MDA-ASSISTED PSYCHOTHERAPY WITH NEUROTIC OUTPATIENTS: A PILOT STUDY

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Ten neurotic patients (five males and five females) were treated over a period of 2 to 6 months (mean, 4.1) as outpatients. The study allowed for a maximum of 75 hours of psychotherapy (mean, 51.55 hours). During the course of treatment, two to four (mean, 3.5) administrations of MDA (3,4-methylenedioxymethamphetamine) were employed as adjunctive aids in an effort to enhance the psychotherapeutic process. The mean duration of the drug sessions was 8 hours (range, 6 to 14 hours). The first administration of MDA took place when, in the therapist’s judgment, sufficient rapport had been established with the patient. All patients received an initial dose of 75 mg of MDA; subsequent dosage was allowed to range up to 200 mg. On these occasions, the drug appeared to be well tolerated with no serious side effects or complications observed.

Psychometric assessments were obtained pre- and post-treatment, employing the Minnesota Multiphasic Personality Inventory (MMPI), Wittenborn Psychiatric Rating Scales (WPRS), and Brief Psychiatric Rating Scale (BPRS). In addition, follow-up evaluations were obtained 6 months after the termination of therapy by the use of the MMPI, WPRS, BPRS, and a Social History Questionnaire (SHQ) which had also been administered before treatment was initiated.

Clinically, the impression was obtained that psychotherapy and the adjunctive use of MDA appeared to facilitate improvement in these patients. This impression was substantiated by significant reductions in scores on the psychometric assessments measuring depression, anxiety, and obsessive-compulsive traits. The measures evaluating the sense of well-being and self-actualization also were encouraging. Although some of the patients were not as responsive as others, there were no observations to suggest that the condition of any of these patients had become worse.

Since 1950, LSD, mescaline, and later psilocybin have been subject to considerable study as adjuncts to psychotherapy (25). Reports of therapeutic efficacy, indicating that a broad range of mental disorders are amenable to treatment with these drugs as adjuncts, have appeared in the literature. Many of these reports are based on clinical impressions rather than controlled studies, and have been controversial; nonetheless, their number is impressive as is the consistency of positive results reported. Individual, and in some instances, group therapy have been enhanced by these agents as reported in over 300 articles by authors who encompass the major schools of psychotherapy and diverse geographical locations...
from the Americas to Europe and Asia (12, 15, 23).

At the Maryland Psychiatric Research Center, controlled studies carried out over the past decade have indicated the usefulness of LSD, when administered within a carefully structured setting as an adjunct to the psychotherapy of alcoholic, neurotic, and narcotic addict patients as well as in the management of depression and anxiety in terminal cancer patients (10, 14, 19, 20). We have found that, although promising, LSD is less than ideal as a therapeutic adjunct for general use. The LSD reaction is characterized by such a drastic alteration of consciousness, usually including perceptual alterations and illusory transformations of the perceived surroundings, that psychotherapists require training in specialized techniques to utilize reliably the therapeutic opportunities offered by such profoundly altered states of consciousness. Occasionally, patients react to LSD with panic which requires special therapeutic skill for proper management. At times during the LSD reaction, the patient's ego functions are altered to such a degree that verbal communication becomes difficult. Also, the unfortunate notoriety of LSD that has arisen from the abuse of the drug and controversial reports regarding its hazards (1, 3, 6) engendered difficulties in recruiting suitable patients and unfavorably altered patients' expectations (4). This situation prompted a search for other compounds that might possess some of the therapeutic advantages of LSD without its disadvantages.

