The Peak Experience Variable in DPT-Assisted Psychotherapy with Cancer Patients

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Few occurrences in psychotherapy appear more intriguing and impressive – to patients and therapists alike – than the radically-altered forms of human consciousness subsumed under the rubric of *peak experiences*. Such experiences are typically alleged to include an intuitive perception of psychological integration and harmony, coupled with profoundly positive feelings. These experiences also appear to be vividly remembered and intrinsically valued by most persons who encounter them. When they occur, whether spontaneously, in dreams, or in conjunction with hypnosis, meditation, sensory isolation, sensory overload, or the administration of psychedelic drugs, they often are viewed as "touchstones" or "breakthroughs" that entail potent experiential insights.

Although usually reported to be personally meaningful, little is known regarding the actual or potential value of peak experiences in the psychotherapeutic process. Some mental health professionals tend to view peak experiences, like any altered state of consciousness other than normal dreaming or conventional hypnotic phenomena, as a symptom of impending psychosis; others prefer to view such experiences in a more positive light as a sign of developing self-actualization and potential creativity. Some psychotic patients unquestionably have described transient peak experiences (Kaplan 1964); similar states of mind also have been reported by some of the most highly revered contributors to our culture, both in the sciences and the arts (Laski 1961).

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Study of the possible significance of peak experiences in the past generally has been confined to the province of philosophical and religious scholars. Only recently, since the discovery of LSD and the chemical syntheses of similar psychedelic drugs, has the scientific community possessed tools that, if responsibly employed, can facilitate the occurrence of various altered states of consciousness in a research context. Among the many altered states, peak experiences, as subsequently defined, are probably the most difficult to facilitate, even with the assistance of psychedelic drugs. Nonetheless, given cognizance of the important extra-pharmacological variables that influence the course of a psychedelic drug session (Dimascio & Klerman 1960), we now possess a technology that can evoke peak experiences with sufficient potency and reliability to permit us to study their impact on human behavior. The research reported in this article inquires into the contribution peak experiences may make to short-term psychotherapy, and into factors that may enable us to predict the probability of their occurrence.

Since the term "peak experience" was coined by Maslow (1959), it has been employed in various contexts both *generally*, encompassing the entire range of exceptionally meaningful human experiences, and *specifically*, delineating a transcendental form of consciousness, the hallmark of which is unity. It is in the latter context that the term is employed in this article. Concisely, it is defined herewith as a form of human consciousness, the contents of which, when retrospectively described, are found to correspond simultaneously to the following six categories: 1) Unity; 2) Transcendence of Time and Space; 3) Objectivity and Reality;

4) Deeply-Felt Positive Mood; 5) Sense of Scaredness; and 6) Ineffability and Parodoxicality. These categories, explained and illustrated in detail elsewhere (Pahnke & Richards 1966), arise from the research of several scholars who have attempted to describe phenomenologically the core of an apparently universal form of human consciousness, without reliance on culturally-determined theological or philosophical interpretations (James 1902; Pahnke 1963; Maslow 1964; Stace 1960). The third category, perhaps most perplexing to the reader unfamiliar with this literature, denotes the aspect of the peak experience that William James (1902) named "the noetic quality," writing that, "although so similar to states of feeling, mystical states seem to those who experience them to be also states of knowledge. They are states of insight into depths of truth unplummed by the discursive intellect." Following such experience, persons often claim to have intuitively recognized a more fundamental form of reality than the phenomena of everyday consciousness and tend to remember the altered state as intrinsically self-validating.

The data presented in this article were collected during one phase of an experimental program of psychotherapy for terminal cancer patients conducted by the Clinical Sciences Division of the Maryland Psychiatric Research Center. Building on earlier work with LSD-assisted psychotherapy for cancer patients (Pahnke *et al.* 1969, 1970; Richards *et al.* 1972), this study included a single administration of dipropyltryptamine (DPT) (Faillace, *et al.* 1967a, 1967b), a short-acting psychedelic drug, within a matrix of brief, individual therapy. Posited to accelerate or catalyze the psychotherapeutic process, thereby shortening the duration of therapy without compromising on depth or effectiveness, DPT was administered in accordance with the therapeutic procedures developed in prior studies with LSD as an adjunct in the treatment of persons suffering from alcoholism (Kurland *et al.* 1971), narcotic addiction (Savage & McCabe 1972), and psychoneuroses (McCabe *et al.* 1972).

