

TRANSPERSONALPSYCHOLOGY
RESEARCH REVIEW
TOPIC: MYSTICAL EXPERIENCE

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This section, planned to appear regularly in *The Journal of Transpersonal Psychology*, is intended to stimulate interest in empirical research and foster the development of a network of transpersonal psychology researchers. In service of this quest, the topics treated will vary from issue to issue. This time, we have chosen to take a particular transpersonal state of consciousness, the mystical experience, and focus on the methodologies employed in empirical studies. Significant contributions in terms of both research designs and modes of accessing or inducing mystical experiences for study will be reviewed.

*a
focus on
methodologies
and
significant
contributions*

Although some types of transpersonal states have been the subject of considerable empirical investigation, e.g., meditation (Murphy & Donovan, 1983, 1988) and paranormal experiences (Krippner, 1984, 1985), most have not been. Recently, however, some creative researchers have pushed the boundaries of empirical exploration to new levels of sophistication. Perhaps most noteworthy have been the investigations of Kenneth Ring (1980, 1984) and Greyson & Flynn (1984) and others on the near-death experience. Their combined efforts have changed the near-death experience from a topic that

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interested only occultists to a major concern in psychiatry, psychology, philosophy and theology. Clinical practice has also been influenced by their findings. For example, patients in intensive care units who report out-of-body experiences and encounters with angels are now less likely to be seen as having transient psychoses requiring treatment with antipsychotic medication.

The mystical experience is not well understood. Individuals undergoing powerful religious experiences still find themselves at risk for being hospitalized as mentally ill (Lukoff & Everest, 1985). Grof (1985) has pointed out that even within the religious community, there is a lack of comprehension of the dynamics and intensity of such experiences: "If a member of a typical congregation were to have a profound religious experience, its minister would very likely send *him* or her to a psychiatrist for medical treatment" (p. 335). Empirical research offers one of the best hopes of influencing the perceptions of the medical and religious professions regarding the recognition and validity of mystical experiences. In this presentation of research on mystical experience, first, quantitative and then qualitative research is reviewed. The studies are grouped into categories based upon the type of methodology employed.

QUANTITATIVE RESEARCH

Some people have questioned whether quantitative research methods are able to touch the richness and variety of transpersonal experiences (Kotesky, 1980). Yet measurement is one of the most important tools developed by humans to understand and influence our environment. In a review of quantitative research on religious experiences, Goldsmith (1983) painted a bleak picture of the state of the art: "The bane of those who review empirical studies of the psychology of religion is the overwhelming predominance of correlational designs as opposed to experimental ones" (p. 13). Certainly the mystical experience does present some difficulties for experimental research. Yet, as Walsh (1982) has pointed out:

it is the responsibility of science to confront all areas of knowledge irrespective of the difficulty involved, and not to shirk investigation because the areas in question do not lend themselves to the best-honed experimental tools presently at hand (p. 165),

The abstracts presented below reveal considerable creativity in the face of the researcher's inability to control the occurrence of mystical experiences. Researchers have followed people to religious celebrations, gone on wilderness trips, studied people

giving birth, and observed the effects of psychedelic drugs in experiments with human subjects before their use in research was banned by most national governments. Other investigators have experimented with animal behavior in the laboratory and uncovered some striking parallels to ecstatic religious behavior.

Definitional Problems

A major problem in studying transpersonal states is the wide conceptual variability among researchers. For example, the definition of a mystical experience ranges greatly along the intensity dimension. At one end of the spectrum is Erich Neuman (1964) whose criterion is that the mystical experience "always leads to an upheaval of the total personality" (p. 381). At the other extreme are surveyors such as Andrew Greeley (1974) who consider a mystical experience to be present when an interviewee replies with an affirmative answer to the question, "Have you ever felt as though you were very close to a powerful, spiritual force that seemed to lift you out of yourself?" Clearly many more persons would have an experience that meets Greeley's definition than Neuman's. Others have been even more liberal in their definition and talk about "everyday mysticism" (Scharfstein 1973). To some degree this reflects a change, partly attributable to Maslow's work, in how these experiences are viewed. Maslow (1964) lowered the religious prophet's and mystic's "core-religious" experiences to the level of everyday psychology: "It is very likely, indeed almost certain, that these older reports, phrased in terms of supernatural revelation, were, in fact, perfectly natural, human peak-experiences of the kind that can easily be examined today" (p, 20).

*various
definitions
of
"mystical
experience"*

While most researchers have related their definitions to the literature on mystical experience, particularly to the writings of Stace (1960), others have developed idiosyncratic definitions that seem to have no basis in prior writings. For example, Heisler (1975) created a "Mysticism Scale" that included items such as "I believe bad times fall on those who sin" and "I believe the Devil actually exists." The author does not cite any literature, and we are aware of none that would justify describing this as a scale that measures mystical experiences.

In general, the field of mystical experience research is characterized by a lack of uniformity regarding definitions, methods and instrumentation. While this has permitted much creativity on the part of individual investigators and is a common state of affairs for research into new areas, progress ultimately depends on obtaining some shared agreement

regarding definitions and methods. For example, the near-death research endeavor was greatly aided by a conference held for researchers in 1977 to develop such a consensus.