Naranjo and his colleagues' pilot work with methylenedioxyamphetamine (MDA) (17) came to our attention in the course of this search. These authors reported that MDA might be of value as a therapeutic adjunct because of feeling- and insight-enhancing effects observed in a sample of eight psychotherapy subjects. From 40 to 150 mg of MDA were administered to these individuals in a supportive setting. All of the subjects had previously experienced the effects of LSD in a comparable environment. MDA had been administered with the expectation that it would produce an LSD-like experience. In spite of the fact that this assumption was communicated to the participants in this study, "... none of the subjects reported hallucinations, perceptual distortions, or eyes closed imagery within the dosages employed" (17, p. 362). Naranjo suggested that MDA might provide some of the therapeutic impact reported in psychotherapy with LSD, while decreasing the probability of hallucinations, perceptual distortions, and panic reactions.

Toxicity data for MDA are available from both animal and human subjects. Smith, Kline & French Laboratories conducted extensive clinical trials with this compound from 1949 to 1957. The human investigations, which eventually involved over 500 patients, were based on the hypothesis that because of the structural similarity of MDA to amphetamine, it might prove useful as an antidepressant and/or anorexic agent. Smith, Kline & French Laboratories concluded their studies of MDA in 1957, having observed the absence of toxic reactions when doses of from 10 to 300 mg were administered on a daily basis to hospitalized patients. However, the results of these clinical studies, which sought to determine the chemotherapeutic activity of this compound, were interpreted by the investigators to suggest that: a) MDA might resemble mescaline more closely than amphetamine in its psychological effects; and b) that MDA appeared to have uncertain significance as an antidepressant or anorexic drug (22).

These observations led to a study of MDA at the Maryland Psychiatric Research Center (24). A standardized dose of 75 mg was administered to 10 subjects with prior LSD experience. The drug was well tolerated and the duration of effects was found to range from 12 to 15 hours. The effects on mood and cognition observed in this study led the authors to conclude,
cially helpful in breaking through obsessive, anxious and depressive patterns of thought and feeling” (24, p. 12).

These encouraging observations led us to investigate MDA as an adjuvant to psychotherapy. The design for the present investigation was that of an uncontrolled pilot project, calling for pretreatment, post-treatment, and follow-up assessments of 10 neurotic outpatients treated with MDA-assisted psychotherapy. The study constituted a preliminary exploration of the following issues: a) Can MDA and brief intensive psychotherapy produce significant improvement in a neurotic outpatient population? b) Can MDA be administered to this category of patient on an outpatient basis without untoward reactions? c) What are the dose response relationships for this drug when used as a psychotherapeutic adjuvant? d) Are the results, if any, stable over a 6-month period?

Methodology

Referrals of potential patients for this research project were generated by circulating a description of the study to state and local mental health facilities. The primary criteria for acceptance were: a) that the subject manifest significant neurotic psychopathology (anxiety, depression, obsessive-compulsive disorders, phobias, or problems of sexual dysfunction); and b) exhibit no serious indications of thought disorder or impairment of reality testing. The applicants were assessed in the preliminary interviews for qualities that would allow them to function relatively well as outpatients. The presence of cardiovascular disorders, hypertension, organic brain damage, active kidney or liver disease was considered an automatic disqualifier. Pregnant women were eliminated from consideration along with subjects who planned to conceive children during the course of treatment.

On the basis of information gained through initial screening interviews, two members of the staff made ratings of each applicant on the Wittenborn Psychiatric Rating Scales (WPRS) (26) and the Brief Psychiatric Rating Scale (BPRS) (18).

As part of the screening, each subject completed the Minnesota Multiphasic Personality Inventory (MMPI) (7) and the Personal Orientation Inventory (POI) (21). An independent social worker interviewed each patient and completed the Social History Questionnaire (SHQ) (9). All volunteers signed an informed consent document after a discussion with a staff member about the experimental nature of MDA-assisted psychotherapy.

Upon admission to the project, each subject was assigned a therapist. The course of therapy, in keeping with the pilot nature of the study, was left relatively flexible, permitting up to four administrations of MDA in the context of a maximum of 75 hours of therapy. The occasion of the first administration of MDA was left up to the therapist's judgment as to when sufficient rapport and a sense of basic trust had been established with the patient. The dosage on the initial exposure was standardized at 75 mg. The drug, in the form of its levo-rotary optical isomer, was administered orally in capsule form. In subsequent drug sessions, the therapist was permitted to adjust the dosage in accordance with clinical judgment for maximum therapeutic impact. In no case, however, could dosage exceed 200 mg.

