18-month scores on the MMPI, 16-PF, and Decks 13 and 14 of the HQS considering both groups together. Changes significant at the .05 level occurred on the Trustworthiness, Altruism, and Independence scales of the PHN. In other words, people were seen as more honest, more unselfish, and better able to maintain their convictions in the face of society's pressures toward conformity.

The 18-month ratings on the California Adjustment Index for both groups were significantly different from pretreatment in the direction of an improved level of functioning ($p < .01$). Mean scores for both groups showed remarkable stability from post-test to follow-up. The mean adjustment index for the LSD group was +.030 immediately after treatment and +.037 after 18 months. Comparable scores for the placebo group were +.010 at post-treatment and +.013 at follow-up.

TABLE 4

*Mean Pre- and 18-Month Follow-Up MMPI Scores and Tests of Significant Differences*

| Scale | LSD $N = 10$ | | Placebo $N = 10$ | | $F$ LSD *vs.* Placebo | $t$ Pre *vs.* Post |
|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | | |
| L | 48.2 | 51.9 | 54.9 | 54.0 | 1.26 | .98 |
| F | 59.7 | 63.3 | 57.8 | 60.9 | .11 | 1.46 |
| K | 53.8 | 55.9 | 54.1 | 56.0 | .00 | .66 |
| Hs | 80.9 | 81.2 | 83.7 | 83.7 | .06 | .26 |
| D | 85.9 | 83.0 | 76.9 | 76.9 | .11 | .49 |
| Hy | 77.1 | 79.1 | 77.5 | 77.7 | .19 | .59 |
| Pd | 72.0 | 70.0 | 68.0 | 71.3 | .14 | .24 |
| Mf | 58.1 | 68.1 | 57.6 | 58.2 | 4.09 | 1.53 |
| Pa | 61.6 | 69.3 | 58.1 | 57.8 | 5.16[a] | 1.79 |
| Pt | 78.8 | 78.8 | 69.1 | 76.1 | .65 | .69 |
| Sc | 69.1 | 77.7 | 68.1 | 72.8 | .46 | 1.60 |
| Ma | 64.1 | 66.9 | 59.1 | 67.0 | .26 | 2.08 |
| Si | 56.1 | 54.8 | 59.1 | 53.8 | .12 | .85 |
| Es | 52.2 | 50.6 | 51.3 | 50.1 | .02 | 1.23 |

[a] $p < .05$.

## DISCUSSION

The results of this study fail to demonstrate that LSD-assisted psychotherapy is superior to psychotherapy alone when used in the short term treatment of psychosomatic and nonpsychotic inpatients.

On a wide variety of self-report devices tapping areas of psychopathology (MMPI), measures of self-acceptance (HQS), attitudes toward others (PHN), and measures of basic personality dimensions (16-PF), there was no difference between the LSD and placebo groups immediately after treatment. Similarly, clinicians rated the LSD and placebo groups as being approximately equal in level of adjustment and personal integration after treatment. Little importance can be attached to the slightly greater decrease shown by the placebo group on the Manic and Paranoid scales of the WPRS. First, paranoia and mania were not primary areas of psychopathology in this patient sample and scores on these scales were not initially highly elevated. Secondly, in view of the large number of variables measured, one would expect two significant differences on a chance basis.

Both groups were improved after treatment although the degree of change was moderate. In general, there was a lessening of depression, a decrease in somatic complaints, some improvement in self-image, greater assertiveness in interpersonal relationships and an increase in emotional stability according to self-report measures. Overall, there were changes in 8 of the 38 self-descriptive measures employed. In another study (15) employing the MMPI, 16-PF, and PHN to compare the results of LSD-assisted psychotherapy and human relations training in treating alcoholics, both groups showed significant improvement on 18 of the 36 variable measures. Viewed against this standard, the degree of im-

provement in the current patient sample was quite modest. Similarly, the fact that the average correlation of clinician ratings of these patients with that of the optimally adjusted individual after treatment was only +.02 indicates that the level of adjustment achieved for both groups was far from ideal.

