

Subjective Reports of the Effects of MDMA in a Clinical Setting

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The psychological effects of MDMA were first reported in 1978 by Shulgin and Nichols. Because it had originally been patented in Germany in 1914 and was no longer patentable, no pharmaceutical manufacturer could be found who was interested in sponsoring an Investigational New Drug application with the Food and Drug Administration or in supporting research (Shulgin 1980). In 1980, it was learned that, in California at least, drugs that were not yet available commercially could be used within a physician's practice if they were manufactured by the physician or by a pharmacist (Younger 1978). The state medical board recommended that there be peer review, informed consent and supporting scientific literature when conducting experimental work (California Board of Medical Quality Assurance 1980). This article is a summary report of data gathered from the first 29 people administered MDMA in a clinical setting.

Because the primary purpose of the project was to assist the subjects in achieving their particular and varied goals for having the sessions, the data available for analysis is limited. Only phenomenological descriptions were obtained of the therapists' observations and of the subjects' experiences before, during and after the sessions. Psychological evaluations by independent observers with testing before and after sessions, placebo control group data with double-blind assessment, and laboratory examinations of organ and metabolic functions were not conducted.

METHOD

The MDMA used in this study was synthesized in the

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laboratory of Alexander Shulgin, Ph.D., who had collaborated in writing the only published papers on its synthesis (Braun, Shulgin & Braun 1980). Dr. Shulgin was present during the entire procedure for consultation and assistance. Identity was verified primarily by infrared spectrophotometry.

The sessions were conducted in San Francisco and in Santa Fe, New Mexico, from 1980 to 1983. All subjects were referred by psychotherapists or friends specifically for the purpose of having an MDMA session, and none were referred from the author's (Greer) private psychiatric practice. A questionnaire designed for screening and preparing the subjects for MDMA sessions was filled out, and lengthy informed consent information was explained both verbally and in writing. (Information regarding "Informed Consent for MDMA Session" is available from the authors.) Parenthetically, five subjects (well-known by the authors) filled out the questionnaire retrospectively at the time of follow-up.

In this preparatory process, the possible side effects that could occur (resulting primarily from MDMA's sympathomimetic effects) were described in detail. Subjects were also told that they should not take MDMA unless they were certain that they were willing to deal with any disturbing experience they might have, including (but not limited to) previous psychological difficulties.

The following medical conditions were criteria for exclusion from the study: hypertension, heart disease, hyperthyroidism, diabetes mellitus, hypoglycemia, seizure disorder, glaucoma, diminished liver function and actual or possible pregnancy. Subjects with a history of a socially or vocationally disabling psychological condi-

tion, other than that caused by alcohol or other drug intoxication, were also excluded. Subject No. 19 was an exception because the disability was not known until after the session.

The following agreements were made before the session to ensure an atmosphere of security during the session: (1) Everyone agreed to remain on the premises until it was mutually agreed that the session was over and that it was safe to leave; (2) The subjects agreed to refrain from any destructive activity to self, others or property; (3) All agreed that there would be no sexual activity between the therapists and the subjects; and (4) The subjects agreed to follow any instructions given by a therapist when explicitly stated as part of the structure of the session.

Most of the sessions were held in the subjects' homes. A six-hour fast was instituted to ensure rapid absorption of the MDMA and to prevent nausea. Before the dose was administered there was time to reestablish contact with the therapists and answer questions. An oral dose of 75-150 mg of MDMA was then given. (Subject No. 7 received higher doses, which are discussed below.) Lower doses were used in interpersonal sessions and higher doses were given to heavier people. During individual sessions, the subject listened to instrumental music—with or without headphones and/or eyeshades—to facilitate an internal experience. During interpersonal sessions, music was usually played in the background. The therapists were attentive and available to respond to requests or needs, to receive and record communications, and to interact with subjects as was deemed appropriate.

When subjects noticed that the effect of MDMA was beginning to subside—usually before two hours—they were offered a second dose of 50 mg or, rarely, 75 mg. The purpose of the second dose was to prolong the session and to provide a more gradual return to their usual state of consciousness. Some subjects were offered propranolol (20-40 mg, every three and a half to four hours) or a single five milligram dose of diazepam to reduce unwanted sympathomimetic side effects. Others received *L*-tryptophan (500 mg) to reduce discomforts occurring late in the session.