All drug sessions were conducted in specially decorated treatment facilities equipped with stereophonic sound systems. These rooms have been designed to provide a warm home-like atmosphere with a sofa on which the patient may recline. Patients were encouraged to wear eye shades during the hours of most intense drug effects. Specially selected stereophonic music was played through headphones to provide nonverbal support, continuity, and to enhance the patient's overall experience. This specialized technique was developed through our work with LSD (2), and was used in addition to more conventional psychotherapeutic modalities. The primary therapist and a co-therapist of the opposite sex were present during the drug sessions in order to provide the opportunity for patients to project upon and relate to both sexes while in an altered state of
consciousness. The therapists wore casual attire to promote a relaxed, open atmosphere, and mitigate interpersonal distance. On the evening of a drug session, diazepam (Valium) (10 mg) was prescribed if there was any evidence of residual drug activation, and the patient was released to a friend or relative to return home. An additional 10 mg of diazepam were dispensed for use that night in case of insomnia. When therapy reached either a point of termination or the maximum time allotted by the protocol (75 hours), the initial test battery was readministered and the patient again was rated by two staff members on the BPRS and the WPRS.

Six months following the termination of therapy, each patient was requested to return to the Maryland Psychiatric Research Center for follow-up interviews and to complete an MMPI. At this time, each patient was interviewed again by two staff members and WPRS and BPRS ratings were made. The social worker contacted the patients independently 6 months after therapy and completed the SHQ in a follow-up form.

No one psychometric instrument and no single score based on an individual method was deemed adequate as a sole measure of therapeutic change and the effect of therapy on a patient’s life. A multiple criterion approach, therefore, was implemented rather than a heavy reliance on one measure. The tests used in this study were selected for their ability, as a repertoire, to assess the degree of pathology and satisfaction in living, and to detect the presence of optimal levels of functioning. The inclusion of the Personal Orientation Inventory (POI), which measures changes in life attitudes toward superior functioning rather than simple absence of pathology, was considered relevant to the goals of this form of brief intensive psychotherapy which stresses self-actualization. Although some symptoms rated on the Brief Psychiatric Rating Scale (BPRS) are not appropriate for a neurotic population, raters were instructed to complete all ratings in order to quantify any prolonged negative reactions to the treatment.

The Social History Questionnaire (SHQ) was included to permit statistical analysis of the independent social worker’s assessments. The SHQ is based on the Spring Grove Alcoholism Questionnaire (10), and provides quantification of the patient’s adjustment status during the 2 years preceding the interview. Four 10-point scales are derived from an 83-item questionnaire administered during an interview. The resulting scales are: Interpersonal Adjustment, Residential Adjustment, Occupational Adjustment, and Global Adjustment. A follow-up version rates the patient on behavior over the 6 months preceding the interview.

Results

CHARACTERISTICS OF THE POPULATION AND THE PROCEDURE

The average age of the 10 subjects recruited for the study was 32.1 years (range, 23 to 48). There were five males and five females in the sample. The independent social worker rated all subjects as middle-class with comfortable financial means. Six of the 10 subjects had received previous psychotherapy averaging 9 months in duration (range, 2 to 21 months). The educational level was rather high with a mean of 15.4 years of formal schooling (range, 11 to 20). Initial diagnoses were: five depressive reactions, two obsessive-compulsive neuroses, two hysterical neuroses, and one anxiety reaction. The psychotherapeutic interventions ranged in duration from 24.75 to 75 hours (mean, 51.55 hours). The therapy was delivered over a period of 2 to 6 months (mean, 4.1 months). The average number of drug sessions used in therapy was 3.5 (range, 2 to 4).