METHOD

Subjects

Of the 34 subjects included in this study, 30 were referred through the Oncology Division of Sinai Hospital in Baltimore and four subjects requested referral from their private physicians.

Screening criteria included: 1) the presence of psychological distress, defined as depression, anxiety and/or psychological isolation; 2) an estimated prognosis of at least three months of life; 3) absence of brain metastases or organic brain disease; 4) absence of recent history of myocardial infarction or imminent danger of cardiovascular accident; and 5) absence of current psychosis or history of chronic psychosis. To patients who met these criteria, the experimental procedures were fully explained and informed consent was obtained.

Of the total sample, 32 percent were male and 68 percent female; 47 percent were Negro and 53 percent Caucasian. Ages ranged from 24 to 71, with a mean of 51.4 years. The length of formal education ranged from 4 to 18 years, with a mean of 10.9. In regard to religious background, 53 percent of the sample were Protestant, 26 percent were Catholic and 21 percent were Jewish. Seventy-one percent of the subjects were married.

At the time of screening, subjects were classified in terms of the three stages of disease formulated by Weisman (1966). Of the total sample, only 6 percent qualified for Stage I, "the initial stage of reduced alternatives;" 59 percent were judged to be in Stage II, "the intermediate stage of middle knowledge;" and 35 percent were classified in Stage III, "the terminal stage of counter-control and cessation." During the screening interview, 65 percent of the sample verbalized diagnosis. The primary locations of cancer for the group may be outlined as follows: breast, 9 percent; respiratory system, 15 percent; digestive system, 35 percent; genito-urinary system, 23 percent; lymph system, 6 percent; and skin (malignant melanoma), 12 percent.

Procedure

Therapeutic Procedures. Patients in this program participated in a mean of 20½ hours of psychotherapy spread over four to five weeks. The range of therapy hours extended from 12¼ to 33½ hours. The psychotherapeutic process, described in more detail elsewhere (Richards 1975), may be summarized in terms of three phases.

Phase I, typically lasting between two and three weeks, focused on the establishment of rapport and exploration of the current conflicts of the patient. When appropriate, the patient was supported in coming to terms with issues of diagnosis and prognosis, in confronting and attempting to resolve interpersonal difficulties in the family, and in further resolving grief associated with the loss of important persons earlier in life. Not uncommonly, existential issues regarding the search for meaning, the struggle with despair, religious queries, and the confrontation with one's own death became progressively prominent as the therapeutic

relationship developed. In preparation for the DPT-assisted therapy session, the patient was introduced to the technique of Guided Affective Imagery (Bonny 1975; Leuner 1969, 1970) and was supported in learning to approach, explore, and accept his or her own symbolic and affective processes. The range of altered states of consciousness known to occur during the period of DPT action, including transient psychosomatic manifestations, was described to the patient. On the day prior to DPT administration, the therapist usually met with the patient's family as a group to explain the rationale of the experimental procedure and to provide an opportunity for family therapy.

Phase II, therapy on the day of DPT administration including the period of drug action, lasted between 4 and 10½ hours with a mean duration of 6¾ hours. For 26 of the 34 subjects in this study, this phase was conducted in a private general hospital room at Sinai Hospital on an inpatient basis; 8 subjects were able to function on an outpatient basis and received DPT in one of the specially designed treatment rooms of the Maryland Psychiatric Research Center. Dosage was determined by the judgement of the therapist, taking into account body weight and psychological resistance. The response of the patient to techniques of Guided Affective Imagery was employed by the therapist in making his (All therapists in this study were male.) assessment of the intensity of resistance. The drug was administered intramuscularly in moderately high dosage, ranging from 75 to 127.5 mg, with a mean dose of 101.7 mg. The dosage median and mode for the sample were both 105 mg. During most of the period of drug action, a sleep-shade was employed to minimize environmental stimuli and assist the patient in focusing on internal processes. Stereophonic music, generally symphonic or choral, also was used to provide a structure of nonverbal support and to help channel affective expression (Bonny & Pahnke 1972). The therapist and a specially-trained nurse remained in constant attendance and provided interpersonal support and guidance when indicated. As the drug effects abated, verbal interaction between therapist and patient increased. Following the termination of drug effects, the patient usually was joined by selected family members, and highly productive therapy within the family often occurred.

