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Preliminary Results with New Psychoactive Agents 2C-T-2 AND 2C-T-7

Summary:

Preliminary test reports of two new phenethylamines, 2C-T-2 and 2C-T-7, which show promise as facilitators in psychotherapy, are compared to virgin use of MDMA (1). The purpose of the tests was to determine whether there were sufficient useful properties of the drugs to warrant further study, without contra-indicating side-effects. Drugs were administered in a friendly, supportive atmosphere with serene natural surroundings. Participants were requested to fill out a one-page questionnaire within a few days following the experience rating physical symptoms and various areas of functioning, and provide pertinent comments. Objectionable physical symptoms were minimal, and the majority experienced improvement in functioning in such areas as clarity of thought, flow of insights, communication with others, visual perception, energy level, feelings of well-being, and expanded dimensions of thought. Most found the experience valuable, and a large majority (41 to 4) would repeat the experience.

SHULGIN ET AL. (1986) outline a protocol for establishing the characteristics of a new psychoactive compound. As described therein, once a compound has been found to be safe, with characteristics of interest, and the active range determined, it is introduced to a special group for evaluation. This is a stable group that has been specifically chosen for their broad experience with a variety of substances, their personal qualifications, and their known history in response to new substances and with each other.

The purpose of the current trials was to take two compounds which were found to show notable promise in the preliminary group trials and check the reactions of a broader spectrum of subjects having less personal experience with psychoactive agents. The two compounds are 2C-T-2 (SHULGIN & SHULGIN 1991: 557-561) and 2C-T-7 (SHULGIN & SHULGIN 1991: 567-571). To facilitate evaluation, first time use of both of these drugs was compared to the first time use of the well-known and widely used drug MDMA (ADAMSON 1985, BECK ET. AL. 1989, EISNER 1989, SHULGIN & SHULGIN 1991: 733-739). All trials were conducted before the placing of MDMA in Schedule 1 of the Controlled Substances act of 1970 and the enactment of the Controlled Substance Analogue Enforcement Act of 1986, which ostensibly applies to 2C-T-2, 2C-T-7, and similar compounds. This legislation accounts for the limited sample sizes in the trials of MDMA and 2C-T-7.

The objectives of the study were twofold. First, to determine whether the substances being explored show any potential usefulness for facilitating psychotherapy, for use as learning tools with regard to self, relationships, or the nature of reality, or as enhancers of functions like intuition, creativity, and clarity and range of thought. And second, whether they are free of readily noticeable, undesirable side effects. We hope through this preliminary study to stimulate further

scientific research into these interesting compounds and to alert future researchers to possible contraindications.

Procedure.

The trial drug was administered in a comfortable home with a supportive atmosphere as described in SHULGIN ET AL. (1986). Efforts were made to establish a relaxed, friendly setting, with access to a secluded garden or an interesting natural vista outside. Music, beverages, and snacks were available. If desired, seclusion could be sought in a comfortable private room.

Usually a weekend was devoted to the drug trial. The subjects most often ingested the drug as part of a two person group, although often trials involved from one to five persons. All had stable personalities, were persons with whom it was easy to establish good rapport, and who would be unlikely to be frightened or overwhelmed by the surfacing of repressed material. Of those candidates who were accepted, all had had previous experience with other psychedelic materials except for three MDMA subjects, and two 2C-T2 subjects. None had previously taken the substance under investigation. Subjects ranged in age from 18 to 67; their occupations included student, homemaker, business person, therapist, and psychiatrist.

The subjects typically arrived at the test location the evening before the experience, most often a Friday evening. There were usually two hosts or a host and hostess, all of whom have had considerable experience in monitoring sessions with psychoactive materials. The evening was spent in getting acquainted or renewing prior acquaintances, and a general discussion was held about what was known of the substance to be ingested and about the general state of being of each subject. After the discussion, a dose was agreed upon for each participant. The factors affecting dose level are described below in the section on Dosage.

The following morning the drug was ingested on an empty stomach, and the day devoted to the experience. The setting and structure follows that described by SHULGIN ET AL. (1986). There were no formal procedures, and individuals were free to proceed as they wished, either privately or in group discussion. Often music was played if desired by the subjects, and participants were free to examine art books or explore the beauty of nature outdoors. After two hours or so (the usual time for the drug to reach full effect), those who felt their dose was not adequate were provided a supplement. Food was served in the evening, followed by more music or general socializing. The next morning after breakfast participants were encouraged to share their experiences and insights with the group. They had agreed to and were requested to fill out a questionnaire within a few days.