The two major exceptions to the lack of shared instrumentation are the Mysticism Scale developed by Hood (1975) which has been used in quite a number of studies by Hood and by others, and the repeated use of certain questions in survey research by Greeley and the Gallup Poll organization over a 16-year period and across cultures.

Database Searches of Quantitative Transpersonal Psychology Research

To obtain references to journal articles and books that report quantitative investigations of mystical experiences, we decided to utilize searches of computerized bibliographic databases. For example, the University of California, San Francisco Health Center library carries 46 such services. However, even a small library, or an individual, can gain access to the bibliographic databases that are most important for searching transpersonal topics. It only requires a personal computer with a modem to connect with the major bibliographic databases.

*selecting
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After examining the category titles and key words from many databases, we selected the following five for our first run: PSYCINFO, MEDLINE, SOCABSTRACTS (sociological), ERIC (educational) and the RELIGION INDEX. We first tried to utilize the category headings and subheadings developed by each database. At the librarian's suggestion, we traced back three articles that were exactly the type that we wanted to pull out of the databases. To our dismay, we found that they were not consistently coded into the categories of mystical or religious experience. For example, an article entitled "'Psychic sensitivity,' 'mystical experience,' head injury and pathology" was classified by PSYCINFO under the subject headings of head injuries, brain disorders and parapsychological phenomena. Even though PSYCINFO has the category mysticism, this article was not included under that heading. It seems that coding of articles into subject headings is done by persons who are not well-informed when it comes to transpersonal topics. Therefore we used an alternative method of searching the literature. Instead of relying on the coding system developed by each database, we had the computer search the titles, abstracts and ID for certain key words.

The topic of mystical and religious experiences is so vast that we knew we could not simply request a printout of all articles

on these topics. We settled on a strategy of "crossing" these content areas with key words relevant to research and methodology. An article would have to contain key words relevant to both quantitative methodology and mystical experiences to be selected.

Since mystical experiences are designated by a number of different terms by investigators, our first computer run for the PSYCINFO search included the following key words for mystical experience: mystic\$ (the \$ending tells the computer to select any word containing mystic, e.g., mystical, mysticism), religious, peak experiences, transcendent, transpersonal, spiritual, visions and ecstasy. To select the research articles, the key words utilized were: research, variable, experiment\$, rating\$, test\$, scale\$, statistic\$, methodolo\$, data and empirical. The key words used for searching MEDLINE, ERIC and SOC-ABSTRACTS were very similar. (The RELIGION INDEX was constructed differently and will be discussed later). In the first search our output runneth over. Scanning the past 20 years, we turned up 9576 PSYCINFO, 367 MEDLINE, 3531 SOCABSTRACTS and 1496 ERIC citations. We requested the abstracts from only the first 50 from each database to see what changes we needed to make to obtain a more manageable number of citations. After examining these abstracts, we decided to eliminate the ERIC search because it only generated articles that were in other databases. A close examination of the other three sets of abstracts revealed that religion is such a vast topic that very few of the articles captured by this word were really germane to our area of concern.

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The next search was limited to mystic\$ for the trans personal component crossed with the same key research words. On this run the results were much more focused on our primary area of interest. PSYCINFO generated 126 citations, MEDLINE 41 and SOCABSTRACTS 107. Some articles may have been missed that, for example, concerned "transcendent" or "ecstatic" experiences. However, since we also checked the articles we obtained from the literature search for further references and consulted several review articles, we do not think that we have overlooked many studies.

The RELIGION INDEX did not present the same problem. The first run crossing a wide range of terms overlapping with the mystical experience (conversion, hallucinogenic religious experience, inner light, psychology-religious, spiritual life and visions) with key research words generated only 186 citations which was a manageable number for reviewing.

After reviewing the abstracts generated by the four searches, we

selected about 60 articles to obtain for further perusal. The abstracts below are drawn mainly from this group of articles. However, a few older investigations that employed noteworthy methodologies are also included to convey the full range of methodological creativity that has been brought to bear on the subject of mystical experiences.

The studies are listed under the category that best describes the methodology employed: Laboratory, Experimental and Quasi-experimental Studies; Studies Using Scales; Studies Using Survey Instruments; Questionnaire Studies; Interview Studies; and Studies Using Content Analysis. Studies that utilized more than one approach are listed under the category of the most critical methodology to that study.

Laboratory, Experimental and Quasi-experimental Studies

CIRIGNOTTA, F., TODESCCO, & LUGARESE. (1980). Temporal lobe epilepsy with ecstatic seizures (so-called Dostoevsky epilepsy). *Epilepsia*, 21, 705-710.

Method: A person with temporal lobe epilepsy who reported ecstatic seizures during which he experienced "joy" and "total bliss" was examined by EEG for 24 hours.

Findings: This case study confirmed that ecstatic mood can occur during seizures and "are undoubtedly related to discharges with the characteristics of typical temporo-rhinencephalic seizures" (p, 709).

FINNEY, J. & MALONEY, H. (1985). An empirical study of contemplative prayer as an adjunct to psychotherapy. *Journal of Psychology and Theology*, 13(4), 284-90.

Methods: The use of contemplative Christian prayer as an adjunct to psychotherapy was investigated in a time series quasi-experimental design in which each subject served as his or her own control. Six measures including the Hood Mysticism Scale were administered to nine subjects who were in therapy.

