

Do Psychedelic Drugs Mimic Awakened Kundalini? Internet Hallucinogen Survey Results

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January 1995

Introduction

During September and October of 1994, I posted a survey to various newsgroups on the Usenet (alt.drugs, alt.rave, alt.psychoactive and alt.drugs.psychedellic) asking people about their experiences with hallucinogenic drugs. Here I would like to share, as was promised, the results of this survey. At the time of posting the survey I stated that my intention was to show that there is more to the effects of psychedelics than merely inducing hallucinations and delusions, as is currently believed in the medical and psychiatric community (many notable exceptions notwithstanding!). Thus, I will now state that the purpose of this survey was to test the hypothesis that the effects of psychedelic drugs (e.g. LSD, mescaline, peyote, etc.) are similar to the effects of a phenomena known in esoteric literature as the awakening of the kundalini.

The idea of kundalini derives from Tantric yoga and refers to a supposed "energy" that lies latent in average people at the base of the spine. By practicing specific yogic exercises, one supposedly can "awaken" this kundalini, which in turn leads to severe alterations in consciousness including the onset of psychic abilities and possibly conferring enlightenment (see Table 1 below). These Tantric ideas have also been adopted by certain Western occult traditions throughout this century.

However, what strikes me is the overwhelming similarity between reports by people who have undergone kundalini awakening and what occurs to people who have taken psychedelic drugs. According to Tart and others, both of these states can be considered altered states of consciousness (ACS) [1]. However, accounts of the subjective nature of both these ACS show that the phenomenology of both states overlap to a considerable degree. Table 1 summarizes the effects of kundalini awakening at physiological, sensory, emotional, cognitive and spiritual levels. These effects come about through the specific exercises of kundalini yoga, which are often breathe control exercises, though there are anecdotal accounts of the spontaneous occurrence of these symptoms in people, usually induced by accidents such as falling or receiving a blow to the head.

The logic of the survey design was to recruit respondents experienced in psychedelic drug usage and determine if they have experienced some of the effects, listed in Table 1, associated with kundalini awakening when under the influence of psychedelic drugs. Therefore, all survey respondents were psychedelic drug users. No attempt

was made to recruit people who may have experienced bona fide kundalini awakening because of the relative rarity of this occurrence here in the West.

(Table 1):
EFFECTS OF AWAKENED KUNDALINI

I. Physiological level:

A. Motor

1. Spontaneous performance of asanas (postures) even if the aspirant knows no Hatha yoga. (@,#)
2. Spontaneous twisting and/or revolving of the body and limbs, dance-like gestures. (#)
3. Spontaneous movement of hands in formal Indian dance patterns. (#)
- *4. Trembling of the body (#)

B. Non-Motor

- *1. Sensations of heat or cold. (@),(#)
2. Constriction of breathing. (#)
3. Automatic breathing of various kinds. Temporary stoppage of breath. (@)
- *4. Spontaneous laughter, tears of joy (@); automatic/involuntary laughing or crying. (#)
- *5. Creeping sensations in the spine (#)
- *6. Tingling sensations through the body. (#) Itching or crawling sensations under the skin. (@)
- *7. Alterations in sexual desire (usually decreased)

II. Sensory (Special Senses)

- *1. Sensory hallucinations: audio, visual, taste and smell.(@)
- *2. Audio hallucinations: humming, rushing water, tinkling, bell sounds, etc. (#)
- *3. Closed-eye perceptions: dots, lights, flames, geometrical shapes, pure white light. These may be perceived as visions of saints or deities. (#)
4. Utterances of deformed sounds. (@) Spontaneous chanting, singing or vocal noises. (#)
5. Feelings that the body has become extremely huge or small (anima) (#)

III. Emotional

- *1. Extreme feelings of ecstasy and divine bliss. (@)
- *2. Extreme feelings of fear. (@)
- *3. Enhanced sense of empathy
- *4. Loss or dissociation of emotions