PSYCHOMETRIC ASSESSMENTS

Personal Orientation Inventory. (see Table 1 and Figure 1.) A one-way analysis of variance revealed significant changes in the direction of greater self-actualization on the two basic scales and on nine of the 11 subscales in the POI. The most significant \( p < .01 \) changes were: improvement in measures of time perception (Ti and Tc) and an increase in feeling reactivity (Fr).
Significant results ($p < .05$) were found on the following scales: a decrease in other support requirements (O); an increase in self-regard (Sr); an increase in the acceptance of aggression (A); personal values which, after therapy, are more in accord with those held by self-actualizing individuals (Sav); an increase in self-acceptance (Sa); an increase in the flexibility with which personal values are applied to life (Ex); increase in reliance on inner resources and support (I); and an increase in spontaneity (S). There was also what may be described as a trend ($p < .10$) toward increased self-actualization in the remaining three subscales: an increase in the capacity for intimate contact (C); a tendency to view man as more constructive in nature (Nc); and a trend toward seeing opposites as more meaningfully related and less antagonistic (Sy).

### Minnesota Multiphasic Personality Inventory

(see Table 2 and Figure 2.) One-way analysis of variance, with data from the three sampling points (pre, post, 6 months post) in the matrix, gave significant ($p < .01$) results with respect to the decreasing scores on the following MMPI scales: Si (Social Introversion) and F (Validity). There were also significant ($p < .05$) changes in the scores for the following scales (listed in decreasing order of signifi-
cance): D (Depression) decreased; K (Defensiveness) increased; Pt (Psychasthenia) decreased; and Pd (Psychopathic Devianced) decreased. Tukey’s test for simple comparisons (8) was used to localize these general results. The Social Introversion and Validity Scales decreased significantly \((p < .01)\) pre to post and pre to 6 months post. The Depression Scale decreased significantly \((p < .01)\) pre to post; however, in the pre to 6-month-post comparison, there was no significance. The Defensiveness Scale increased significantly \((p < .05)\) pretherapy to termina-
Wittenborn Psychiatric Rating Scales. (see Table 3 and Figure 3.) There were significant \((p < .01)\) changes in the direction of greater freedom from pathology on the scales rating Anxiety, Depressive Retardation, Somatic Hysterical, and Obsessive-Compulsive-Phobic. The above results were obtained with a one-way analysis of variance; scores for pre, post and 6 months post-therapy were included in the matrix. In order to determine the interval during which these changes occurred, Tukey’s test for multiple comparisons was utilized. This indicated significant changes \((p < .01)\) in the comparison of the pre to post and pre to 6-month follow-up condi-
tions for the Anxiety and Depressive Retardation Scales. For Somatic-Hysterical and Obsessive-Compulsive-Phobic Scales, the changes for the same conditions also were significant \((p < .05)\). There was no significant change in a comparison between the post and 6-month follow-up conditions for any of the scales.

**Brief Psychiatric Rating Scale.** (see Table 4 and Figure 4.) A one-way analysis of variance demonstrated significant \((p < .01)\) decreases in the ratings of the two clinical raters (average of two raters) on six of the 18 subscales in the BPRS. The subscales were (decreasing order of significance): Depressive Mood \((p < .01)\), Guilt Feelings \((p < .01)\), Anxiety \((p < .01)\), Tension \((p < .01)\), Emotional Withdrawal \((p < .01)\), and Somatic Concern \((p < .01)\). There was also a significant \((p < .05)\) decrease in the ratings of Motor Retardation. There was a trend \((p < .10)\) toward decreased ratings in the areas of Uncooperativeness and Conceptual Disorganization.