Findings: Circumstantial support that the use of contemplative prayer is associated with an improvement in psychotherapy was obtained on one measure, but this research design could not separate out the effects of psychotherapy alone from time alone. No association was found between the use of contemplative prayer and the Hood Mysticism Scale or the other two measures of religiosity.

HOOD,R. (1977). Eliciting mystical states of consciousness with semistructured nature experiences. *Journal/or the Scientific Study of Religion*, 16(2), 155-63.

Method: The author obtained permission to conduct a study of students engaging in outdoor activities. Following a raft trip, rock climb and solo night in the wilderness (high stress condition) and a canoe trip (low stress condition), subjects were immediately administered the Hood (1975) Mysticism Scale. A "measure of anticipated stress was also administered just prior to engaging in the activities.

Findings: The high stress condition produced significantly higher scores on the Mysticism Scale. The author concluded: "any factor which suddenly emerges or is recognized to point to the 'limits' of everyday reality may suddenly serve as a trigger to mysticism. This is certainly likely in a stressful nature setting, non-stressfully anticipated."

PAHNKE,W. & RICHARDS,W.(1969).ImplicationsofLSDand experimental mysticism. *Journal of Transpersonal Psychology*, 1(2), 69-102.

Method: A double blind experiment was conducted to investigate the relationship between experiences reported in the literature on spontaneous mysticism and those associated with the ingestion of psychedelic drugs. Twenty graduate seminary students from middle-class Protestant backgrounds were randomly assigned to psilocybin or placebo (nicotinic acid) conditions and attended a 2 1/2 hour Good Friday service. Each subject wrote a detailed phenomenological account of his experience, was interviewed, participated in audiotaped group discussion, and completed a 147-item questionnaire. The questionnaire drew upon the literature on mystical consciousness to develop a qualitative numerical scale.

Findings: Based on findings from the questionnaire and content-analysis of the written accounts, the authors concluded that, "under the conditions of this experiment, those subjects who received psilocybin experienced phenomena that were apparently indistinguishable from, if not identical with, certain categories defined by the typology of mystical consciousness."

PRESSINGER,M. (This research is unpublished but preliminary findings are reported in: STACEY,D. [1988, December] *Transcending science. Omni*, pp, 55-60, 114-16.)

Method: The author set out to develop a device that would induce mystical experiences in the laboratory by stimulating

the temporal lobes. He mounted a commercially available electromagnetic relaxation device in a helmet and had a computer program written that would change the shape of the magnetic field. Then he directed the field and the firing of the magnets in a carefully timed way using the computer.

Findings: The author reports that subjects donning the helmet were much more likely to have a mystical experience. Subjects reported that the experiments were pleasurable and kept coming back for more. After several sessions, it took less and less stimulation to trigger the mystical state of mind and the helmet was often not required. The author attributed this to "a kind of kindling effect in the temporal lobes themselves Because temporal lobe neurons are so sensitive, that single lightning stroke soon spreads into an energetic storm. Temporal lobe sensitivity also explains why, even in the normal brain, the ability to have a mystical experience can be learned" (p. 114).

SACERDOTE, P. (1977). Applications of hypnotically elicited mystical states to the treatment of physical and emotional pain. *The International Journal of Clinical and Experimental Hypnosis*, 15(4), 309-24.

Method: "The present author facilitates the unleashing of mystical experiences by using hypnotic approaches specifically aimed at altering space and time perceptions." Case studies are presented of four subjects who underwent this procedure with the aim of relieving pain.

Findings: No measures were obtained from the Subjects. The author reports that the technique was successful in reducing the subjects' pain. (This article is included for its unique method for inducing mystical experiences.)

SIEGEL, R. (1977). Religious behavior in animals and man. *Journal of Drug Issues*, 7(3), 219-36.

Method: This article is a review of both laboratory and naturalistic studies of animal behavior that appears to have religious qualities.

Findings: The author reported striking parallels to major characteristics of the mystical experience found in studies on the experimental analysis of drug-induced religion in animals. (Findings from naturalistic studies are reviewed under qualitative methods below).

Studies Using Scales

HOLM, N. (1982). Mysticism and intense experiences, *Journal for the Scientific Study of Religion*, 21(3), 268-76.

Methods: The author translated into Swedish several of Hood's scales designed to measure mystical experiences. The items describing religious experiences drawn from William James, on Hood's (1970) Religious Episode Experience Measure (REEM) turned out to be too alien and archaic for the Swedish-Finnish population. He constructed a new REEM with narratives taken from Nordic anthologies. Eighteen teachers of religion and psychology each administered the scales to 6-8 persons.

Findings: The study replicated most of Hood's findings with the same instruments. "The results of our empirical study of mysticism in a Finnish-Swedish environment largely coincide with Hood's results in an American environment The cross-cultural testing that some of Hood's methods have received as a result of our research on another continent and in another linguistic area means that the results have received a wider range of application."

HOOD, R. (1970). Religious orientation and the report of religious experience. *Journal/or the Scientific Study of Religion*, 9, 285-91.