IV. Cognitive/Spiritual:

- *1. Recall past lives. (@)
- *2. Enhanced intuition and psychic powers (siddhis). (@)
- *3. Feelings of unseen guidance and protection. (@)
- *4. Emptying of the mind. (#)
- *5. There is an experience of being a witness in the body.(#)
- *6. Questions may arise in the mind and be spontaneously answered (revelation or enhanced insight). (#)
- *7. The hidden meaning behind the (Indian) scriptures are revealed. (@)

*8. Mystical experience

Table 1: List of Effects of Awakened Kundalini. Note; (*) lines of the list are attributes identified in the psychedelic drug survey. Lines marked (@) are from [2] and lines marked (#) are from [3].

Methods

A survey consisting of 38 questions related to the psychedelic drug experience was posted to the Usenet newsgroups listed above. The survey was designed as follows: demographic data was asked to obtain a respondent profile. Drug usage questions were asked to gauge the experience of the respondent with using psychedelic drugs. The remaining questions focused on the phenomenology of psychedelic drugs. Drug effects fell into five categories: physiological, sensory, emotional, cognitive and spiritual. Nineteen questions referred specifically to effects of awakened kundalini. The remaining questions regarded established facets of the psychedelic experience.

There was no mention in the survey at all about kundalini. As far as respondents were concerned, they were solely reporting on their psychedelic experiences, so in this sense, the survey was blinded and respondents did not know they were being asked if they had ever experienced effects of awakened kundalini.

Completed surveys were received through the authors e-mail address and the data entered into a database (MicrosoftAccess, ver 1.1) where results were tabulated. For statistical analysis, yes/no questions were treated as a poll and the 95% confidence interval associated with percentiles calculated based on the final number of respondents.

Results

A. Demographics.

Sixty one people responded to the survey (n = 61); 15% were female, 85% were male. Similar male/female ratios were seen in an OBE study previously conducted via telecommunication links, suggesting that current Internet use is roughly 75-85% male. The age distribution was:

14-18 years (6.6%),
19-25 years (62 %),
26-30 years (20 %),
31-40 years (9.8%),
41-50 years (1.6%) .

The distribution by country was:

Australia (8.2%),
Canada (13.1%),
Finland (3.3%),
Ireland (1.6%),

Netherlands (3.3%),
Sweden (1.6%),
Thailand (1.6%),
UK (8.2%),
USA (59%).

Clearly, this demographic data shows that roughly 60% of respondents were male, college-age students from the USA. The other 40% of respondents represent the countries of Northern Europe, Australia and Canada. Such demographic data is indicative primarily of who is using the Internet where.

Usage

Polydrug (i.e. used more than just psychedelic drugs) users constituted 95% of the sample. 58% of respondents used psychedelic drugs more than 20 times. The length of time using psychedelics was: less than 1 year (29%), 1 to 5 years (33%), greater than 5 years (37%). Respondents seem roughly equally distributed regarding length of time using psychedelics based on a 1 and 5 year distinction. Half of the users take psychedelics a few times a year, the other half take them a few times a month. The most prominent psychedelic used was LSD (95%), followed by psilocybin-containing mushrooms (82%), with smaller use of mescaline (18%) and peyote (13%). 45% reported using other psychedelics including morning glory seeds, MDMA (3,4-methylenedioxymethamphetamine - "ecstasy") or DMT (N-N-dimethyltryptamine).

Overall, the respondent sample was relatively experienced in psychedelic drug use.

B. Psychedelic Effects: Poll Questions.

For some of the questions pertaining to psychedelic effects, respondents were asked simple yes/no or more/less questions which could be easily tabulated. Respondents were also allowed to give a textual elaboration not amenable to simple statistical analysis (text data not discussed here). Table 2 shows the results of the polling questions, broken down by category. For binary polling questions (i.e. yes/no or more/less; questions with only two responses), a 95% confidence interval could be calculated assuming a Gaussian distribution.