For ease of reporting, a one page list of characteristics was developed which could be readily checked off by the user. The check sheet was made as simple and as brief as possible to overcome the reluctance participants often have to submitting elaborate and lengthy reports. The characteristics chosen were those previously found relevant to experiences with these and related substances. In addition, subjects were asked to make open-ended comments. This check sheet

is shown in Figure 1. The degree of intensity scale is taken from SHULGIN ET AL. (1986). A brief summary of the scale items is included in the appendix.

Compounds.

A description of the general nature of the substances studied follows:

MDMA (1). MDMA has been widely used and reported upon. The most complete treatments are ADAMSON (1985), EISNER (1989), and BECK ET AL. (1989). EISNER (1989) contains a complete, annotated bibliography of the scientific literature on MDMA through 1988 (including a sampling of the popular literature) prepared by Dr. ALEXANDER T. SHULGIN. In our trials, we most often administered an initial dose of 120 m.g. followed by a 40 m.g. supplement at the one and one half hour point to sustain the experience. This dose level seemed optimum with a surprisingly wide variety of subjects. We found the major characteristics to be a satisfying feeling of being centered and whole, a feeling of euphoria, freedom from uncomfortable or untoward responses once the full effect of the drug was established, a sense of inner security with no need to defend oneself, and an ability to look at oneself honestly and with detachment. We arrived at a list of characteristics which we called "the usual symptoms," once the experience had been stabilized at about the one hour point: smooth skin, with wrinkles disappearing, and the subject looking to an objective observer many years younger, skin soft to the touch, considerable enhancement of visual acuity and intensity of colors, ease of communication, feelings of euphoria and feelings of love for others present, and a special kind of euphoria that is best characterized as "grace". This drug is unique in that it uniformly produced these symptoms in most of the subjects we studied. For one of the authors, his experiences during over thirty years of experimentation almost always entailed a preliminary period of discomfort lasting several hours. This was the first psychoactive chemical he ingested that was free of such effects.

2C-T-2 (1). 2C-T-2 is a compound almost ten times as potent as MDMA. It is active over a dose range of 12 to 30 m.g. It reaches full intensity in approximately two hours, with a useful working plateau near maximum intensity of about five hours. The descent is gradual and generally euphoric, providing several additional hours of heightened clarity to ponder about and assimilate the events of the day. While preserving some of the centering effects of MDMA, for most subjects it results in more emotional opening and permits a wider exploration of inner feelings and freedom of thought. In this regard it is considerably more like LSD, although free of the driving effect of the latter. The 2C-T-2 subject is also less likely to fall into holes of deeply repressed material. The long duration of peak effects provides the opportunity to explore a variety of interests and perceptions. 2C-T-2 promises to be a more powerful working material than MDMA. While permitting a greater range of exploration, it also permits repressed material to surface more readily, sometimes without the saving, centering quality of MDMA. This can at times be uncomfortable. Many experienced users of psychoactive compounds have come to accept their journeys into what CARL JUNG called the shadow material as an important part of their learning and growth process.

Such persons will welcome these opportunities to encounter unconscious material, and will consider the discomfort a small price to pay for the extended range of exploration that becomes possible with 2C-T-2. In fact, confrontation and integration of shadow material often provides the most satisfying permanent results from this type of exploration.

2C-T-7 (I). This substance is reported to be very much like 2C-T-2, of similar potency and dose range, and needs similar time to develop its full effects. Our experience with this substance is more limited; only eight reports (compared to 40 for 2C-T-2) were available for our assessment. Some who had also tried 2C-T-2 found 2C-T-7 greater in intensity, longer lasting, and even more LSD-like in its effects. Some reports indicate that the effects are more euphoric than 2C-T-2, leading to a more pleasant and more uniformly enjoyable experience. However, these effects require additional confirmation.

Dosage

The dosage level for each participant was agreed upon based primarily on the candidate's response after hearing a description of the active range of the drug and what is known of the action of the drug over this range. Another important consideration was the experience of the candidate with dose levels of other psychoactive drugs. Candidates were advised that if they had doubt, to choose a lower amount, since both drugs being tested supplement quite readily, and an additional amount could be added later in the experience. After sufficient time had passed for the drug to reach full effect, those who felt they needed more drug were provided a supplement.