Phase III began on the day immediately following the DPT-assisted therapy session and focused on the process of integrating new insights into the fabric of everyday existence. The mean amount of therapist time devoted to this endeavor was 2½ hours during the week following DPT administration and an additional 2 hours spread over the next three weeks. When indicated, therapists remained in periodic contact with patients until death occurred.

Assessment Procedures. Immediately following referral, screening and acceptance into the project, but prior to the first meeting of the patient with his/her psychotherapist, the subject was visited by a research assistant and two psychological tests were administered: the Personal Orientation Inventory (Shostrom 1965) and an abbreviated form of the Minnesota Multiphasic Personality Inventory (MMPI), the Mini-Mult (Kincannon 1968). At this point, the patient also was interviewed conjointly by two independent raters. The raters were two male psychiatric social workers who were kept blind to the research design in general and our interest in peak experiences in particular. Subsequently, the raters registered their assessments of the patient's psychological distress on pertinent variables of the Brief Psychiatric Rating Scale (Overall & Gorham 1972). In addition, independent ratings of the patient's psychological status were obtained on the day prior to DPT administration through the same rating procedure. One week after the administration of DPT or approximately one month following the first assessment, the same testing and rating procedures were repeated.

In order to determine quantitatively which subjects had peak experiences during their DPT sessions, this study employed the Psychedelic Experience Questionnaire (PEQ). This 100-item questionnaire includes 43 core items designed by Pahnke (1963, 1969) to measure on a 0 - 5 scale the presence of each of the six categories included in the previously-mentioned definition of "peak experience". Pahnke posited that a score of 60 percent or more indicated the occurrence of a peak experience. He verified this by using independent judges employing content analyses of his subjects' written experiential descriptions. Prior to the screening of subjects this study accepted Pahnke's proposition regarding a score of 60 percent or more. In the Psychedelic Experience Questionnaire the 43 core items are intermixed with 57 additional items designed to record the occurrence of phenomena associated with other altered forms of consciousness.

Using a secondary instrument, the Peak Experience Rating Form (PERF), the therapist registered his assessment, on a 0 - 4 scale, of the extent to which he judged the subject to have experienced the content of each of the six categories that define the peak experience. The therapist based his judgements on his observations during the period of DPT action and on the subject's subsequent tape-recorded description of the experiential sequences.

Sample Division. Utilizing Maslow's terminology and Pahnke's criterion, 15 subjects were classified as *peakers* and 19 as *nonpeakers*. Three subjects failed to complete the PEQ, but a score of 15 or above on the PERF was employed to classify them. This criterion was based on the observation that all of the subjects who scored 60 percent or above on the PEQ received a total rating of at least 15 out of a possible 24 points on the PERF. As is indicated in Table 1, the groups proved to be clearly disparate in regard to the intensity of the contents of all six categories that define the peak experience.

RESULTS

Concerning Possible Predictors of Peak Experiences

Baseline Considerations. In order to examine baseline differences between the group of peakers and the group of nonpeakers, the psychological test findings and independent ratings obtained at the time of entrance into the research project were compared by independent *t*-tests. As indicated in Tables 2, 3, and 4, the only significant differences found were on two scales of the POI, "Time Competency" and "Existentiality." Contra-

TABLE 1

DIFFERENCES BETWEEN PEAKERS AND NONPEAKERS ON SCALES OF PSYCHEDELIC EXPERIENCE QUESTIONNAIRE

	Peakers (N=14)		Nonpeakers (N=17)			
Scale	M Percentage	SD	M Percentage	SD	Difference	*t**
Unity	73.4	19.9	23.2	14.8	50.2	8.06
Transcendence of Time & Space	78.1	21.9	39.1	24.3	39.0	4.65
Objectivity & Reality	77.1	22.6	32.7	29.4	44.4	4.64
Deeply-Felt Positive Mood	81.1	10.8	40.4	22.6	40.7	6.19
Sense of Sacredness	82.2	21.7	36.4	23.1	45.8	5.66
Ineffability & Paradoxicality	75.4	18.6	28.9	24.1	46.5	5.91
Combined Total	77.9	13.4	33.8	13.4	44.1	9.15