When the sessions were over, the subjects' ability to drive was assessed before they were allowed to drive a car. The usual duration of sessions was five to eight hours, depending on the dosage and setting. Follow-up was conducted both verbally (soon after the session) and much later by written questionnaire.

RESULTS

The data gathered from the questionnaires are presented here in narrative form. (These data are available

from the authors in tabular form.) The findings are presented in the categories of the questions asked. Much information was gathered on the presession questionnaires, but most was for screening purposes or for comparison with the follow-up questionnaires. The only items from that questionnaire mentioned here are preexisting physical or psychological problems and the subjects' purposes for having the session.

Fourteen (14) of the 29 subjects reported psychological problems, none of which was of a severe nature. Six individuals reported a dissatisfaction with themselves, such as fear of rejection, perfectionism or lack of self-confidence. Mild depression was reported by four subjects, anxiety by two, hate or sadness at being alone by two, normal existential despair or angst by two and difficulty making major life choices by one. (Subjects with diagnosable psychiatric disorders are discussed below.) Additionally, two subjects had significant health problems: subject No. 4 had essential hypertension that was well controlled with medication, and subject No. 7 had chronic macula edema in one eye with an ocular implant.

Follow-up questionnaires were completed by 28 of the 29 subjects from two months to two years after the last session, and most were around nine months. The other subject (No. 22) responded with a letter over two years later instead of filling out the questionnaire.

Benefits During Sessions

Every subject experienced some benefit from MDMA during his/her session. Twenty-seven (27) subjects felt closer and more intimate with anyone present. (The other two had solo sessions.) All 21 subjects who had sessions in couples or groups experienced more closeness and/or enhanced communication, and two found it easier to receive compliments and criticism.

All 29 subjects reported positive changes in their attitudes or feelings. Sixteen (16) felt warmer, fresher, more alive, euphoric or loving feelings. Ten (10) subjects mentioned greater self-confidence or self-acceptance, and 10 felt that their defenses were lowered. Two of these and five others reported undergoing a therapeutic emotional process. Five subjects said they had a transcendent experience. Five noticed having fewer negative thoughts or feelings. Three felt more self-aware or self-grounded, and two reported feeling blessed or at peace.

Twenty-two (22) subjects reported some cognitive benefit: an expanded mental perspective, insight into personal patterns or problems, improved self-examination or "intrapyschic communication" skills, or "issue resolution." Five subjects used a low dose (50 mg) to facilitate their creative writing abilities—four in a group session and one alone. All found it quite useful. Five subjects

reported clear cognition or enhanced presence of mind.

One subject reported an enhanced sense of touch. Another subject felt pleasantly warm, which was unusual for her.

Undesirable Effects

All subjects reported some undesirable experience during or after their sessions. The longest that any of these symptoms persisted was one week, except in two subjects. Subject No. 14 experienced a week of increased appetite and a 15 pound weight gain over a few weeks. He enjoyed eating more for a few months and then lost 10 pounds. No other subjects reported increased appetite. Subject No. 19 had difficulty coping with work, friends and relatives a few weeks later. He then had anxiety attacks that caused him to miss seven days of work. Work had been a major life stress both before and after the session, and had led to similar episodes of disabling anxiety in the past. He was "not receptive to the sensation" of MDMA and "stress[ed] that the session itself was not the anxiety-inducing catalyst. Rather, I think it served to open up some tightly controlled emotions that spilled out in a frightening way." He entered long-term, semiweekly psychotherapy for the first time. A year later he said, "It probably was a good thing. It speeded up processes that needed to happen."

Every subject reported some undesirable physical symptom and one subject (No. 7) had many more physical symptoms than any other. She was by far the oldest (74 years), though in good general physical health, except for her macula edema. In two separate sessions, she took a much higher single dose (200 mg) and total dose (350 mg) than any other subject because she had not responded to lower doses. The side effects she reported during sessions were nausea, a small amount of vomiting, jaw tension, ataxia, urinary urgency, blurred vision, sweating, brief short-term memory loss, and brief distortion in depth perception with a brief hallucination. During the evening after the sessions, she experienced loss of appetite, a little vomiting, less taste for alcohol, a strong body odor, blurred vision, urinary urgency, a mild hearing impairment, difficulty opening her jaws wide, insomnia and the biting of her cheek during sleep. Her jaw-opening difficulty continued for several days, along with two days of fatigue and hoarseness, one day of feeling uncertain on her feet and a brief visual illusion the second night, which lasted only until she turned on the light. She also reported a pleasant two-day relief from her usual sensitivity to light in the eye with chronic macula edema.