Results.

Figure 2 provides a summary of the individual reports of seven subjects who took MDMA. None of them had ever taken it before, although all but three of them had had previous experience with some psychedelic.

Figure 3 is a similar summary of 40 subjects who ingested 2C-T-2. Again, this was the first experience with this particular substance.

Figure 4 is the summary report of 8 subjects who ingested 2C-T-7 for the first time.

Figures 5, 6, and 7 present data on specific items permitting a direct comparison of the three compounds tested.

Not all subjects checked off all the items on the questionnaire, so in some cases responses are missing. The worst case is the Degree of Intensity Scale, which indicates that this item was not adequately explained to those participating. Under *Physical Symptoms*, the items Heart Rate, Temperature, Perspiration, and Blood Pressure were not clinically measured, but are the subjective evaluations of the participants.

Individual Comments.

The following are key statements excerpted from the subjects' own comments on the individual forms. The numbers are arbitrarily assigned to individual participants. Not all of the subjects submitted written comments, which accounts for some of the missing numbers.

MDMA

MDMA subject no.

1. 32 year old male. The drug reached into my heart and opened it. I felt in touch with God most of the time. Everything becomes in tune to the universe from the smallest task to the greatest spoken truth! I found this to be the most enlightening day I have spent in some time. My day was filled with love for myself and all of life.

2. 46 year old female. Felt strong love for husband, was very, very sensitive to anyone near. Feelings lasted two weeks. Took 30 m.g. phenobarbital for seizures on the morning of the experience. Body completely numb for several hours, even to own touch. (Dose was 120 m.g.; in subsequent experience did much better with 80 m.g.)

3. Male age 54. Warm, pleasant glow, very sensitive to others.

4. Female age 63. Fatigue, low energy day after. Increase in self confidence, great release of past trauma, feel excellent in mind and body.

6. Female age 48. No dramatic change. Very close to my husband, treasured being with him, most expressive, loving time of our relationship.

7. Male age 49. Enlightenment experience, openness and love for 1-2 days, especially with my wife. Will forever cherish this experience, my wife and I became forever close. Able to express love for days like never before. Thanks.

2C-T-2

2C-T-2 subject no.

3. Male age 25. I can recall thoughts and clear patterns, have stronger drive to hold center.

4. Male age 25. Maintain clear head and eyes. Still maintain clear visual quality and good integration.

7. Female age 36. Relationship to this substance was positive and enriching. However, I do not perceive the need to explore with this substance again.

8, Male, age 67. Insights into emotional needs, clarification of Out-of-Body goals (following Monroe Institute techniques). Outstanding warmth of human interactions, as well as my own openness. Retinal imagery was fascinating but less so than human interactions, so I preferred eyes open.

9. Male age 65. Fantastic. Had a fully conscious confrontation with illusion of separation, birth of reality. High level insight into patients and key relationship. Great increase in energy and aliveness. Vast frontiers available.
10. Female age 43. Discovered repressing masculine side to attract boys. Greater commitment in relationship, clarity on what needs doing. Daughter observed that I looked and felt better.
11. Female age 31. Slightly dizzy looking at rushing water.
12. Male age 41. Some periods of blurred vision.
13. Female, approximate age 45. Overwhelming, little heavy on physical symptoms, next day very clear, good insights. Liked drive.
14. Female age 43. Uncomfortable, unable to focus attention, stay in body. Tired next day and not slowed down in three weeks. No clear insights.
15. Male age 39. Wonderfully expansive takeoff. Rocky, sensitive, continued deep work, love the energy.
16. Male age 54. Effects of experience continued several days -- visuals, powerful dreams, insights with patients. Functioning not inhibited.
18. Male age 36. Mind and body into balance and clarity. Increase of human warmth and understanding, self-appreciation, regard for creation. Listening skills enhanced.
19. Male age 39. Smooth transition, unnoticeable physical change, wonderful love feeling, truthful insights. Changes: improved self-image, confidence gained with others, ability to take leadership, general sense of well being, expanded view of consciousness. Headache after.
20. Female age 38. Enjoyed feeling of group cohesion, felt down during descent, poor communication with husband made me despondent. No continued elated feeling afterwards as with other substances.
21. Female age 24. After initial nausea, great feeling of flow within body, ease with people, grateful for gifts within people. Great desire not to dwell in pain, carry fears on. Experience them and move on. Renewed feeling of love and desire in relationship. Nurtured self. Accepted a gift and received the benefits.
22. Male age 53. Energized, peaceful. Greater clarity in work. Flow of insights two days after, taking look at contractions in my life.
24. Female age 18. Felt resistance created nausea. Changes: Much more open to new things, less thinking and talking, more doing. Meditated first time, deeply affected by Buddhist tape when coming down, dispelled doubts of Buddhist philosophy. Much more aware of body and processes.