* all $p < .001$

TABLE 2

PRE-THERAPY COMPARISONS OF NONPEAKERS AND PEAKERS ON POI VARIABLES*

	Nonpeakers (N=19)		Peakers (N=14)		
Variable	M	SD	M	SD	*t*
Time Competency	41.5	11.7	31.5	9.5	2.61†
Inner Directedness	43.7	9.3	39.9	8.3	1.21
Self-Actualizing Values	46.3	13.6	43.5	13.3	.59
Existentiality	45.0	8.0	36.9	8.7	2.74††
Feeling Reactivity	43.2	8.3	46.3	8.5	1.06
Spontaneity	48.4	7.3	47.6	7.7	.29
Self-Regard	46.7	12.7	45.1	8.4	.42
Self-Acceptance	43.2	9.9	40.4	7.6	.86
Nature of Man Constructive	43.4	9.2	42.2	11.0	.33
Synergy	40.3	15.1	36.8	12.7	.70
Acceptance of Aggression	42.6	12.5	44.1	9.2	.38
Capacity for Intimate Contact	45.6	9.3	40.9	9.7	1.42

* Higher scores reflect greater magnitude of variable indicated
† $p < .01$
†† $p < .001$

TABLE 3

PRE-THERAPY COMPARISONS OF NONPEAKERS AND PEAKERS ON MINI-MULT VARIABLES

	Nonpeakers (N=19)		Peakers (N=14)		
Variable	M	SD	M	SD	*t*
L	54.6	8.0	52.4	8.9	.75
F	55.9	8.3	60.4	10.8	1.37
K	52.3	6.8	52.1	9.4	.09
Hs	63.3	12.0	71.8	14.5	1.83
D	70.3	12.1	76.1	13.4	1.32
Hy	63.6	10.1	68.9	8.4	1.61
Pd	62.5	9.9	64.0	13.2	.37
Pa	60.7	9.1	62.7	8.4	.64
Pt	61.8	11.1	65.6	12.4	.91
Sc	66.8	12.2	66.4	14.8	.09
Ma	56.7	9.2	59.4	11.6	.76

TABLE 4

PRE-THERAPY COMPARISONS OF NONPEAKERS AND PEAKERS ON BPRS VARIABLES

	Nonpeakers (N=18)		Peakers (N=12)		
Variable	M	SD	M	SD	*t*
Somatic Concerns	4.6	.8	4.0	.7	1.76
Anxiety	4.1	.9	3.9	1.1	.49
Emotional Withdrawal	2.1	.8	2.2	1.3	.18
Conceptual Disorganization	1.3	.4	1.1	.4	.95
Guilt Feelings	1.8	.9	1.7	1.0	.39
Tension	4.1	.9	3.9	1.1	.59
Grandiosity	1.5	.6	1.2	.5	1.61
Depressive Mood	4.3	1.2	3.6	1.3	1.62
Hostility	2.2	1.1	2.3	1.5	.27
Suspiciousness	2.7	1.0	2.4	1.7	.52
Uncooperativeness	1.2	.4	1.4	1.4	.63

ry to expectation, in both cases the peakers scored lower than the nonpeakers, suggesting that before therapy the peakers were less able to "live in the present" and were less flexible in the application of values than the nonpeakers.

When demographic data on the two groups were compared, no significant differences were observed on variables of sex, race, marital status, or years of formal education. However, the occurrence of a peak experience was found to be significantly more probable for persons between the ages of 30 and 50 than for those outside this age range ($\chi^2 = 9.28$, $p < .005$). In regard to religious background, the Protestant and Catholic subjects were both approximately equally divided between the two groups of peakers and nonpeakers. None of the seven Jewish patients who participated in this particular study, however, had peak experiences during their DPT-assisted therapy sessions.

Examination of descriptive information for the two groups regarding stage of disease, verbalization of diagnosis, and primary location of cancer yielded little of potential import. There was an indication, however, that the probability of a peak experience may be higher for subjects in Stage I, "the initial stage of reduced

alternatives" or Stage III, "the terminal stage of counter-control and cessation" (Weisman 1966) than for those in the second stage of the disease process ($\chi^2 = 5.91$, $p < .02$). Of the twenty subjects classified in Stage II, fourteen did not have peak experiences.

Observations on the Day Prior to DPT Administration. Retrospective examination of the independent ratings made on the BPRS on the day prior to DPT administration yielded interesting results. Dependent *t*-tests, comparing these ratings with the baseline ratings, indicated that the nonpeakers were manifesting an increase in anxiety, t $(df = 17) = 2.13$, $p < .05$, whereas the behavior of the peakers reflected a decrease in hostility, t $(df = 11) = 2.73$, $p < .01$.