It should be emphasized that the changes which did occur could not legitimately be attributed to the two forms of psychotherapy employed. The experimental design used does not control for the possibility that similar improvement might have occurred because of hospitalization alone.

At the 18-month follow-up point, there was a tendency for scores on self-report measures to regress to their pretreatment levels, indicating that changes reported by patients at post-treatment were transitory. However, clinicians perceived the patients as maintaining the improved level of adjustment which they had attained after treatment. Where differences were found between the LSD groups and placebo group at follow-up, they tended to favor the latter. Patients receiving the placebo were more emotionally stable, tended to be more conscientious, and were more controlled and socially precise than the LSD group at follow-up. LSD patients showed a significant increase from pretreatment levels in paranoid symptomatology as compared to the placebo group. Since these differences were not evident immediately after therapy, it is difficult to know whether they are treatment related. It is, nevertheless, interesting that the changes for the LSD group tended to be in the direction of being somewhat less conforming, conventional and conscientious. Similar changes in value orientation are often observed in individuals who have taken psychedelic drugs in other than clinical settings.

It seems appropriate to discuss here some of the clinical impressions regarding the use of LSD in a patient population of this type. Due to the unique and dramatic nature of the LSD reaction, the therapist was seldom in doubt beyond the second session as to whether LSD or a placebo was being used. In 2 cases, the therapist mistakenly thought that LSD was being given when in fact a placebo was being administered. In each case, there were unusually intense and emotionally vivid placebo reactions. One patient accurately recalled and relived his birth experience while another completely re-enacted his traumatic war experiences. There were also 2 cases of mistaken classification in the LSD group where therapists thought that patients had received a placebo. In general, however, the LSD sessions were easily identified by the intensity of emotional reactions, the reverie-like state produced, frequent vivid recall of childhood memories, elicitation of unconscious material, and exploration of transpersonal dimensions. There is no question that LSD provides access to dimensions of consciousness which stand in dramatic contrast to the rational, logical framework of thought through which experience is ordinarily structured.

From the point of view of the therapist, LSD patients were usually more interesting to work with because of the elicitation of these phenomena. The fact that LSD adds a quality of heightened interest and incentive for the therapist is a potential advantage for this mode of treatment. The disadvantage of this approach is that it is very costly in terms of the time investment required of the therapist, and is therefore impractical as a routine procedure.

A number of the LSD patients had transpersonal or transcendental experiences, whereas only 1 placebo patient reported an experience of this nature. An experience which has spiritual significance could be of crucial importance to patients who can find no purpose or meaning to their lives.

On the other hand, it was apparent that important personality problem areas could be avoided or bypassed despite repeated LSD administrations. Also, the develop-

ment of some awareness into a problem area was no guarantee that the patient would act upon his insight. In other words, motivation remained the significant factor that it is in conventional therapy. LSD appeared to be of little or no value in treating patients who were not prepared to face themselves honestly and exercise the effort and discipline needed to apply this understanding to everyday life. In general, the patients employed in this study, and especially those selected from the psychosomatic service, would not have sought out psychotherapy on their own. Most would not have been considered good prospects for insight-oriented therapy. It is noteworthy that the LSD patient who made the greatest progress had previous psychotherapy and possessed the attributes considered desirable for a favorable outcome in conventional psychotherapy (16). Our observations lead us to believe that LSD would have greatest applicability in facilitating the therapeutic process in patients most likely to benefit from conventional treatment.

The results of this study lead one to hypothesize that other variables were probably equally as important as LSD per se in accounting for the impressive improvement rates achieved in earlier investigations. These include: 1) heightened therapist motivation and involvement because of the interesting and dramatic nature of the material being elicited; 2) the unusual amount of time and therapeutic attention provided to the patient; and 3) the tacit permission given to the patient to experience and express otherwise unacceptable thoughts and feelings because of the understanding that he would not be responsible for his experiences in the altered state.

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