25. Female age 45. A synchronous event foreseen in experience, very pleasant surprise. Closer to others, repressed personal issues surfaced and resolved with new insights and perspective. Each moment an eternity of bliss, intimations of intense beauty, quiet joy. No words. Intense relaxed good feeling at core and all levels. Clarity, precise happiness.

26. Female age 44. Heightened awareness after the experience of importance of forgiveness, trust, unconditional love. During the experience I felt blissful, peace with self, world, and life force. Not new but perhaps more sustained.

27. Male age approximately 45. Not much aware of drug effect. Brief feeling of beauty and clarity of the day, possibly drug related.

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28. Male age 33. Very beneficial for long term insights of order to life, clarity of emotions and direction. Grateful for opportunity to experience altered state and bring out truth quicker.

29. Female age 33. Relief in coming face to face with fear, willingness to ask for help from God and other people, optimism, forgiveness for self for buying into ego fears. Pressure sensitivity in solar plexus.

30. Male age 55. Very positive experience. Two initiations, first to group communion, second to nature and higher consciousness. Less dependent on one person, more self love. Sustained through serious setback at work.

31. Male age 43. Opening to new insights.

32. Male age 50. Broke through isolation and unacceptance, joined team. Saw feeling of superiority. Continuing new insights about relationships after the experience.

33. Male age 39. Group participation improved after this experience.

34. Male age 36. Experience very physical -- catapulted into present moment in unusual and forceful way. Incredible sensitivity to others, ground, beings. Kinship with plants, life; watching a bee a thrilling experience. Bit of crash after, strained interpersonal relations, non-specific aggregate of anger, sometimes hard to restrain. Passed a day later, felt a better man as result of experience.

35. Female age approximately 60. Following day filled with new thoughts and perceptions. Formed a high supported by the bliss of the journey. End of week desire to hold onto the ecstasy led to a downer. Experience in letting go. When didn't try to hold thought traveled into areas of bliss. Caring, perceptive, understanding guide I believe an important factor.

36. Male age 28. Changes: Permission to be self, express feelings and thoughts. Trust sharing truth with others, life, people, and self, keep heart open to life. Receive and give love. Give up protecting, encourage others to share. No judgment allows seeing love/Divine within

other. Danced a lot; in dance all there is. When my hands touched guide we merged deeply, like deep Samadhi. Very tuned into people afterward. Speak truth each moment, trust good will follow.

37. Male, age not reported. Renewed understanding of my path and its goal!

38. Male, age not reported. Very long lasting. Visual effects 9 hours, major effects 7 hours.

39. Male age 28. Low dose worked surprisingly well to open up to core of being; great love, open heart. No noticeable changes. Moments of transitory uncertainty, especially on taking supplement. Supplemental dosage pushed through this. (Took 8 m.g. with 8 m.g. supplement.)

40. Female age 49. Changes: More grounded in center, calm and relaxed. Very mellow experience. Headache later, went away with potassium. Able to go within, gained insight and understanding.

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2C-T-7

2C-T-7 subject no.

1. Male age 38. More comfortable with archetypes and their role. Great visual beauty, profound elements of inner meaning. Like mild cross of LSD/MDMA. Less lassitude than MDMA. Wonderful aid for thinking.

2. Female age 38. Sense of possibilities, well being.

3. Male age 57. Afterward felt physically strong and vital. I love the gentle way this substance comes on. It has a clear energy going up and down.

4. Male age 56. Not a significant journey for personal insight. Positive interaction with others.

5. Female age 45. Quite wonderful. More connected after. Terrain alive with cosmic beauty, incandescent. Shall never forget.

6. Male age 30. Confident, involved and inspired to change. Clarity of purpose. Engrossed and fascinated by depth and scope. Appreciative.