Analysis of covariance, employing the baseline ratings as covariate controls, yielded significant differences on three BPRS scales: Anxiety, F $(df = 1, 28) = 4.94$, $p < .05$; Tension, F $(df = 1, 28) = 4.94$, $p < .05$; and Hostility, F $(df = 1, 28) = 4.71$, $p < .05$. This differential result indicated that, on the day prior to DPT administration, the subjects who would not have peak experiences on the following day were judged to be significantly more anxious, tense, and hostile than those subjects who would have peak experiences. It may be noted that the anxiety manifested by the nonpeakers on the day prior to DPT administration was found to be markedly decreased one week following DPT t $(df = 17) = 2.78$, $p < .02$.

Additional Considerations. In the search for predictors of peak experiences, inquiry was made into three additional factors: 1) total hours of therapy time preceding DPT administration; 2) DPT dosage; and 3) personality of the therapist.

The mean number of therapy hours prior to the day of the DPT session for the peakers was found to be 10.8, whereas the mean hours for the nonpeakers proved to be 9.2. Although this discrepancy does not reach statistical significance, it might lend some support to the contention that the more developed the relationship between the therapist and patient is, then the more probable the occurrence of a peak experience will be.

In regard to the amount of DPT administered, the mean dosage for the group of peakers was found to be 99.0 mg, whereas the mean for the nonpeakers was 103.8 mg. The discrepancy here is very small and statistically insignificant, but it is clear that the hypothesis that the peak experiences were evoked through higher dosage has no basis in the data.

Although it is well recognized in psychotherapy research that the personality of the therapist is a variable of major import, no differences of note were apparent in regard to the ratio of peakers and nonpeakers among the patients treated by any one of the six therapists who participated in this research project.

Concerning Possible Effects of Peak Experiences on Outcome:

Findings Indicated by Patients' Self-Reports. Change in self-assessments during the period before therapy to one week following the DPT-assisted therapy session was examined for each of the two groups by

TABLE 5

RESULTS OF T-TESTS ON VARIABLES OF THE PERSONAL ORIENTATION INVENTORY FOR PEAKERS (N=13)

	Before		After				
Variable	M	SD	M	SD	Differences	*T*	*p*
Time Competency	30.8	9.5	41.3	11.2	+10.5	2.87	.01
Inter Directedness	40.2	8.6	48.2	10.4	+ 8.0	2.98	.01
Self-Actualizing Values	43.9	13.7	50.5	14.7	+ 6.6	2.12	.05
Existentiality	37.0	9.1	45.9	9.3	+ 8.9	4.30	.001
Feeling Reactivity	46.9	8.5	49.9	7.8	+ 3.0	1.11	ns
Spontaneity	48.5	7.4	52.4	12.0	+ 3.9	1.10	ns
Self-Regard	44.4	8.3	52.9	8.8	+ 8.5	2.77	.02
Self-Acceptance	40.3	7.9	47.6	9.0	+ 7.3	2.81	.02
Nature of Man Constructive	41.4	11.0	46.2	10.2	+ 4.8	2.16	.05
Synergy	37.9	12.5	45.1	13.3	+ 7.2	2.22	.04
Acceptance of Aggression	44.1	9.6	49.6	11.1	+ 5.5	1.48	ns
Capacity for Intimate Contact	40.9	10.1	50.8	10.9	+ 9.9	3.18	.008

dependent *t*-tests, using the self-report indices measured by the POI and the Mini-Mult. None of the changes from pre- to post-therapy on the 12 POI scales reached statistical significance for the group of 15 nonpeakers on whom POI data were available. In contrast, as indicated in Table 5, nine of the same scales reached statistical significance for the group of 13 peakers who had completed the POI, all changes being in the direction of improved self-actualization. Statistical significance was indicated on two scales of the Mini-Mult for the group of 16 nonpeakers who completed the test both before and after DPT-assisted therapy; namely, *Pt*, Psychasthenia, *t* ($df = 15$) 2.18, $p < .04$, and *Sc*, Schizophrenia, *t* ($df = 15$) = 3.78, $p < .02$, both of which reflected decreased symptoms of psychological distress. For the group of 11 peakers on whom Mini-Mult data were available, significant decreases in psychiatric symptomatology were indicated on four scales, as presented in Table 6.