Method: The author developed a Religious Experience Episodes Measure (REEM) by compiling accounts from William James' classic book *The Varieties of Religious Experience*. Subjects, all undergraduate psychology students, rated each episode on a 5-point scale from "I have had absolutely no experience like this" to "I have had an experience almost identical to this." Gordon Allport's Religious Orientation Scale was also administered.

Findings: The REEM showed good test-retest reliability (.93) and internal consistency (.84). Informal interviews conducted after taking the REEM found that all the personal experiences that subjects self-defined as religious related in some fashion to at least one of the experiences described in the REEM, an indication of validity. Intrinsic religious motivation was significantly correlated with higher scores on the REEM.

HOOD, R. (1975). The construction and preliminary validation of a measure of reported religious experience. *Journalfor the Scientific Study of Religion*, 14, 29-41.

Method: Utilizing the conceptual categories for mysticism postulated by Stace (1960), the author developed 108 items which were administered to pilot groups to refine the scale. These were reduced to 32 core statements based on item-to-whole consistency coefficients and other considerations. The scale was then administered to 300 college students.

Findings: The results were subjected to a factor analysis which suggested two factor scales. Scale 1 (20 items) seems to measure "general mysticism't-s-namely, an experience of unity, temporal and spatial changes, inner subjectivity and ineffability. This scale was not restricted to religion and thus refers to a broad type of mysticism. Scale 2 (12 items) seems to be a measure of the subject's tendency to view intense experiences within a religious framework.

MATHES, E., ZEVON, M., ROTER, P. & JOERGER, S. (1982). Peak experience tendencies: Scale development and theory testing. *Journal of Humanistic Psychology*, 22(3), 92-108.

Method: To measure subjects' mystical experiences, the authors developed a questionnaire that included three mystical passages by St. John, Black Elk and John Lilly. Subjects were asked six questions about each passage such as "Were you emotionally moved by this passage? Did reading this passage create mystical feelings in you?" The authors also created a measure of the tendency to have peak experiences (Peak Scale). While a reliability coefficient is reported for the peak scale, no reliability or validity (other than face validity) information is presented for their measure of mystical experience. Other instruments measured the number of "experiences of great happiness" and "openness to absorbing and self-altering experiences."

Findings: Scores on the Peak Scale and the ratings of mystical passages were highly correlated suggesting that, "Although individuals who report having peak experiences are also likely to have experiences involving intense happiness, they are even more prone to report having cognitive experiences of a transcendent and mystical nature."

METZNER, R. (1986) *Altered States Graphic Profile*, unpublished. The scale is available from the author at the California Institute of Integral Studies in San Francisco.

Method: The Altered States Graphic Profile (ASGP) is designed to assess and display, in graphic form, two major dimensions of altered states of consciousness: level of arousal

or wakefulness, and the pleasure-pain continuum. Each are graphed separately, at 15-minute intervals, on a seven point scale. The scale requires numerical estimates of the altered state by the experiencer or reported to the researcher, guide or therapist for recording. The midpoint, 0, is the presumed normal or baseline condition. Anchors are provided for the three scores on each side of the baseline. On the pleasure-pain continuum, the negative part of the scale includes ecstatic +3, elated +2, pleasant +1, unpleasant -1, painful-2, agony -3. The ASGP can be used to compare the states induced by different stimuli including drugs, hypnosis, meditation, music, sensory deprivation or sex.

Findings: Although the author and others have used this scale in several student projects and dissertations, no studies have been published.

WHITEMAN, J. (1986). The mystical way and habitualization of mystical states. In B. Wolman & M. Ullman (Eds.), *Handbook of states of consciousness* (pp.613-59). NY: Van Nostrand Reinhold.

Method: The General Index of Reality focuses on the changes in out-of-body phenomena associated with the mystical experience. It includes six items rated on 3- or 4-point scales: intrinsic reality, vertical recollection, horizontal recollection, integration, personal communion, continuity of memory. Item scores are added and an individual can be assigned to one of five categories ranging from Underdeveloped to Mystical Separations.

Findings: No data are reported.

Studies Using Survey Instruments

BACK, K. & BOURQUE, L. (1970). Can feelings be enumerated? *Behavioral Science*, 15, 487-96.

Method: A series of Gallup polls in 1962, 1966 and 1967 attempted to ascertain the incidence of reported mystical experience in a representative U.S. sample. The specific question asked was: "Would you say that you have ever had a 'religious or mystical experience' —that is, a moment of sudden religious awakening or insight?"

Findings: There was a progressive increase in affirmative responses from 20.5% in 1962 to 31.8% in 1966 to 41.2% in 1967.

GREELEYA. (1974). *Ecstasy: A way of knowing*. Englewood Cliffs, NJ: Prentice-Hall.

Method: In a representative survey of 1468 adults conducted by the National Opinion Research Center, Greeley included the question: "Have you ever felt as though you were very close to a powerful, spiritual force that seemed to lift you out of yourself?"

Findings: Approximately 35% answered affirmatively and half of these reported experiencing this at *least* several times. The five most frequently reported triggers to mystical experiences were, in order of frequency: listening to music; prayer; observing nature; quiet reflection; attending a church service.

GREELEYA. (1987, Jan/Feb). Mysticism goes Mainstream. *American Health*, pp. 47-9.

Method: The author readministered to a representative sample of 1473 Americans the questions from a poll first taken in 1973 on spiritual and paranormal experiences.