Twenty-two (22) subjects reported jaw tension or shaking, or teeth clenching during the session. Two of these and one other also reported it for the day after.

Diazepam (5 mg) clearly relieved this effect in two subjects, and propranolol (40 mg) also relieved it in two. One subject (No. 12) who had taken propranolol at the start of his session reported more jaw tension than he had had in an earlier, identical-dose session without it. He wondered if it was due to his purposefully more cognitive orientation during the second session. None of the other eight subjects who used propranolol during their sessions complained of jaw or other muscle tension after taking it.

Twenty-three (23) subjects reported fatigue lasting a few hours to a few days after the session; for 16 this lasted two days or less. Four of the 23 felt sleepy or tired during the session, though one had also taken diazepam (5 mg) to prevent the jaw clenching she had experienced with MDMA in the past. One other subject felt tired late in the session.

Eleven (11) subjects reported some insomnia the night after the session, though three subjects reported sleeping better. Eight subjects experienced muscle aches or tightness: six during the sessions and four afterward for a day or less. Six of the eight also had jaw tension.

All but one of the subjects lost their appetites during sessions—though none found it unpleasant—and all had fasted overnight or for a few hours before. Seven subjects felt nauseated during sessions, most for about five to 30 minutes. Two reported stomach upset for the next one or two days and one subject (No. 17) lost her appetite for three days and was mildly constipated for a few days. During the session she related her nausea to thoughts and feelings about her parents when they were in German concentration camps. After an unsuccessful attempt to vomit, the nausea and negative feelings stopped. Two subjects felt mildly nauseated during the evening after the session and one other subject was constipated for a day.

Three subjects reported difficulty walking during the session. Two reported feeling cold during sessions. Many others mentioned coldness early in the sessions—though not as a problem—and it usually lasted for less than 30 minutes. Two other subjects mentioned sweating during sessions, but it too was a common occurrence that was only mentioned in passing.

The following undesirable physical symptoms were each reported by only one subject: jittery vision early in the session; lip swelling, shakiness, and numb hands and face, all during sessions; headache late in the session; fainting the evening of the session (subject No. 16, who thought it was psychosomatic because she had been thinking about her difficult relationship with her boyfriend when it occurred); anorgasmia the day after; and decreased sexual desire for one to two days.

Pulse and blood pressure were measured in two subjects. Subject No. 10 had a baseline pulse of 60 and blood

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pressure of 90/50. During the session, the maximum pulse recorded was 112, and the maximum blood pressure was 128/70. Subject No. 11 had a baseline pulse of 64 and blood pressure of 110/78. His pulse reached 100, and his blood pressure went up to 154/88. Readings were taken 35 minutes after ingestion, when the subjects reported the first sensations of MDMA, and after one hour and 20 minutes, when side effects were felt most intensely.

Sixteen (16) subjects reported undesirable emotional symptoms. Five reported anxiety or nervousness during the session, including subject No. 19. Two subjects experienced mild depression the day after. One subject reported mental fatigue and one reported mild emotional inflation, both for a day. One subject reported feeling lonely or sad for brief periods during his session. One other felt one to three minutes of fear and paranoia early in his session, and then a flattened affect later in the evening. One subject (No. 18) described waves of physical and emotional "crud" during his session and over the next few days. He believed it had built up over the previous few days and felt he was "letting go" of it during the session. One subject reported feeling simply more emotional after her session, and subject No. 17 felt more emotionally vulnerable and off center for three to four days, including a few hours of nonspecific anger two days after her session.

Four subjects described undesirable cognitive symptoms. One had a "racing mind" and one reported confusion, both during the evening of their sessions. Subject No. 6 said it was hard to work the next day because there was "too much going on" inside her mind, and she felt confused about her relationship with her boyfriend for two days. One subject reported five to seven days of "negative self-talk."

Realization of the Session's Purpose

All but one subject had some purpose or goal, other than curiosity, for having a session and most had multiple reasons. Sixteen (16) of these felt that their purpose was completely realized, four reported significant progress made toward all their goals, and seven felt that some goals were realized while others were not. One reported that his curiosity was satisfied, but that no new learning about himself occurred.

Nine subjects implied they wanted more cognitive understanding of themselves and expressed it in several ways: self-analysis; rational self-examination; learning about themselves; understanding losses, fears or attitudes; gaining insight into life patterns; objectivity with insights into feelings and behavior; and clarifying thinking. Three of these subjects felt that this goal was fully achieved, one said progress was made, one was less than satisfied with

the results, and four reported no results at all in this area.