TABLE 6

RESULTS OF T-TESTS ON VARIABLES OF THE MINI-MULT FOR PEAKERS (N=11)

	Before		After				
Variable	M	SD	M	SD	Difference	*T*	*p*
L	52.1	10.0	54.9	10.1	+2.8	.91	ns
F	61.1	11.3	57.2	8.2	-3.9	1.46	ns
K	50.0	6.2	53.9	9.0	+3.9	1.80	ns
Hs	69.0	14.1	62.7	11.2	-6.3	2.10	ns
D	74.5	14.3	66.3	12.0	-8.2	2.45	.03
Hy	67.6	8.6	62.0	9.1	-5.6	4.53	.001
Pd	65.5	12.4	63.7	10.6	-1.8	.54	ns
Pa	63.8	7.7	55.5	11.4	-8.3	2.41	.04
Pt	64.2	13.6	54.5	11.0	-9.7	2.39	.04
Sc	66.0	14.8	58.0	10.9	-8.0	1.90	ns
Ma	61.4	10.9	55.6	9.4	-5.8	1.81	ns

In order to examine the POI and Mini-Mult data by a more stringent statistical procedure, analysis of covariance was employed, using the baseline assessments made prior to the beginning of therapy as the covariate controls. Although one might question the use of covariance analyses due to the absence of random assignment, it should be noted that there was no way of predicting in advance who would have a peak experience during the DPT-assisted therapy session and who would not.

The analysis of covariance procedure indicated differential results on two scales of the POI; namely, Existentiality F ($df = 1, 26$) = 6.16, $p < .05$ and Capacity for Intimate Contact, F ($df = 1, 26$) = 4.43, $p < .05$ In both instances the results indicated greater self-actualization on the part of the peakers as compared with the nonpeakers. When analysis of covariance was applied in the same manner to the Mini-Mult data, no significant differential results were found.

Findings Indicated by External Observer's Ratings. By means of the same statistical procedures, an examination was made of the change from pre- to post-therapy, as measured by the independent ratings of the two external observers and recorded on appropriate scales of BPRS. The judgements of the two independent raters were averaged for each variable in order to provide a single index of each patient's condition on a specific variable at a single point in time. Mean inter-rater reliability as determined by Pearson product-moment correlations, was found to be .62. When pre- and post-*t*-tests were calculated separately for the nonpeakers and peakers, no statistically significant changes were found for either group. Similarly, analysis of covariance yielded no significant differential results with the BPRS data.

DISCUSSION

It is of interest that the independent raters observed no significant treatment effect in their ratings of peakers, in contradistinction to the positive results indicated by the POI, the Mini-Mult, and the clinical observations of the therapists. Typically the subjects

who had peak experiences impressed the therapists as being most free of psychological distress at the termination of therapy. Contributing to the lack of confirmation of these impressions by the independent raters may be the fact that, in an attempt to prevent the raters from developing a bias for or against peak experiences, the raters had been instructed not to question patients regarding the nature of their experiences during the period of DPT action. Unfortunately, this methodological safeguard may have served to inhibit patients, especially peakers, from more fully expressing themselves.

The test data generally indicate clinical improvement of greater magnitude for the group of peakers than for the group of nonpeakers. The large number of significant POI findings for the peakers may not be as noteworthy as it first appears, especially considering the interrelatedness of many of the POI scales; however, this cluster of significant POI results for the peakers, in contrast to the absence of significant findings for the nonpeakers, strongly suggests that the response to psychotherapy was different for the two groups. Of greatest potential relevance is the peakers' improvement in "Capacity for Intimate Contact," suggesting the enhancement of a quality of interpersonal openness that might mitigate the isolation and lack of meaningful communication often experienced both by terminally ill patients and their closest family members. Similarly, the peakers' improvement in "Existentiality" suggests increased tolerance of individual differences in interactions with family members.

Although no baseline differences between the peakers and nonpeakers were observed by the independent raters, they blindly judged the nonpeakers to be significantly more anxious, tense, and hostile than the peakers on the day prior to DPT administration. Clinical observations by the therapists would suggest that many of the peakers were highly motivated for therapy, were readily engaged in the therapeutic process, and managed to make significant progress in the confrontation, expression, and resolution of anxiety and hostility during the two or three weeks of psychotherapy that preceded the administration of DPT. The baseline POI findings indicating that the subjects who would have peak experiences were initially more time incompetent and rigid in their application of values than the nonpeakers might be seen to reflect a greater degree of psychological distress and therapeutic readiness on the part of the peakers. In contrast, many of the nonpeakers appeared to be less motivated, were less readily engaged in therapy, and progressed more slowly, sometimes only beginning to relinquish denial of their illness sufficiently to honestly express anxiety and hostility in the days immediately prior to the drug-assisted therapy session.