Findings: Over the past 14 years there have been substantial increases in all categories of spiritual and paranormal experiences surveyed. Forty-two percent reported contact with the dead, up from 27% in 1973. Forty-three percent reported that they had had an unusual spiritual experience.

HAY, D. & MORISY, A. (1978). Reports of ecstatic, paranormal, or religious experience in Great Britain and the United States: A comparison of trends. *Journal for the Scientific Study of Religion*, 17, 255-68.

Method: A national survey of a representative sample of persons in Great Britain was conducted utilizing Greeley's (1974) question of being influenced by a presence or power. The Bradburn Balanced Affect Scale was also administered as a measure of psychological well-being.

Findings: The percentage of persons in England that answered affirmatively (36.4%) was very similar to the Greeley results with a U.S. sample. Higher scores on psychological well-being was found to be associated with reporting such religious experiences.

THOMAS, L. & COOPER, P. (1980). Incidence and psychological correlates of intense spiritual experiences. *Journal of Transpersonal Psychology*, 12(1), 75-85.

Method: The Greeley (1974) question ("Have you ever had the feeling of being close to a powerful spiritual force that seemed to lift you outside of yourself?") was asked to college students, and persons who answered affirmatively were asked to describe their experience. Tentative content categories for types of spiritual experiences were developed and applied to twenty protocols by two independent judges. Ratings were compared, ambiguities discussed, and new coding instructions devised until satisfactory interrater agreement was achieved. After three iterations, an 81% level of agreement was achieved by two independent raters. With discussion, 94% agreement was obtained. The instrument was administered to 305 persons across a wide age range including college students, members of religious organizations and civic groups.

Findings: Thirty-four per cent of the respondents reported that they had felt themselves in the presence of a spiritual force that lifted them outside of themselves. When the open-ended responses were analyzed, it became clear that the nature of the spiritual experience varied considerably. Only 1% described experiences that met operational criteria for a mystical experience along the lines reported in the literature as summarized by Stace (1960), e.g., awesome emotions, feeling of oneness with God, nature or the universe, a sense of the ineffable. The largest group of affirmative responses (16% of the total sample) were coded as "Faith and Consolation" in which no indication of the extraordinary or supernatural was given. Responses codable as "Psychic" were given by 8%. About 10% described experiences that were uncodable or "pseudo-spiritual." This study demonstrated the wide range of variability in experiences that are labelled as mystical by surveyors.

Studies Using Questionnaires

GREELEY, A. (1975). *The sociology of the paranormal*. Beverly Hills, CA: Sage.

Methods: A questionnaire and the Bradburn Well-being Scale were utilized in this study.

Findings: A set of features closely resembling classical descriptions of mystical experiences: "passivity ... ineffability ... a new sense of life [and] the experience of being bathed in light" (p. 77) were highly correlated with psychological well-being.

KOHR, R. (1983). Near-death experiences, altered states, and psi sensitivity. *Anabiosis*, 3, 157-76.

Method: The author compared the frequency of mystical experiences, psi experiences and dream experiences for three groups: 358 people who had never come close to death; 105 people who had a close call with death but without an intense experience; and 84 persons whose responses to a questionnaire indicated they had had a near-death experience. The questionnaire asked subjects whether they had experienced a mystical state as described in the questionnaire: "unity and oneness with all of nature, creation, or God."

Findings: The near-death group reported a significantly higher incidence of mystical states including an encounter with a spiritual being and a transcendent quality within oneself, as well as psi experiences and dream experiences.

HOOD, R. (1977). Differential triggering of mystical experience as a function of self actualization. *Review of Religious Research*, 18, 264-70.

Method: The Hood (1975) Mysticism Scale was administered to 400 students. The 100 highest scoring subjects were then given the Personal Orientation Inventory (POI) as a measure of self-actualization. Based on these latter results, two groups were formed: those who had scored high in self-actualization and those who scored low. These subjects were recontacted and asked to fillout an open-ended questionnaire on the setting that triggered their mystical experience(s).

Findings: Mystical experience (factor 1 on the Mysticism Scale discussed above), but not necessarily religious mystical experience (scale 2 above) was found to correlate positively with self-actualization. "Persons of relatively high self-actualization were more likely to have mystical experiences triggered by drug or sexual experiences while persons of relatively low self-actualization were more likely to have mystical experiences triggered by religious or nature settings."

LASKI, M. (1961). *Ecstasy: A study of some secular and religious experiences*. London: Cresset Press.

Method: In this classic study, the author surveyed 63 people about their experiences of transcendent ecstasy using a 9-item open-ended questionnaire. The questionnaire elicited a description of the experience, its triggers, frequency, relationship with creative inspiration, and the person's profession and religious belief. Laski compared this group with 27 Western European literary texts and 22 Judeo-Christian religious texts which were similarly analyzed.

Findings: The author reported 11 categories of triggers, 11 categories of feelings of loss, 11 of feelings of gain, 8 of physical feelings, several kinds of feelings of intensity or withdrawal during the experience. Frequencies for each of these categories were compared across the three groups. Even though the results somewhat varied for each category between the three groups, there was remarkable similarity as well. Unfortunately, tests for significance and more elaborate analyses were not conducted despite the appropriateness of the data for such analysis.