7. Female age 40. At first frustrating, not what expected, then great flow of composure and thought. Beautiful strands of unseen tapestry. More clear on relationship. Ordinary moments were of extraordinary quality -- simplicity, gentleness, caring. Great many more feelings and thoughts than previously aware of.

8. Male age 51. Increased clarity of thought, visual perception.

Discussion.

A. Physical Symptoms.

As can be seen in figure 5, all three drugs are comparatively similar in being free from physical symptoms, as indicated in the column "none or no change". MDMA yields the highest percentage of distracting effects, both short and long range. The distracting effects no doubt arise because many find the large amount of chemical ingested to be somewhat toxic, resulting in muscle tensions, jaw clenching, and similar effects.

2C-T-2 exhibited the fewest number of incidents free from physical symptoms, albeit only a slightly smaller percentage than MDMA. The smaller number here, and the larger percentage of noticeable effects, 20.5%, is most likely due to the greater uncovering of repressed material. Yet the distracting effects reported, both short and long duration, are fewer percentage-wise than reported with MDMA.

2C-T-7 yielded a surprisingly good record, showing a greater percentage of incidents free from physical symptoms than MDMA, and also a lower percentage of distracting effects than MDMA. These results might well be due to the fact that the subjects constitute a small and more experienced sample.

The three most debilitating physical symptoms -- nausea, vomiting, and muscle tensions -- were selected to permit a direct comparison of the three drugs.

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With regard to nausea, both 2C-T-2 and 2C-T-7 produced more complaints than MDMA. Again, both of these drugs are more powerful in uncovering unconscious material. Although nausea was reported by almost one third of all subjects regardless of drug ingested, we have not been able to determine that it is drug-related. It seems likely a result of psychic material encountered by the subject, inasmuch as the subject is most often aware of what is making him or her feel ill, and the nausea usually disappears when the problem is confronted. The same remarks hold for vomiting, where both 2C-T-2 and 2C-T-7 produced more symptoms. MDMA in our sample produced no vomiting.

With regard to muscle tensions, MDMA has a poorer record, doubtless because of its greater toxicity as mentioned above.

B. Areas of Functioning.

Figure 6 permits comparing the three chemicals in overall performance, and figures 6 and 7 show comparative results in several specific areas of functioning.

All three chemicals resulted in a substantial improvement in functioning (56.5, 57.2, and 69.2% overall for MDMA, 2C-T-2, and 2C-T-7 respectively), and some deterioration in functioning (15.9, 14.4, and 9.2% respectively). Performance deterioration is most generally the result of

uncomfortable feelings which surface during the experience and demand attention. The results with MDMA and 2C-T-2 are quite similar. 2C-T-7 has the best record, but again this may be due to a more sophisticated group of subjects.

All three drugs are greatly effective in enhancing performance on Clarity of Thought, Perception of High Order Meaning, and improving Feeling Tone. Considerable improvement occurs in the areas of Flow of Insights and Communication with Others. In the latter category, the data on MDMA confirms the widely reported property of providing improved communication. Visual Perception was the least enhanced among the items selected for specific attention. With respect to Energy Level, MDMA shows no improvement whatever and substantial deterioration. Both 2C-T-2 and 2C-T-7 show enhancement of Energy Level, with 2C-T-2 bringing the greatest improvement.

C. Dosage.

11 of the 40 2C-T-2 subjects asked for a supplement, which ranged from 2 to 10 m.g., the average being 4.4 m.g. Of the 8 2C-T-7 subjects, 6 requested a supplement. The supplement was 5 m.g. in 5 cases, and 10 m.g. in the remaining case. An interesting discovery was that supplements were effective as late as five hours into the experience, providing an almost immediate step function increase in activity.

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D. Other Characteristics.

Both 2C-T-2 and 2C-T-7 produced more eyes closed imagery than MDMA, and some eyes open imagery or hallucinations. A large majority, 41 to 4, would repeat the experience.

Conclusions.

2C-T-2 and 2C-T-7, two new phenethylamines, both show considerable promise in enhancing human functioning in a number of important areas, including clarity of thought, flow of insights, communication with others, feeling of well being, energy level, and perception of high order meaning. No contra-indications were observed in well-motivated subjects experienced with psychoactive drugs. Additional investigations to further define characteristics and potentials seems very much in order.