Of the eight subjects who wanted a peak experience of a visionary or mystical nature—or a sense of wholeness, connectedness or enlightenment—six felt that they realized such a goal and two felt that they did not. Two of the six and three others desired personal or spiritual growth or self-exploration, and all five felt that this purpose was fully realized.

Six subjects wanted enhanced communication with someone (often their spouse) taking MDMA with them. Five felt that this occurred and one was less than satisfied. One of the five also desired to have more open communication with people after the session and reported possible progress. Three other subjects desired closeness with their mates during the session, and all said that they achieved it.

As mentioned previously, five subjects had low-dose (50 mg) sessions specifically for the purpose of facilitating their creative writing. All reported being satisfied with the results.

Four subjects mentioned fun or enjoyment as a goal. One of these and two others wanted increased awareness. All six said that these goals were attained.

Three subjects wanted to change their personality or behavior patterns in some lasting way. Two reported progress and one was less satisfied than he wanted or expected to be. One of the two, and two others, wanted to work or move through emotional blocks. All three said they made significant progress. One subject sought to resolve inner conflicts regarding her husband, from whom she was separated, and she also made progress.

Two subjects wanted to experience a different state of consciousness, and two others desired more awareness of their feelings. All four felt they realized these goals. One subject desired psychotherapy for sadness at being alone, and one other wanted to lessen his fear of rejection during a session with friends. Both reported fully reaching these goals.

Changes in Psychiatric Disorders

All nine subjects with *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)* (American Psychiatric Association 1980) diagnoses reported significant relief from their problems. Two subjects reported full and lasting remissions: subject No. 17 with a dysthymic disorder (follow-up after nine months) and subject No. 23 with a postabortion simple phobia of sexuality and possible pregnancy. All three subjects with atypical or mixed personality disorders (Nos. 5, 9 and 13) and the four other subjects with depressive disorders (adjustment disorders with depressed mood in Nos. 6 and 22, dysthymic disorder in No. 17, and atypical depression in No. 16)

reported improvement.

Mood Changes

Eighteen (18) subjects described positive changes in their mood or emotional state, lasting from several hours to several weeks, and averaging about one week. Fourteen (14) reported having more good feelings. Five of these specifically mentioned euphoria or improved mood and four mentioned an increase in energy. Eleven (11) reported feeling more relaxed, calm, detached, serene and/or less anxious or agitated. Two reported increased alertness for at least a few weeks (one had just begun a leave of absence from work) and two others felt more amorous or sexual after their sessions. In addition, one subject felt more physical relaxation after his session.

Attitudinal Changes

Twenty-three (23) subjects reported positive changes in attitude that lasted from a week to a follow-up time of two years. Again, the average duration was roughly a week. Eleven (11) of these specifically mentioned increased self-esteem. Ten (10) subjects said they felt more acceptance of negative experiences or more patient in some way, four of these in relation to achieving their life goals. Four subjects reported simply feeling more positive. Three mentioned feeling less guilty, three reported having a more spiritual orientation in their lives and two felt more powerful. One subject each reported an increase in the following characteristics: self-awareness; hopefulness; satisfaction; lucky to have her position in life with her husband and friends; and flexibility to openness to change, self-discipline and commitment. Another subject described a clear and brisk feeling with a sense that there is more love in the world. One felt less self-defeating, one felt less self-conscious and inhibited, and one felt less needy.

Some attitude changes were primarily interpersonal in nature and will be described below. Negative changes reported by seven subjects were previously discussed, but four of these also had some of the positive changes mentioned above.

Five subjects reported changes in their attitudes toward death since their sessions. Two now see death as a change and not an end, two others feel less fear of their own or their parents' deaths, and one subject found that he thought more about death, though his feelings about it were no different.

Belief Changes

Sixteen (16) subjects reported belief changes that persisted after the sessions, but rarely did two report the same specific change. All changes resulted in more posi-

tive beliefs about themselves, individually or in relation to others or the world in general. Six subjects reported greater self-acceptance, self-confidence, independence, self-control, or appreciation of being alive. Four expressed more interest or ability in pursuing spiritual growth and three others reported a sense of unity with people, with the world or with "being." Four perceived an increased willingness to love, a greater appreciation of others or a greater capacity for interpersonal warmth. Four learned new ways to deal with psychological problems, two said their beliefs in their limited possibilities were diminished and one reported that his beliefs about himself and the universe were strengthened and deepened.