One might posit that the anxiety manifested by the nonpeakers reflected an unexpressed awareness that potentially painful psychodynamic material still was being avoided and awaited confrontation during the period of drug action on the following day.The peakers, on the other hand, may have felt a sense of accomplishment and resolution, and been less frightened by the prospect of self-confrontation. In this context, the peak experience might even be viewed as an intrapsychic reward or celebration of therapeutic accomplishments.

Observations from other research projects that include more extensive therapy and additional administrations of psychedelic drugs would suggest that some of the nonpeakers eventually might have had peak experiences if the therapeutic process was continued (Grof 1975). In fact, for some persons, several drug-assisted therapy sessions, dominated by intense material of a psychodynamic nature, may be prerequisite for the development of sufficient trust to permit the process of ego dissolution ("psychological death") that culminates in the peak experience and subsequent feelings of psychological rebirth. Clinical impressions during psychotherapy research with psychedelic drugs consistently have suggested that the role of conscious volition in facilitating the occurrence of peak experiences is not one of striving for achievement; rather it is one of choosing to be receptive and trusting. It would follow that, unless the patient is relatively well integrated prior to therapy, the therapeutic relationship would have to mature before the patient would feel sufficiently secure to be able to choose to relinquish enough control to permit the occurrence of the peak experience.

It may be observed that, although the nonpeakers as a group manifested less improvement than the peakers, most nonpeakers made noteworthy therapeutic gains and no subject appeared to have been physically or psychologically harmed by participation in this research project. The anxiety manifested by the nonpeakers on the day prior to DPT administration was often resolved during the DPT session and was judged to have abated by the independent raters at the time of the interview one week later. The decreases on the *Pt* and *Sc* scales of the Mini-Mult indicate some measurable treatment effect for the nonpeakers, the latter scale most likely reflecting a decrease in interpersonal withdrawal.

As the psychological tests were not administered to an untreated control group, it cannot be fully

established that the clinical improvement observed, both in peakers and nonpeakers, was due to psychotherapy and not some other variable. However, general observations of terminal cancer patients who are experiencing psychological distress would lead one to expect such distress to remain stable or increase over a period of three to four weeks, rather than to decrease, if no counseling intervention is provided.

It may be noted that some of the nonpeakers had experiences during the period of DPT action that they viewed as quite meaningful. For example, the subject in the sample of nonpeakers who scored highest on the peak experience items of the Psychedelic Experience Questionnaire (43 percent total score) described having experienced herself during part of the period of DPT action in a visionary synagogue. Within the experiential sequence recounted, she described feeling led by the hand of a wise old man she called God to the front of the sanctuary, and there given a Torah to carry as a sign that she was accepted, forgiven, and had "come home." Although this sequence might well be classified as a "religious experience" or as an "archetypal experience," it did not entail the sense of ego-transcendence and the unitive state of consciousness defined as intrinsic to the term "peak experience" within the context of this study.

In conclusion, it may be observed that peak experiences may constitute an intrinsic element of effective psychotherapy for some persons. The explicit causative role of such unique experiences in contributing to psychotherapy in general still constitutes an intriguing research question; the correlation of such experiences with rapid therapeutic progress in the course of short-term psychotherapy with cancer patients, however, is indicated by this study. Clinical impressions would suggest that, when a peak experience does occur, its continuing relevance for daily living may be strongly dependent on the degree to which the associated insights are assimilated or transferred into the everyday self-concept and world view of the patient.

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REFERENCES

Bonny, Helen L. 1975. Music and consciousness. *Journal of Music Therapy* Vol. 12(3): 121-135.

Bonny, Helen L. & Pahnke, Walter N. 1972. The use of music in psychedelic (LSD) therapy. *Journal of Music Therapy* Vol. 9(2): 64-87.

Dimascio, Alberto & Klerman, Gerald L. 1960. Experimental human psychopharmacology. The role of non-drug factors. Pp. 56-90, in: Sarwer-Foner, G.J. (Ed.). *The Dynamics of Psychiatric Drug Therapy*. Springfield: Charles C. Thomas.

Faillace, L. A.; Vourlekis, A. & Szara, S. 1967a. Clinical evaluation of some hallucinogenic tryptamine derivatives. *Journal of Nervous and Mental Disease* Vol. 145(4): 306-313.