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Report of _____ (name) Age _____

Date _____ Compound _____ Dosage _____ Time started _____ Supplement _____ at _____ hours

PHYSICAL SYMPTOMS Check appropriate column:

	None or <u>No change</u>	<u>noticeable</u>	distracting, <u>short-duration</u>	distracting, <u>long-duration</u>
heart rate
temperature
perspiration
nausea
vomiting
muscle tensions
eye darting
blood pressure
other (name)

DEGREE OF INTENSITY (See description of scale)

	-/+	+1	+2	+3	+4
overall (circle)					
elapsed time to reach:					

RATE THE FOLLOWING:

	worse			improved	
	-2	-1	0	+1	+2
clarity of thought
flow of insights
recall of past events
communication with others
visual perception
perception of high order meaning
physical skills
general feeling tone
general fears
energy level
sense of elapsed time
eyes closed imagery (circle one)		present	not present		
hallucinations " "		present	not present		

OVERALL EVALUATION* Give brief assessment:

Would you do again? (circle) YES NO Same dose ____% More ____% less

PRESET* Describe significant feelings and attitudes prior to test:

CHANGES* Please summarize any significant changes in the days following the experience:

OTHER COMMENTS:*

*Use additional sheet if necessary

Figure 1

SUMMARY OF SEVEN QUESTIONNAIRES WITH MDMA

PHYSICAL SYMPTOMS

Check appropriate column:

	None or <u>No change</u>	<u>noticeable</u>	distracting, <u>short-duration</u>	distracting, <u>long-duration</u>
heart rate	.4.	...	.2.	...
temperature	.5.	...	.2.	...
perspiration	.6.	...	...	...
nausea	.5.	...	.2.	...
vomiting	.7.	...	...	...
muscle tensions	.3.	.1.	...	.2.
eye darting	.7.	...	...	...
blood pressure	.5.	...	...	...
other (name)	...	...	...	.2.
TOTAL	42	1	6	4
% of total	79.3	1.9	11.3	7.6

DEGREE OF INTENSITY

(See description of scale)

overall	-/+	+1	+2	+3	+4
		1	3	3	
RATE THE FOLLOWING:	worse				improved
	-2	-1	0	+1	+2
clarity of thought	...	...	.1.	.3.	.3.
flow of insights	...	...	.2.	.2.	.3.
recall of past events	...	...	.3.	.1.	.2.
communication with others	...	.1.	...	.5.	.1.
visual perception	...	...	.3.	.2.	.1.
perception of high order meaning	...	...	.1.	.3.	.3.
physical skills	.1.	.2.	.2.	.1.	...
general feeling tone	...	...	...	.4.	.3.
general fears	.1.	...	.3.	.1.	.1.
energy level	.2.	.1.	.3.	...	...
sense of elapsed time	.1.	.2.	.1.	...	...
TOTAL	5	6	19	22	17
% of total	7.3	8.7	27.5	31.9	24.6
Total worse and improved		11		39	
% of total		15.9		56.5	

eyes closed imagery present 1 not present 6
hallucinations: present 0 not present 7

Would you do again? (circle) YES NO Same dose More Less
7 0 2 3 1

eyes closed imagery (circle one) present not present
hallucinations " " present not present

Age: 32 - 63
Median: 48

Dose: 120 m.g. with 40 m.g. supplement at 1-1/2 hours

Figure 2

SUMMARY OF FORTY QUESTIONNAIRES WITH 2C-T-2

PHYSICAL SYMPTOMS Check appropriate column:

	None or No change	noticeable	distracting, short-duration	distracting, long-duration	...
heart rate	27	.9..	.1..	.1..	...
temperature	22..	13..	.3..	...	...
perspiration	23..	15..	...	...	...
nausea	26..	4..	7..	.2..	...
vomiting	33..	.1..	.5..	.1..	...
muscle tensions	24..	11..	.2..	...	...
eye darting	33..	.2..	...	...	...
blood pressure	27..	.2..	...	...	...
other (name)	...	.5..	.2..	.1..	...
TOTAL	215	62	20	5	
% of total	72	20.5	6.5	1.7	