### TABLE 3

*Summary of Results Pre to Post to 6-Month Follow-Up on the Wittenborn Psychiatric Rating Scales \((N = 10)\)*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Anxiety</th>
<th>Depressive Retardation</th>
<th>Somatic Hysterical</th>
<th>Obsessive-Compulsive-Phobic</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-ratio</td>
<td>21.435**</td>
<td>15.901**</td>
<td>9.193**</td>
<td>6.659**</td>
</tr>
<tr>
<td>Pre mean</td>
<td>5.1</td>
<td>3.05</td>
<td>1.85</td>
<td>1.95</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.82</td>
<td>1.79</td>
<td>1.73</td>
<td>1.12</td>
</tr>
<tr>
<td>Post mean</td>
<td>1.65</td>
<td>0.60</td>
<td>0.40</td>
<td>0.95</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.08</td>
<td>0.84</td>
<td>0.74</td>
<td>0.98</td>
</tr>
<tr>
<td>6-Month follow-up mean</td>
<td>1.65</td>
<td>0.60</td>
<td>0.55</td>
<td>0.90</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.38</td>
<td>0.70</td>
<td>1.21</td>
<td>1.12</td>
</tr>
</tbody>
</table>

**\(p < .01\).**

### Tukey’s Test For Multiple Comparisons

<table>
<thead>
<tr>
<th>Scale</th>
<th>Anxiety</th>
<th>Depressive Retardation</th>
<th>Somatic Hysterical</th>
<th>Obsessive-Compulsive-Phobic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre to post critical F</td>
<td>20.912**</td>
<td>15.557**</td>
<td>9.843*</td>
<td>8.571*</td>
</tr>
<tr>
<td>Pre to 6-month follow-up critical F</td>
<td>38.638**</td>
<td>22.770**</td>
<td>10.787*</td>
<td>8.840*</td>
</tr>
<tr>
<td>Post to 6-month follow-up critical F</td>
<td>00.000</td>
<td>00.000</td>
<td>00.503</td>
<td>0.334</td>
</tr>
</tbody>
</table>

*\(p < .05\).*  
**\(< .01\).**
From a strict methodological standpoint, the small N in this study and the lack of a control group are its greatest limitations. The issues and difficulties surrounding control groups in psychopharmacological research in humans generally and in psychedelic research in particular are manifold and have been discussed in detail by Mogar (5) and Levine (11). The magnitude of significant results in this study, in spite of the small N and the heterogeneity of the sample, would seem to indicate a meaningful treatment effect.

The absence of a no-treatment control group limits the ability to point with certainty to the therapeutic intervention as the source of improvement. The stability of the improvements over the 6-month follow-up suggests, however, that some significant external factor contributed to these improvements, and that this element is not part of the usual environment.

The general effects demonstrated by the analysis of variance were again localized by Tukey's method. There were significant (p < .01) changes pretherapy to termination, and pre to 6-month follow-up on four subscales: Depressive Mood, Guilt Feelings, Anxiety, and Tension. The results were less homogeneous when the comparisons were made for the subscales rating Emotional Withdrawal and Somatic Concern. For Emotional Withdrawal, pre to post change is significant at the .05 level of confidence, and the pre to 6-month follow-up comparison is significant at the .01 level. For Somatic Concern pre to post, changes are significant (p < .01), as are pre to 6-month follow-up differences. For Conceptual Disorganization, no comparison was significant. For all of the above factors, there was no significant change in posttherapy scores over the 6-month follow-up.

Social History Questionnaire. The results of the two (pre and 6-month follow-up) administrations of the Social History Questionnaire were subjected to a one-way analysis of variance. Table 5 and Figure 5 illustrate the significantly (p < .01) improved ratings on Global Adjustment, Interpersonal Adjustment, and Occupational Adjustment. There was also a significant (p < .05) improvement in Residential Adjustment.

Discussion

From a strict methodological standpoint, the small N in this study and the lack of a control group are its greatest limitations. The issues and difficulties surrounding control groups in psychopharmacological research in humans generally and in psychedelic research in particular are manifold and have been discussed in detail by Mogar (5) and Levine (11). The magnitude of significant results in this study, in spite of the small N and the heterogeneity of the sample, would seem to indicate a meaningful treatment effect.