Faillace, L.A.; Vourlekis, A. & Szara, S. 1967b. N,N-dipropyltryptamine: a new psychodysleptic drug. P. 1114, in: *Neuro-Psycho-Pharmacology, Proceedings of the Fifth International Congress of the Collegium Internationale Neuro-Psycho-Pharmacologicum*. (International Congress Series No. 129), New York: Excerpta Medica Foundation.

Grof, Stanislav. 1975. *Realms of the Human Unconscious: Observations from LSD Research*. New York: Viking Press.

James, William. 1902. *The Varieties of Religious Experience*. New York: Modern Library.

Kaplan, Bert (Ed.). 1964. *The Inner World of Mental Illness*. New York: Harper & Row.

Kincannon, James C. 1968. Prediction of the standard MMPI scale scores from 71 items. *Journal of Consulting and Clinical Psychology* Vol. 32(3): 319-325.

Kurland, A. A.; Savage, C.; Pahnke, W. N.; Grof, S. & Olsson, J. 1971. LSD in the treatment of alcoholics. *Pharmakopsychiatrie und Neuro-Psychopharmakologie* Vol. 4: 83-94.

Laski, Marghanita. 1961. *Ecstasy: A Study of Some Secular and Religious Experiences*. Bloomington: Indiana University Press.

Leuner, Hanscarl. 1969. Guided affective imagery (GAI). *American Journal of Psychotherapy* Vol. 23(1): 4-22.

Leuner, Hanscarl. 1970. *Katathymes Bilderleben*. Stuttgart: Georg Thieme.

Maslow, Abraham. 1959. Cognition of being in the peak experiences. *Journal of Genetic Psychology* Vol. 94: 43-66.

Maslow, Abraham H. 1964. *Religions, Values and Peak Experiences*. Columbus: Ohio State University Press.

McCabe, O. L.; Savage, C.; Kurland, A., & Unger, S. 1972. Psychedelic (LSD) therapy of neurotic disorders: Short term effects. *Journal of Psychedelic Drugs* Vol. 5(1): 18-28.

Overall, John E. & Gorham, Donald R. 1972. The brief psychiatric rating scale. *Psychological Reports* Vol. 10: 799-812.

Pahnke, Walter N. 1963. *Drugs and mysticism: An analysis of the relationship between psychedelic drugs and the mystical consciousness*. (Ph.D. dissertation.) Cambridge: Harvard University.

Pahnke, Walter N. 1969. Psychedelic drugs and mystical experience. *International Psychiatry Clinics* Vol. 5(4): 153-156.

Pahnke, W. N.; Kurland, A. A.; Goodman, L. E. & Richards, W. A. 1969. LSD-assisted psychotherapy with terminal cancer patients. Pp. 33-42, in: Hicks, Richard E. & Fink, Paul J. (Eds.). *Psychedelic Drugs*. New York: Grune & Stratton.

Pahnke, W. N.; Kurland, A. A.; Unger, S.; Savage, C.; Wolf, S. & Goodman, L. E. 1970. Psychedelic therapy (utilizing LSD)

with cancer patients. *Journal of Psychedelic Drugs* Vol. 3(1): 63-75.

Pahnke, Walter N. & Richards, William A. 1966. Implications of LSD and experimental mysticism. *Journal of Religion and Health* Vol. 5(3): 175-208.

Richards, William A. 1975. *Counseling, peak experiences and the human encounter with death.* (Ph.D. dissertation, Washington, D.C.: Catholic University) Ann Arbor: Xerox University Microfilms 75-18, 531.

Richards, W. A.; Grof, S.; Goodman, L. E. & Kurland, A. A. 1972. LSD-assisted psychotherapy and the human encounter with death. *Journal of Transpersonal Psychology* Vol. 4(2): 121-150.

Savage, Charles & McCabe, O. Lee. 1972. Psychedelic (LSD) therapy of drug addiction. Pp. 145-163, in: Brown, Clinton & Savage, Charles (Eds.). *The Drug Abuse Controversy.* Baltimore: National Education Consultants.

Shostrom, Everett L. 1965. A test for the measurement of self actualization. *Educational and Psychological Measurement* Vol. 24(2): 207-218.

Stace, Walter T. 1960. *Mysticism and Philosophy.* Philadelphia: J. B. Lippincott.

Weisman, Avery D. 1966. A psychiatrist's view: Death and responsibility. *Psychiatric Opinion* Vol. 3: 22-26.