Statistical tests of independence were performed on 2x2 combinations of demographic data with psychedelic effects. All variables tested showed statistical independence. That is to say, there was no statistical evidence that any reported psychedelic effects were dependent upon such demographic factors as age, sex, or length of time using psychedelic drugs (not shown). However, such tests of independence were only marginally valid because of the relatively small sample size.

(Table 2):

Category	Psychedelic Effect	Yes	No	95% C.I.
I. Physiological				
*	1. Chills/Vibrations	75%	25%	+/-11%
	A. Location of Chills/vibrations (n = 46):			
	a. Chest	1.8%		
	b. Limbs	1.8%		
*	c. Spine/back	49.2%		
*	d. Whole body	19.3%		
	e. Not specified	24.6%		
*	2. Spontaneous laughter	70.9%	29.1%	+/-11%
	3. Fidgety	70.9%	29.1%	+/-11%
	4. Difficulty falling asleep	92.7%	7.3%	+/- 7%
*	5. Cold and clammy	40.0%	60.0%	+/-12%
*	6. Sexual desire during course of drug experience (more/less/other)	34% MORE	43% LESS	23% OTHER
*	7. Sexual desire immediately after the drug experience (more/less/other)	23% MORE	59% LESS	13% OTHER
II. Sensory				
*	1. Visual hallucinations	96.7%	3.3%	+/-4%
	A. Nature of visual hallucinations (n = 59):			
	a. "Trails"		91.8%	
	b. Seeing objects breath		78.7%	
*	c. Closed eyed imagery		93.4%	
*	d. Seeing of faces and landscapes in objects such as paneling or carpet		60.7%	
	e. Things take on a chalky texture		34.4%	
	f. Seeing of paisley shapes		52.4%	
*	2. Audio hallucinations	54.1%	45.9%	+/-13%
*	3. Mixing of sense modalities	54.1%	45.9%	+/-13%
III. Emotional				
*	1. Alterations in emotions	80.3%	19.7%	+/-10%
*	2. Increase in empathy	75.4%	24.6%	+/-11%
IV. Cognitive				
*	1. Alterations in thought	93.4%	6.6%	+/-6%
*	2. Alterations in personal identity	60.6%	39.4%	+/-12%
	3. Can you concentrate when on hallucinogens?	80.3%	19.7%	+/-10%
V. Spiritual				
*	1. Has taking hallucinogens created long term changes in your personality?	80.3%	19.7%	+/-10%
	2. Out-of-body experience induced by hallucinogens	39.3%	60.7%	+/-12%
*	3. Have you ever had a spiritual			

	or religious experience on hallucinogens?	86.9%	13.1%	+/-8%
*	4. Has use of hallucinogens made you more or less spiritual or not affected (N/A) your spirituality?	71% MORE	3% LESS	26% N/A

Table 2: Results of polling questions from psychedelic drug survey. Note that * categories correspond to kundalini effects.

The data in Table 2 essentially replicates aspects of previous work on the effects of psychedelic drugs [4]. This data, when compared to Table 1, shows definite overlap in the phenomenology of hallucinogen effects and kundalini awakening. Some of these effects occur with high frequency. For example, 75% +/-11% of respondents reported feelings of chills and vibrations. Within this subset, 49% directly reported that these chills or vibrations occurred on the back or along the spine, thus describing a prominent feature of the kundalini experience; chills and vibrations along the spine. In the theory of kundalini yoga such sensations are associated with the ascent of the kundalini through the chakra system (see reference 3 for further details of kundalini yoga theory).

Other psychedelic drug effects corresponding to kundalini awakening reported with high frequency are the following: spontaneous laughter (70.9% +/-11%), visual hallucinations (96.7% +/-4%), alterations in emotions (80.3% +/-10%), increased empathy (75.4% +/-11%), alterations in thought processes (93.4% +/-6%), changes in personal identity (60.6% +/-12%), long term changes in personality (80.3% +/-10%), and explicit spiritual experience (86.9% +/-8%). Unfortunately, space limitations prevent elaboration on each of these categories, each of which was assessed with textual answers. The textual question responses revealed that changes in these categories closely resembled kundalini based experiences. In particular, it was observed that a picture emerged from the textual data that is very similar to Eastern mystical teachings and thus reinforces the association of hallucinogenic effects with awakened kundalini. Such connections between Eastern mysticism and psychedelic experiences have been recognized in some quarters

When asked if the use of hallucinogens has made the person more or less spiritual or if the drug has not affected their spirituality, 71% of the people said 'more', with 26% saying the drug has not affected their spirituality. This question of course also relates the mystical aspects of psychedelic and kundalini experiences.