The absence of a no-treatment control group limits the ability to point with certainty to the therapeutic intervention as the source of improvement. The stability of the improvements over the 6-month follow-up suggests, however, that some significant external factor contributed to these improvements, and that this element is not part of the usual environment.

The results reveal a number of confirmatory overlaps, between the clinical rating scales and the psychometric tests, in the direction of improved functioning after treatment. The data analysis indicates that changes in personality resulting from the employment of this therapeutic modality are, on the whole, durable over a 6-month period.
TABLE 4  
Summary of Results Pre to Post to 6-Month Follow-Up on the Brief Psychiatric Rating Scales (N = 10)

One-Way Analysis of Variance

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Depressive Mood</th>
<th>Guilt Feelings</th>
<th>Anxiety</th>
<th>Tension</th>
<th>Emotional Withdrawal</th>
<th>Somatic Concern</th>
<th>Motor Retardation</th>
<th>Uncoope-ropeness</th>
<th>Conceptual Disorganization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-ratio</td>
<td>36.336**</td>
<td>33.982**</td>
<td>33.237**</td>
<td>27.213**</td>
<td>10.544**</td>
<td>8.639**</td>
<td>3.857*</td>
<td>3.128</td>
<td>3.032</td>
</tr>
<tr>
<td>Pre mean</td>
<td>3.65</td>
<td>3.70</td>
<td>4.10</td>
<td>4.00</td>
<td>2.45</td>
<td>3.00</td>
<td>1.30</td>
<td>1.40</td>
<td>1.45</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.06</td>
<td>0.92</td>
<td>1.10</td>
<td>1.20</td>
<td>1.21</td>
<td>1.53</td>
<td>0.48</td>
<td>0.66</td>
<td>0.50</td>
</tr>
<tr>
<td>Post mean</td>
<td>1.15</td>
<td>1.60</td>
<td>2.00</td>
<td>1.95</td>
<td>1.45</td>
<td>1.55</td>
<td>1.00</td>
<td>1.05</td>
<td>1.30</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.24</td>
<td>0.84</td>
<td>0.74</td>
<td>0.64</td>
<td>0.68</td>
<td>0.80</td>
<td>0.00</td>
<td>0.16</td>
<td>0.48</td>
</tr>
<tr>
<td>6-month follow-up mean</td>
<td>1.55</td>
<td>1.70</td>
<td>2.10</td>
<td>2.15</td>
<td>1.40</td>
<td>1.55</td>
<td>1.00</td>
<td>1.05</td>
<td>1.00</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.68</td>
<td>0.71</td>
<td>0.84</td>
<td>1.25</td>
<td>0.46</td>
<td>0.99</td>
<td>0.00</td>
<td>0.16</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*p < .05.  
**p < .01.

Tukey's Test For Multiple Comparisons

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Depressive Mood</th>
<th>Guilt Feelings</th>
<th>Anxiety</th>
<th>Tension</th>
<th>Emotional Withdrawal</th>
<th>Somatic Concern</th>
<th>Motor Retardation</th>
<th>Uncoope-ropeness</th>
<th>Conceptual Disorganization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre to post critical F</td>
<td>56.250**</td>
<td>47.250**</td>
<td>09.204**</td>
<td>56.242**</td>
<td>10.5882*</td>
<td>11.6626**</td>
<td>3.85714</td>
<td>N.S.</td>
<td>N.S.</td>
</tr>
<tr>
<td>Pre to 6-month follow-up critical F</td>
<td>34.816</td>
<td>40.000**</td>
<td>34.286**</td>
<td>38.383**</td>
<td>12.8447**</td>
<td>9.0928*</td>
<td>3.85714</td>
<td>N.S.</td>
<td>N.S.</td>
</tr>
<tr>
<td>Post to 6-month follow up critical F</td>
<td>2.667</td>
<td>0.184</td>
<td>0.114</td>
<td>0.340</td>
<td>0.1304</td>
<td>0.03345</td>
<td>0.000</td>
<td>N.S.</td>
<td>N.S.</td>
</tr>
</tbody>
</table>