Relationship Changes

Only two subjects reported negative changes in their interpersonal relationships after sessions. One subject (No. 22) felt more guilt around men for "a while." She thought it resulted from an insight gained during the session concerning the childhood death of her brother. She also proceeded with a divorce, having separated from her husband before the session. The other subject (No. 19) has been mentioned above.

Every subject except No. 25 reported positive changes in their relationships after sessions, and he said, "It is possible that I have become more capable of expressing myself without having as much hesitation about how people will respond to my openness." The closeness and enhanced communication present during sessions continued for a few days to two years (at follow-up) for three of the five couples. In the two couples who had prior difficulties, they resolved significant conflicts after the session. Three subjects whose spouses were present, but not using MDMA, also reported more closeness and/or improved communication with them—two briefly, but the other still at follow-up after 10 and a half months. In addition to the three couples, 14 subjects reported the same changes with people other than their mates. In six of these, the changes were still present at follow-up between four and 24 months later, and in three others changes lasted from one to several weeks.

Ten (10) subjects reported that soon after their sessions they resolved conflicts with others, and for five of these people the conflicts concerned partners who did not have a session with them. Two of the latter (one being married) and two others (whose partners were also not present for the session) reported the continued decline and eventual termination of primary romantic relationships that were already failing before the sessions. On the other hand, two subjects who both had solo sessions subsequently got married (though not to each other).

An increase in the interpersonal expression of feel-

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ings after sessions was reported by seven subjects. An increase in acceptance and/or tolerance of others afterward was reported by six subjects. Three said that they now avoid superficial social interactions, two specifically mentioning cocktail parties. Three subjects reported seeing others as more autonomous and less in terms of their own needs and/or projections. Two said they found it easier to ask for help or make demands. One couple reported enhanced sexual enjoyment afterward—partly due to delayed orgasm—and one couple gained more awareness of their prior sexual problems.

Subject No. 17 reported feeling closer to her mother, seeking out people like herself more often (while avoiding egotistical people), and being able to state her beliefs more easily to others. All other relationship changes were reported by one subject each and included the following: feeling more compassionate; having greater freedom to have friends and a willingness to risk more with them; actually making more close friends; feeling more forgiveness toward others (along with receiving feedback from friends about "positive changes in the heart"); feeling comfort and rightness with wife; having a more confident and comfortable attitude toward wife without fear (with more confident and direct social behavior); experiencing an increased awareness of wife and others, with more empathy; having greater interest in others; recognizing how he distances others while wanting to be close; and understanding better the relationships with friends who shared the session.

Occupation Changes

Sixteen (16) subjects reported positive changes in their work since their sessions. Six felt better on the job in some way: less driven, compulsive, tense, stressed, temperamental or burned out; more patient and tolerant; or reported having more fun working or having more energy to do their work. Four had improved work relationships with more patience and tolerance, connectedness, acceptance or just getting along better with others. Most subjects did not say how long these changes lasted, but some indicated a range of one to 10 days.

Three subjects reported an increase in income since their sessions. One had changed jobs, one had graduated from school and begun her professional career and one had switched from the technical side of his work to the management side, where he enjoys spending more time with people. One subject (No. 19) reported increased job satisfaction, while another reported a decrease, but neither attributed the change to their sessions. One subject said he had become more active since his sessions and one subject said he had become more active in his independent professional work.

Two subjects reported negative changes. Subject No. 6 found it harder to work the day after a session and subject No. 7 found it harder to deal with demands and was less interested in work, but did not say for how long.

Activity Changes

Six subjects reported changes in their involvement with activities other than work. Two subjects joined groups for spiritual growth. One noticed an improvement in his creative writing abilities during the months after his session, when he took a leave of absence from work to complete a book of poetry. One subject was able to resume golf (his lifetime sport) after years of back pain, which had required multiple surgeries, ceased. Subject No. 19 took up woodworking for the first time, and one subject said he enjoyed his hobbies more. One reported a decrease in political activity, but did not attribute it to the session.