PERSINGER, M. & MAKAREC, K. (1987). Temporal lobe epileptic signs and correlative behaviors displayed by normal populations. *Journal of General Psychology*, 114, 179-95.

Method: A questionnaire focusing on major complex partial epileptic signs (CPES) and the occurrence of mystical and paranormal experiences and behaviors was given to 414 university students.

Findings: "Strong correlations were consistently found between the CPES scores and reports of paranormal (mystical with religious overtones) experiences and 'a sense of presence!'"

SENSKYT. (1983). Religiosity, mystical experience and epilepsy. In F. C. Rose (ed.), *Research Progress in Epilepsy*. NY: Pitman.

Method: The author developed a self-administered questionnaire incorporating 5J items which elicited religious and mystical experience characteristics as well as the relationship of these experiences to epileptic seizures. They surveyed 46 outpatients attending the Maudsley Epilepsy Clinic.

Findings: Contrary to previous reports based on case studies, patients with temporal lobe epilepsy and generalized epilepsy did not have a higher rate of religiosity or mystical experiences compared to a control population.

VAUGHAN, B. & MALISZEWSKI, M. (1982). Ecstatic components of childbirth: A psychological and phenomenological study. *Birth Psychology Journal*, 3(1), 2-15.

Method: Fifty-nine women who had given birth 12-18 months previously completed several instruments including a Birth Experiences Inventory (BEI) which identifies ecstatic or mystical experiences during childbirth.

Findings: Forty-three subjects (73%) reported experiencing at least one ecstatic or mystical state during childbirth, an incidence far higher than previously recognized. There were no correlations between the experience of ecstatic or mystical states and psychological health, openness to new experiences, value orientation, and degree of social desirability.

Studies Using Interviews

BUCKLEY, P. & GALANTER, M. (1979). Mystical experience, spiritual knowledge, and a contemporary ecstatic religion. *British Journal of Medical Psychology*, 52, 281-89.

Method: The authors attended a celebration being held by the followers of Guru Maharaji where they conducted on-site semi-structured interviews on psychological functioning and administered questionnaires to the participants.

Findings: During the celebration approximately 25% of the participants experienced "acute circumscribed hallucinatory episodes" analogous to mystical experiences particularly when in the presence of their guru. Over 90% reported that such an experience was a central factor in their conversion to the religious group.

HOOD, R. (1973). Religious orientation and the report of religious experience. *Journal for the Scientific Study of Religion*, 11, 369-76.

Method: From a pool of 123 subjects, the 25 that scored highest on the Extrinsic and Intrinsic subscales of Allport's Religious Orientation Scale were asked to volunteer for interviews concerning their most significant personal experiences. These accounts were then coded into five categories of transcendence: ego quality, affective quality, communicable quality, noetic quality and religious quality. Interrater agreement across categories was .87. The entire experience was also rated as "transcendent" or "nontranscendent" with a .84 percent level of agreement.

Findings: "These data clearly support the hypothesis that intrinsically oriented persons are more likely to have transcendent experiences than are extrinsically oriented persons."

LUDWIG, A. (1985). Cognitive processes associated with "spontaneous" recovery from alcoholism. *Journal of Studies on Alcohol*, 46(1), 53-8.

Method: The Semi-structured Interview on Drinking Behavior was conducted with 29 alcoholics, who claimed a "spontaneous" remission from alcoholism, to elucidate the cognitive processes associated with the initiation and maintenance of abstinence. The author and a research assistant coded the responses by mutual consensus. No reliability coefficients were reported.

Findings: Four of the 29 credited mystical, spiritual or transcendental experiences as the bases for their recovery.

RICHARDS, W. (1978). Mystical and archetypal experiences of terminal patients in OPT-assisted psychotherapy. *Journal of Religion and Health*, 17(2), 117-26.

Method: Twenty-eight terminal cancer patients were administered the Psychedelic Experience Questionnaire (PEQ) on the day following a drug-assisted therapy session. The PEQ contains 43 items rated on a 0-5 scale of intensity designed by Pahnke (see Pahnke & Richards, 1969, abstract above) to measure the presence of six categories of mystical consciousness. The Personal Orientation Inventory was administered at screening and one week after the DPT-assisted therapy and was considered a measure of therapeutic improvement.

Findings: The 13 "subjects deemed to have experienced mystical consciousness" based on the results of the PEQ regarding their DPT-experience showed significant gains on 9 of the 12 subscales of the POI. The 15 "subjects deemed not to have experienced mystical consciousness" showed no significant improvements: "the cluster of significant results for the group that experienced mystical consciousness ... suggests a different response to the therapeutic procedure."

Studies Using Content Analysis

BUCKE, R. (1901-1961). *Cosmic consciousness*. Secaucus, NJ: Citadel Press.

Method: The author compiled biographies of 43 individuals from Moses to Whitman to acquaintances of the author who had experienced a state of "cosmic consciousness," Bucke's term for the mystical experience. He then coded these accounts for age at illumination, sex, time of year of illumination, age at death. Bucke was a pioneer in uncovering commonalities in the mystical experience, and his understanding was greatly aided by his systematic approach in compiling and then

comparing a wide range of accounts from different cultures and epochs.