DEGREE OF INTENSITY (See description of scale)

overall	-/+	+1	+2	+3	+4
	2	1	18	8	2

RATE THE FOLLOWING:

	worse		improved		
	-2	-1	0	+1	+2
clarity of thought	.1	1.	.3..	19..	11
flow of insights	.1..	...	.7..	16..	.15..
recall of past events	.2..	.1..	18..	11..	.4..
communication with others	.3..	.4..	.8..	14..	.11..
visual perception	...	.2..	19..	11..	.8..
perception of high order meaning	...	...	.6	.16..	.17..
physical skills	.3..	.8..	17..	.9..	.4..
general feeling tone	.2..	.2..	.5..	14..	.18..
general fears	.2..	.5..	19..	.8..	.6..
energy level	...	.5..	.7..	13..	.15..
sense of elapsed time	.3..	16..	12..	.3..	...
TOTAL	17	44	121	134	109
% of total	4.0	10.4	28.5	31.5	25.7

eyes closed imagery present 19 not present 21
 hallucinations: present 5 not present 34

Would you do again? (circle)	YES	NO	Same dose	More	Less
	34	3	9	18	3

Age: 18 - 67 Dose: 10 m.g. to 30 m.g. including supplement
 Median: 40 Average: 15.7 m.g.

Figure 3

SUMMARY OF FORTY QUESTIONNAIRES WITH 2C-T-7

PHYSICAL SYMPTOMS

Check appropriate column:

	None or No change	noticeable	distracting, short-duration	distracting, long-duration
heart rate	8	.1..	...	...
temperature	8.	..	...	...
perspiration	7..	1..	...	...
nausea	5.	1...	..	.2..
vomiting	6.	..	..2.	...
muscle tensions	5.	1..	..1	.1..
eye darting	8..	..	...	...
blood pressure	5.	..	...	...
other (name)	...	.1.	muscle spasms, tremors	...
TOTAL	52	5	3	3
% of total	82.5	7.9	4.8	4.8

DEGREE OF INTENSITY

(See description of scale)

	-/+	+1	+2	+3	+4
overall		1	4	2	
elapsed time to reach:		1 hour		1	1

RATE THE FOLLOWING:

	worse		improved		
	-2	-1	0	+1	+2
clarity of thought	..	1.	..	19..	11
flow of insights1..	1..	16...	.15..
recall of past events	2..	11..	.4..
communication with others	14..	.11..
visual perception1..	...	11...	.8..
perception of high order meaning	1	..16..	.17..
physical skills2..	3..	..9..	.4..
general feeling tone	14..	.18..
general fears	3..	..8..	.6..
energy level3..	13..	.15..
sense of elapsed time1	1..	.3..	...
TOTAL		6	14	31	14
% of total		9.2	21.5	47.7	21.5

eyes closed imagery present 4 not present 4
hallucinations: present 1 not present 6

Would you do again? (circle)	YES	NO	Same dose	More	Less
	7	1	1	4	

Age: 30 - 57
Median: 42

Dose: 20 to 25 m.g. including supplement
Average: 23.1 m.g.

Figure 4

COMPARATIVE DRUG RESPONSES ON KEY ITEMS

PHYSICAL SYMPTOMS

A. Comparison of total responses with each drug. The percentage given is that of the number of items checked in each column of the total number of items checked.

	<u>None or no change</u>	<u>noticeable</u>	<u>distracting, short-duration</u>	<u>distracting, long duration</u>
MDMA, % of total	79.3	1.9	11.3	7.6
2C-T-2:	72.0	20.5	6.6	1.7
2C-T-7:	82.5	7.9	4.8	4.8

B. Comparison of drugs on specific physical symptoms. The percentage given is the percentage of total subjects reporting in the specified column.

	<u>none or no change</u>	<u>noticeable</u>	<u>distracting, short duration</u>	<u>distracting, long duration</u>
<u>Nausea</u>				
MDMA, % of all subjects	71.4	0	28.6	0
2C-T-2:	65.0	10.0	17.5	5.0
2C-T-7:	62.5	12.5	0	25.0
<u>Vomiting</u>				
MDMA:	100.0	0	0	0
2C-T-2:	82.5	2.5	12.5	2.5
2C-T-7:	75.0	0	25.0	0
<u>Muscle Tensions</u>				
MDMA:	42.9	14.3	0	28.6
2C-T-2:	60.0	27.5	5.0	0
2C-T-7:	62.5	12.5	12.5	12.5

Figure 5

COMPARATIVE DRUG RESPONSES ON KEY ITEMS**PERFORMANCE**

A. Comparison of total responses with each drug. The percentages given are the percentage of the number checked for each item of the total number of items checked:

	worse		0	improved		total	total
	-2	-1		+1	+2	worse	improved
MDMA, % of items checked:	7.3	8.7	27.5	31.9	24.6	15.9	56.5
2C-T-2:	4.0	10.4	28.5	31.5	25.7	14.4	57.2
2C-T-7:	0	9.2	21.5	47.7	21.5	9.2	69.2