Spiritual and Physical Practice Changes

Fourteen (14) subjects reported positive changes in their regular practices for improving their spiritual or physical well-being. Six subjects began some sort of meditation or spiritual practice after their sessions. Two of these described MDMA-like states occurring during meditation, and one other subject said her meditation had improved. One subject, who continued a previous practice, felt that meditation was more important and meditated more often with clearer goals in mind. One subject reported looking at Buddhism (which he practiced) more analytically than emotionally or spiritually, but placed no value judgment on the change.

Three subjects had started new exercise programs by the time of follow-up, while one had stopped a previous routine. Two others increased prior exercise routines, though one said that it was due more to advancing age than to his session. One subject became more interested in health foods and improved his diet.

Substance Use Changes

Fourteen (14) of the 28 subjects who answered follow-up questionnaires reported a decrease in the use of mind- or mood-altering substances, and three reported increases. Six reported a decrease in alcohol intake: two continued to drink less at follow-up, with one reporting a marked decrease in his inclination to do so; two stopped drinking completely; and one of the remaining two said the decrease lasted two to four weeks. One subject reported an increase in consumption from three to five beers a week. One other subject did not feel like drinking alcohol, coffee or tea (as was her custom) after her sessions, but did not mention changes in long-term use.

Six subjects decreased their marijuana intake: one for only two to four weeks, but the rest continued to use less at follow-up, four to 18 months later. One stopped entirely and another reported a decrease in his desire for marijuana. One of the six said marijuana enhanced the sensations she remembered from MDMA sessions, even though her actual use decreased significantly. One subject had increased his marijuana use by follow-up time at nine months.

Five subjects reported a decreased caffeine intake. In four the change lasted, with one stopping entirely. In the one remaining subject, the decrease lasted several days. One subject who drank six to eight cups of coffee a day also stopped completely, but he does not relate it to his MDMA sessions. One noncoffee drinker now drinks it two to three times a week, and another increased his use, but not soon after his session.

Two subjects continue to smoke less tobacco. One other reported a greater urge to smoke after sessions.

One subject had continued to refrain from cocaine use for the four and a half months between his session and follow-up. Another reported a decreased desire for cocaine, without mentioning a change in use. These were the only two frequent users of cocaine in this study.

One subject reported less LSD use, one said he desired all psychedelics less, while one said he desired them more. One subject had a much more introspective psychedelic experience, and one had a more enhanced experience than usual, after MDMA sessions. One subject said she would be interested only in MDMA to alter her state of mind in the future because she "learned from it."

Changes in Life Goals

Fifteen (15) subjects changed some of their life goals after sessions, all implying that they were positive. Five said they felt more commitment to the same goals or felt that their goals were closer or that they felt more intense or "emergent." Four others reported a change toward seeking more self-awareness, personal growth and/or well-being. Another four had given up pursuing goals that were not being achieved or were trying less hard to reach their goals. Two subjects' goals had shifted away from concerns with money and financial security. Individuals reported the following varied changes: a shift from avoiding the negative to seeking the positive in life; greater desire to communicate and bond with husband; having a new goal of understanding relationships; becoming more active in work, and a greater interest in intellectual activities.

Changes in Experiences Being Sought Out

Nine subjects reported desirable changes in the kinds

of experiences they seek out in life. Four sought more trust, honesty, openness, closeness, or direct communication in their relationships—in addition to actual changes in their relationships described above. One subject now wants to be with more spiritually oriented people, and another seeks to offer more loving service to people.

Two subjects sought both to experience more love and open-heartedness as well as more freedom to be creative and/or artistic. Another two reported now having a more spiritual orientation in their lives, while two others found themselves more amorous or sexual after their sessions. Subject No. 19 sought intensive psychotherapy.

Changes in Experiences Being Avoided

Nine subjects described positive changes in the kinds of experiences they avoided in life. Three now avoid superficial socializing (two mentioning cocktail parties), while another avoids egotistical people, and one now avoids habitually taking care of others in her relationships.

Two subjects now avoid "sloth" or boring things. One reports accepting negative experiences more (less avoidance of them), and another (No. 19) chose to face problems rather than avoid them. The latter is also avoiding all psychoactive drugs. One subject is trying to avoid "negative karma" for herself and others.