*p < .05.  
**p < .01.  
N.S., not significant.
Major characteristics of neurosis that changed during the course of the study were depression, anxiety, obsessive-compulsive tendencies, and withdrawal. Reduction in depression was indicated by the two clinical rating scales: WPRS, Depressive Retardation ($p < .01$) and BPRS Depressive Mood ($p < .01$). The MMPI D Scale also was reduced ($p < .05$). Lower levels of anxiety were suggested by improved scores on the WPRS Anxiety Scale ($p < .01$) and the BPRS Anxiety rating ($p < .01$). Obsessive-compulsive traits were reduced according to results on the MMPI Pt (Psychasthenia) Scale ($p < .05$) and the WPRS Obsessive-Compulsive-Phobic Scale (pre to post $p < .05$). Withdrawal was also decreased as indicated by reduced scores on the BPRS Emotional Withdrawal rating (pre to post, $p < .05$), (pre to 6 months, $p < .01$) and a reduction in Social Introversion as measured by the MMPI Si Scale (pre to post, $p < .01$, pre to 6 months, $p < .01$).

The changes on the POI suggest that basic shifts have occurred among the subjects toward more positive, healthy functioning in their daily lives. This also is indicated by the elevation of the K Scale on the MMPI which, in moderate eleva-

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### TABLE 5

Summary of Results on the Social History Questionnaire; One-Way Analysis of Variance Pre to Post II ($N = 10$)

<table>
<thead>
<tr>
<th>Scale (0-10)</th>
<th>Pre Mean</th>
<th>S.D.</th>
<th>Post II Mean</th>
<th>S.D.</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global adjustment</td>
<td>6.5</td>
<td>1.58</td>
<td>8.8</td>
<td>0.92</td>
<td>23.687**</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>6.4</td>
<td>2.41</td>
<td>9.1</td>
<td>0.99</td>
<td>23.349**</td>
</tr>
<tr>
<td>Occupational</td>
<td>7.5</td>
<td>1.90</td>
<td>9.3</td>
<td>1.49</td>
<td>11.391**</td>
</tr>
<tr>
<td>Residential</td>
<td>6.8</td>
<td>1.93</td>
<td>8.6</td>
<td>1.26</td>
<td>66.688*</td>
</tr>
</tbody>
</table>