Findings: Bucke noted *as* characteristics: subjective light, moral elevation, intellectual illumination, sense of immortality, loss of the fear of death and sin, the suddenness of the awakening. Median age of persons in his study *was* 35 and most were men. Bucke concluded that although the incidence of mystical experiences seemed to be greater in recent centuries, the ratio would still only be one person in several million.

HARDY, A. (1979). *The spiritual nature of man*. Oxford: Clarendon Press.

Method: By placing appeals in newspapers and pamphlets requesting readers to submit accounts of their mystical or ecstatic experiences, the author collected over 4000 such accounts. These accounts were then coded for phenomenological features. A follow-up questionnaire elicited further details of the respondents' experiences.

Findings: The author developed the most detailed phenomenological classification system in the literature to code the responses into very specific types of sensory, extra-sensory, behavioral changes, cognitive and affective elements, course of the religious experience, patterns of the experience, triggers and consequences. The author concluded: "It seems to me that the main characteristics of man's religious and spiritual experiences are shown in his feelings for a transcendental reality which frequently manifest themselves in early childhood; a feeling that 'Something Other' than the self can actually be sensed; a desire to personalize this presence into a deity and to have a private I-Thou relationship with it, communicating through prayer" (p. 131).

OXMAN, T., ROSENBERG, S., SCHNURR, P., TUCKER, G., & GALA, G. (1988). The language of altered states. *The Journal of Nervous and Mental Disease*, 176, 401-08.

Method: Computerized content analysis was applied to 66 autobiographical accounts of mystical ecstasy, schizophrenia, and hallucinogenic drug states and to 28 autobiographical control accounts of important personal experiences.

Findings: The patterns of lexical choice used by the 4 groups were significantly different in word frequencies in 49 of 83 lexical categories measured. The mystic group was significantly higher in the Religious and the Ideal Value categories. Applying a discriminant and classification analysis, 84% of the

samples were correctly identified by their word frequencies. "The findings suggest that the subjective experiences of schizophrenia, hallucinogenic drug-induced states, and mystical ecstasy are more different from one another than alike."

Review

SILVERMAN, W. (1983). *Bibliography of measurement techniques used in the social scientific study of religion*. Washington, DC: American Psychological Association. (APA Psychological Documents Ms. 2539).

This bibliography is a guide for researchers to measures which have been used in studies of religion. It contains 292 references to scales and 170 references to questionnaires. Measurement techniques are indexed by topic (including mysticism, experiential religiosity, and conversion experiences) and by subject population.

SPIILKA, S., HOOD, R., & GORSUCH, R. (1985). *The psychology of religion: An empirical approach*. Englewood, NJ: Prentice-Hall.

Noting that "the last two decades have seen more empirical research published than in the preceding three-quarters of a century," the authors reviewed and synthesized these studies into comprehensive survey chapters. The authors reviewed such topics as the psychological nature and function of religion, religion and life-cycle development, religious experience (including mysticism), the social psychology of religious organizations, and religion and mental disorders. About mysticism, the authors concluded that "the empirical research suggests that a wide variety of circumstances, situations, and substances apparently elicit mystical experiences. Specific triggering conditions, however, elicit mystical experiences differentially according to a wide variety of social, cultural, and personal variables. . . . Survey research does indicate that thirty to forty percent of the population do have such experiences, implying that they are normal rather than pathological phenomena" (p. 197).

QUALITATIVE RESEARCH

By eschewing the quantitative methods of natural science research, qualitative methods trade confidence in generalizability, reliability, and validity for comprehensive contextual description of human experience. Qualitative methods applied

to the understanding of human experience have been termed "human science research" (Polkinghorne, 1983). Human science researchers do not limit themselves to narrow reliance on the perspectives and methods of psychology but draw upon the methodologies of anthropology, history and all the human sciences, of which Giorgi (1986) counts at least 26 separate disciplines. Such methods represent non-quantitative yet rigorous and precise ways to understand the human world.

*some
comparisons
of
quantitative
and
qualitative
research*

As an example of the trade-off between quantitative and qualitative methods, compare the relative contributions to the understanding of mystical experiences of Hood's (1975) study reporting the development of a Mysticism Scale with the participant observation research of Buckley and Galanter (1979). In developing his scale, Hood employed the rigorous procedures outlined in the American Psychological Association's (1985) Standards for Educational and Psychological Testing, but reliability, validity and norms were all obtained using the psychologist's favorite sample source: readily available undergraduates at his university. Buckley and Galanter conducted their study at a celebration held by the followers of Guru Maharaji where many individuals could be observed and interviewed who were actually having mystical experiences. Clearly both approaches yielded different but significant findings. Quantitative and qualitative approaches (each with a number of subtypes) are complementary and lead to results and discoveries that are not captured by other approaches.

To obtain examples of qualitative research articles, we did not conduct a computer search. The terms used to describe qualitative methods (e.g, human science methodology, hermeneutics, participant observation, descriptive and qualitative research itself) are not listed in the PSYCINFO or MEDLINE subject headings. Conceivably the bibliographic database could be searched using these terms as key words as was done for the quantitative references. But given the paucity of references, we opted to examine a comprehensive listing of human science research (Tesch, 1985) and consult with researchers in the field (Amedeo Giorgi and Anthony Stigliano). We were not able to locate any references that purported to utilize human science methodologies in their pure articulated form to investigate the mystical experience. However, many studies have made use of qualitative methods often without identifying the techniques as representative of the categories in which they are listed below. Nevertheless including these articles is in keeping with our goal of alerting readers to exemplary methodologies employed in studies designed to understand transpersonal states of consciousness.