Changes in Attitudes Preventing Self-actualization

Thirteen (13) subjects reported changes in this area, all for the better. Seven reported gaining lasting insight into psychological problems during their sessions. Three said they experience less guilt, such as that over enjoying small pleasures. Two reported a decrease in limiting beliefs about their possibilities. One of these individuals also now feels less self-defeating and recognizes how he distances others while he wants to be close. One subject feels less defensive and compulsive, one sees that she can change her defenses and one feels less impatient and rebellious. One reported feeling less strongly that emotions should not be expressed, one feels less self-conscious and inhibited and one feels less bound by anxiety. Subject No. 17 said she "literally got rid of a lot of negative material I had carried around with me forever," and now takes more risks in life. Nine months after her session, she said, "I'm continually getting better, brighter, happier, clearer and more grounded." One subject reported dissolving "useless structures within the mind," and one said that her sessions accelerated her psychotherapy.

DISCUSSION

MDMA was apparently physically safe for all 29

subjects in this study. No side effects were serious and only one subject had a side effect last more than a week. Vital signs recorded in two subjects revealed some increase in blood pressure and heart rate. These increases would be safe in a healthy person, but not in anyone with vascular disease. Other contraindications are standard for any sympathomimetic drug.

Only one subject (No. 19) experienced postsession psychological difficulties that were disabling or of more than a few days duration. He had been briefly disabled by the same symptoms of anxiety a few years earlier. During the session, he became afraid that he would become overwhelmed by unwanted emotions. He worked at preventing this from happening and became intermittently anxious in the process. He felt that other events in his life were the causes of his postsession anxiety. A year later he even felt that his session was probably beneficial. Subject No. 17 also had a past history of disabling anxiety attacks, but she had already received a long course of psychotherapy for them. In any case, there is an indication that MDMA may predispose people to a recurrence of previous psychological disabilities.

In future studies, informing subjects in detail of possible risks in taking MDMA and emphasizing them should be mandatory and will appropriately discourage some prospective subjects. Exclusion of those with a prior psychological disability—or an inability or unwillingness to have any disturbing experience that might occur during or after the session—should result in a safe population for clinical trials. It is also recommended that people who want MDMA to cure their problems should be excluded, whereas people who want to use it to learn about themselves should make good candidates.

In regard to the efficacy of MDMA for treating psychiatric disorders, all nine subjects with *DSM-III* diagnoses reported significant benefit, with two reporting lasting remission. A trend also exists toward relieving low self-esteem and increasing self-acceptance and self-confidence. One subject (No. 21) reported relief of back pain from which he had suffered for a few years. It is most likely that the psychosomatic component in this disorder was relieved, as opposed to any anatomic abnormality. MDMA might be useful in other medical conditions involving a psychological factor, though there is no supporting evidence from this study.

In general, it is reasonable to conclude that the single best use of MDMA is to facilitate more direct communication between people involved in a significant emotional relationship. Not only is communication enhanced during the session, but afterward as well. Once a therapeutically motivated person has experienced the lack of true risk involved in direct and open communication, it can be

practiced without the assistance of MDMA. This ability can not only help resolve existing conflicts, but it can also prevent future ones from occurring due to unexpressed fears or misunderstandings. Regardless of the mechanism, most subjects expressed a greater sense of ease in relating to their partners, friends and co-workers for days to months after their sessions.

MDMA's use as an adjunct to insight-oriented psychotherapy was specifically recommended by six subjects. Many felt that MDMA enhanced self-understanding and was useful in their personal and spiritual growth.

A value in treating at least mild alcohol and other drug abuse is indicated by the decreased use (reported by 14 subjects) of substances that have psychological dependence potential. Some subjects mentioned that these substances seemed less appealing after experiencing MDMA. The ability not only to feel free of conflict—which can be provided by many drugs of abuse—but also to learn how to prevent conflicts in everyday life seems unique to MDMA as a therapeutic adjunct.

In addition, MDMA's diminished pleasurable effects and markedly increased side effects when taken in either large doses or with greater frequency distinguish it from most drugs of abuse. Subjects Nos. 3 and 11 took four 50 mg supplemental doses after their initial dose. They found the fourth dose to cause only more agitation and confusion without any pleasant effects at all. Some subjects reported using MDMA on their own, but only subject No. 22 used it twice in the same week. The second experience was therapeutically useful, but left her depressed and exhausted for about two days. Therefore, both the positive experience of MDMA and the impracticality of using it frequently can motivate people to find other ways to achieve a desirable state of mind in everyday life. Sixteen (16) subjects began or increased their meditation practices or exercise programs, which supports this conclusion.

Providing the reports of these 29 subjects' experiences will hopefully encourage further research into the beneficial effects of MDMA. Presenting evidence establishing the limits of its usefulness should discourage any movement to promote it as a social or psychological panacea.

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