* $p < .05$  
** $p < .01$
The reliving of childhood experiences appears to have a unique quality under the effects of MDA. The ego functions are intact and provide a sense of perspective often lacking in the same type of experiences under the effects of other psychedelics (LSD or DPT). The patient maintains an awareness of the present reality and the fact that this is an experience from the past. Patients were able to use this dose level for extensive exploration of the personal historical origins of present day personality traits. Less frequently, patients experienced some symbolic or archetypal visions, portraying their conflicts on a more universal and abstract level. With even less frequency, some peak experiences (13) were reported, usually after confronting and working through an area of conflict. The small dose level required maximum patient motivation and minimum resistance to produce these effects. There was a definite need for willful intent, perhaps best conveyed by the statement that, at this dose level, “MDA seemed to ‘invite’ inner exploration in contrast to LSD which ‘demands’ it” (24), p. 12). There was excellent facility for relating the experience to the therapist as it was taking place, permitting a dialogue such as might be observed in a very good therapeutic interview without a drug in an action. The reliving of childhood experiences appears to have a unique quality under the effects of MDA. The ego functions are intact and provide a sense of perspective often lacking in the same type of experiences under the effects of other psychedelics (LSD or DPT). The patient maintains an awareness of the present reality and the fact that this is an experience from the past. Patients were able to use this dose level for extensive exploration of the personal historical origins of present day personality traits. Less frequently, patients experienced some symbolic or archetypal visions, portraying their conflicts on a more universal and abstract level. With even less frequency, some peak experiences (13) were reported, usually after confronting and working through an area of conflict. The small dose level required maximum patient motivation and minimum resistance to produce these effects. There was a definite need for willful intent, perhaps best conveyed by the statement that, at this dose level, “MDA seemed to ‘invite’ inner exploration in contrast to LSD which ‘demands’ it” (24), p. 12). There was excellent facility for relating the experience to the therapist as it was taking place, permitting a dialogue such as might be observed in a very good therapeutic interview without a drug in an action. The reliving of childhood experiences appears to have a unique quality under the effects of MDA. The ego functions are intact and provide a sense of perspective often lacking in the same type of experiences under the effects of other psychedelics (LSD or DPT). The patient maintains an awareness of the present reality and the fact that this is an experience from the past. Patients were able to use this dose level for extensive exploration of the personal historical origins of present day personality traits. Less frequently, patients experienced some symbolic or archetypal visions, portraying their conflicts on a more universal and abstract level. With even less frequency, some peak experiences (13) were reported, usually after confronting and working through an area of conflict. The small dose level required maximum patient motivation and minimum resistance to produce these effects. There was a definite need for willful intent, perhaps best conveyed by the statement that, at this dose level, “MDA seemed to ‘invite’ inner exploration in contrast to LSD which ‘demands’ it” (24), p. 12). There was excellent facility for relating the experience to the therapist as it was taking place, permitting a dialogue such as might be observed in a very good therapeutic interview without a drug in an
analytically oriented type of psychotherapy.

Medium doses produced a notable increase in the intensity of external catharsis and a decrease in the facility with which the experience could be shared verbally as it was taking place. The majority of patients were able to communicate verbally during experiences at this dose range; however, there was much more of a tendency to remain within the experience rather than describe it as it was taking place. Externally, the behavior of patients experiencing medium doses of MDA more closely resembled that of a similar population under the effects of LSD (200 to 300 µg). Personal, recollective-analytical material seemed to occur more frequently during the onset and after the most intense effects of the MDA. The evening hours were particularly rich in personal history if there was the inclination to explore it on the part of the patient and the therapist. There was a dramatic increase in experiences of an archetypal nature. Visions were reported with greater frequency and mystical experiences occurred with ego-transcendent aspects not encountered in low doses.

High doses of MDA appeared, externally, identical to high dose LSD sessions (300 to 400 µg). Patients tended to be more absorbed in the unfolding of inner experience, less verbal, and more prone to intense catharsis. Visions were reported frequently and transcendental-mystical experiences increased in frequency and intensity. It should be noted that there are confounding variables effecting this observation, since a considerable amount of psychotherapy and one to three lower dose MDA sessions preceded experiences at the highest dose level; also, not all patients were exposed to dosage levels of this magnitude.

In general, it was observed that the patients could be gently introduced to altered states of consciousness with progressively increased doses of MDA. Used in this manner, MDA was observed to facilitate a smooth transition from minor to major psychedelic effects. In this respect, it might be viewed as a useful aid in teaching the “letting go” or “losing control” abilities, necessary for recovery of material usually excluded from awareness. The neurotic patients in this study, who would be susceptible to panic reactions with the use of a drug such as LSD, experienced none. In summary, MDA appears to be uniquely suited to the facilitation of therapeutic insight without disruptive effects.

Conclusion

MDA appears to be a useful adjunct to psychotherapy, capable of facilitating significant improvement in a broad range of neurotic symptoms, when applied in the setting described. Although improvement was indicated by changes on the psychometric instruments used, it is not possible to partial out the specific contribution of MDA to the results of this study. Any attempt to do so would reflect a misunderstanding of the complexity of the issues involved in determining the response to psychedelic drugs and psychotherapy.

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