Psychohistorical Studies

ERICKSON, E. (1958). *Young man Luther*. New York: Norton.

The psychohistorical method examines the part that psychological factors play in the historical evolution of an individual or group (Lifton, 1974). For example, Erik Erikson's (1958) psychoanalytic study of Martin Luther identified the psychological factors that led to Luther's intense mystical experiences and the subsequent founding of the Protestant movement. It exemplifies the capacity of this method to tease out the subtle interaction of mystical experience with personality and culture that quantitative methods cannot address.

Hermeneutical Studies

BUCKLEY, P. (1981). Mystical experience and schizophrenia. *Schizophrenia Bulletin*, 7(3), 516-21.

Hermeneutics is a discipline for interpreting textual materials (not limited to written materials). As a method, it does not strive for definitive conclusions, but attempts to grasp an overall perspective of the phenomenon from many different angles (Polkinghorne, 1983). No studies of textual materials on the mystical experience approached the rigor required for a hermeneutic analysis, nor had the same objectives as pure hermeneutical analysis. But perhaps noteworthy is Buckley's (1981) study of the texts of first-person accounts of recognized mystics and schizophrenic patients to shed light on the interface of psychosis and mystical experience: "The appearance of a powerful sense of noesis, heightening of perception, feelings of communion with the 'divine' and exultation may be common to both. The disruption of thought seen in the acute psychoses is not a component of the account of mystical experience."

Phenomenological Studies

LAING, R.D. (1967). *The politics of experience*. New York: Ballantine.

LUKOFF, D. & EVEREST, H.C. (1985). The myths in mental illness. *Journal of Transpersonal Psychology*, 17(2), 123-53.

The phenomenological method attempts to capture experiences in process as lived. It requires looking at the self-reported

subjective experience of an individual to determine its relatively stable features. Many individuals may be interviewed in the attempt to formulate descriptions (not explanations) that are objective (Giorgi, 1985). An example of a study that employed many facets of the empirical phenomenological method is Lukoff and Everest's (1985) detailed rendering of the mystical! psychotic experiences of an individual who had been placed in psychiatric hospital for two months. The first author conducted 15 unstructured interviews with the second author to unravel the essential themes and core of the phenomenon of psychotic episodes that overlap with mystical experiences. Laing (1967) undertook a similar study of transcendental experiences with an individual who was psychiatrically hospitalized.

Mythic Studies

LUKOFF, D. (1985). The diagnosis of mystical experiences with psychotic features. *Journal of Transpersonal Psychology*, 17(2), 155-81.

This method derives from the discipline of comparative mythology but goes beyond to decipher the psychological truths embedded in the symbol-laden stories. Campbell's (1949) study, *The Hero with a Thousand Faces*, is the premier example of this method. Lukoff (1985) treated the account of a psychotic episode as a symbol-laden personal myth and attempted to uncover themes that parallel the structure and content of classic mystical experiences.

Participant Observation Studies

In participant observation methods, developed largely by anthropologists, the researcher joins in and records aspects of naturally occurring situations for the purpose of understanding some quality of everyday human life (Kennedy, 1982). Now that Greeley and others have established the prevalence of mystical experiences among the general population, the topic is fertile territory for participant observation studies.

Several empirical investigations have made use of these methods. Mentioned above was Buckley and Galanter's (1979) study of a religious ceremony to observe individuals in the midst of mystical experiences. Hood (1977) took his Mysticism Scale into the wilderness and conducted a study with individuals participating in intense nature experiences. Both of these studies also made use of quantitative methods (and are abstracted above) but are noteworthy for their incorporation of elements of participation observation methodology.

Naturalistic Studies

SIEGEL, R. (1977). Religious behavior in animals and man. *Journal of Drug Issues*, 7(3), 219-36.

Naturalistic research overlaps with the participant observation methodology except that the focus is usually observation of animal behavior. Siegel (1977) reviewed naturalistic research of animal behavior that appears to have religious qualities. He found that self-administration of alcohol and psychoactive plants is a well-documented phenomenon. After ingesting fermenting palm fruit, elephants have been observed to engage in behavior reminiscent of "moon worship," taking large branches and waving them rhythmically at the sky. Reindeer have been observed ingesting *Amanita muscaria* mushrooms. One researcher noted: "As to the purpose in the use of all such poisons, I do not think there can be any question: a state of mental exhilaration or happiness is sought by the individual which he does not otherwise possess."

CONCLUDING STATEMENT

By focusing on the methodological aspects of researching the mystical experience, this column has avoided coming to any conclusive statements regarding the nature of the mystical experience. However, this topic is ripe for a meta-analysis (a qualitative technique; see Hunter, Schmidt & Jackson, 1982) that would integrate both the qualitative and quantitative findings reviewed above.

The authors invite readers to submit copies of articles, not included here, that they believe may be significant contributions to the empirical understanding of mystical-and other types-of transpersonal experiences.

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