B. Comparison of drugs on specific items of performance. The percentage given is the percentage of subjects reporting this particular item:

	worse		0	improved		total	total
	-2	-1		+1	+2	worse	improved
<u>Clarity of Thought</u>							
MDMA, % of subjects:	0	0	14.3	42.3	42.3	0	84.6
2C-T-2:	2.5	2.5	7.5	47.5	27.5	5.0	75.0
2C-T-7:	0	12.5	0	62.5	25.0	12.5	87.5
<u>Flow of Insights</u>							
MDMA:	0	0	28.6	28.6	42.9	0	71.5
2C-T-2:	2.5	0	17.5	40.0	37.5	2.5	77.5
2C-T-7:	0	12.5	12.5	37.5	12.5	12.5	50.0
<u>Communication with Others</u>							
MDMA:	0	14.3	0	71.4	14.3	14.3	85.7
2C-T-2:	7.5	10.0	20.0	35.0	27.5	17.5	62.5
2C-T-7:	0	0	0	37.5	37.5	0	75.0
<u>Visual Perception</u>							
MDMA	0	0	42.9	28.6	14.3	0	42.9
2C-T-2	0	5.0	47.5	27.5	20.0	5.0	47.5
2C-T-7	0	12.5	0	25.0	37.5	12.5	62.5
<u>Perception of High Order Meaning</u>							
MDMA:	0	0	14.3	42.9	42.9	0	85.8
2C-T-2:	0	0	15.0	40.0	42.5	0	82.5
2C-T-7:	0	0	12.5	25.0	37.5	0	62.5

Continued on Figure 7, next page

Figure 6

B. Comparison of drugs on specific items of performance, continued.

Feeling Tone

MDMA:	0	0	0	57.1	42.9	0	100.0
2C-T-2:	5.0	5.0	12.5	35.0	45.0	10.0	80.0
2C-T-7:	0	0	0	50.0	25.0	0	75.0

Energy Level

MDMA:	28.6	14.3	42.90	0	42.9	0	
2C-T-2:	0	12.5	17.5	32.5	37.5	12.5	70.0
2C-T-7:	0	0	37.5	37.5	0	0	37.5

Figure 7

References

1. MDMA is a code name for 3,4-methylenedioxymethamphetamine. The drugs 2C- T-2 and 2C-T-7 are code names for 2,5-dimethoxy-4-(ethylthio)phenethylamine and 2,5-dimethoxy-4-(n-propylthio)phenethylamine, respectively. The synthetic procedures and physical characteristics of all of these compounds are published in SHULGIN & SHULGIN 1991.
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Appendix

Degree of intensity scale

Excerpted from *A Protocol for the Evaluation of New Psychoactive Drugs in Man* by ALEXANDER T. SHULGIN, L. ANN SHULGIN, and PEYTON JACOB, 111, published in *Methods and Findings in Experimental and Clinical Pharmacology*, 1986; 8(5):313-320.

- There is no effect noted, of any nature, that can be ascribed to the drug in question.
- +/- There is a move away from baseline, but there is not necessarily a conviction that it is drug-related.
- +1 There is a real effect, and the duration but not the nature of the content can be discerned. The "alert" has progressed into something unmistakable.
- +2 There is an unmistakable effect, and both the duration and the nature of the effect can be stated. At +2, one might be able to answer a telephone sensibly, but would most probably choose not to attempt to do so. One could drive a car with much care, but would wisely choose to do so only in a life-and-death emergency. Cognitive factors are largely intact, and much of the drug's effect could be suppressed if the need should arise.
- +3 This is the level of maximum intensity of drug effect. The full potential of the drug has been realized. Its character can be spelled out and the chronological patterns to be expected are defined.

+4 A special designation for "peak experience" in the terminology of Abe Maslow. This is a serene and magical state which is largely independent of what drug is used if a drug at all, and moreover, cannot be repeated at will with a repetition of the experiment. It is the extraordinary place, that one-of-a-kind, mystical or religious experience that will never be forgotten. This is not to imply in any way that it is more than, or comparable to, the +3. It is simply in a class by itself, and has no suggestion of quantitative value.