A number of other kundalini associated phenomena were reported by respondents with less frequency including: alterations in perception of body temperature, alterations in sexual desire, audio hallucinations, and synesthesia (mixing of senses). These factors were at or below the 50% frequency. Regarding synesthesia, what was reported most was that visual hallucinations seemed to follow or be

induced by music to which the respondent was listening.

It is interesting to note that roughly 40% +/-12% of respondents reported having an out-of-body experience (OBE) while on psychedelic drugs. This frequency surprised even the author, for OBEs are not usually associated with psychedelic drugs. Based on conversations with one respondent reporting psychedelic induced OBEs (p-OBEs), it is clear that these have a different nature from "regular" OBEs, the latter being associated with dreams and sleep [5]. The p-OBE appears to involve the complete absorption of the subject in the content of the visual imagery and is characterized by a relatively formless and ineffable set of experiences. This is in contrast to "regular" OBEs which are essentially lucid dreams and contain well defined content and environments and can usually be expressed in words effectively [6]. Thus, this author suggests that OBEs induced under psychedelic drug inebriation are different in nature from "regular" OBEs.

Taken as a whole, this polling data strongly suggests that the effects of psychedelic drugs are very similar to those of awakened kundalini and that it is reasonable to compare these two ASC. An important implication of the idea that psychedelic drugs create a state very similar to awakened kundalini is that, by furthering our understanding of the physiochemical action of psychedelic drugs on the body and brain, we may also discover the physiochemical changes associated with awakening of the kundalini.

Common Mechanisms?

The similarity of the psychedelic and kundalini experiences suggests common, or at least overlapping mechanisms of action in both these ACS. Aside from the phenomenological evidence that these two states are qualitatively similar, is there any other evidence in support of the similarity of these two states? Consider the following evidence:

1. LSD binds to serotonergic neurons in the raphe nuclei of the brain stem.

Evidence suggests that psychedelics mimic the action of a neurotransmitter called serotonin [7] (although dopamine and adrenergic systems may be involved too). Serotonin is an important neurotransmitter in various brain regions, but psychedelics seem to exert their greatest effect at serotonergic neurons located in the brain stem, in clusters of neurons called the raphe nuclei [8]. The raphe nuclei are known to play an important role in regulating autonomic nervous system activity, regulating sleep-wake cycles, and states of arousal [9].

2. It is also known that kundalini yoga is based primarily on breathing exercises. The centers that regulate breathing (pneumotaxic and apneustic centers) are also located in the brain stem in areas close to the raphe nucleus, and in areas that have neural connections to the raphe nucleus [10] and the nucleus of the solitary tract.

3. It is a relatively common experience amongst psychedelic users to feel sensations of pressure at the back of the neck during the drug experience.

4. From the survey, 92.7% +/-7% of respondents reported the inability to fall asleep when on psychedelics, as well as other unusual autonomic nervous system activity, thus further implicating brain stem functional alterations.

All of this points to something of great relevance going on in the brain stem. The "trigger" region in the nervous system for both the exercises of kundalini yoga and hallucinogens appears to be clusters of nuclei closely linked in circuits in the brain stem. Something occurs in the brain stem that has tremendous consequences both throughout the body and within the higher regions of the brain, leading to the drastic alterations in consciousness characterized by these two similar ACS.

It is known that brain stem arousal pathways form diffuse connections to the higher brain centers, and the activity of these pathways is widely believed to be responsible for the sleep/wake cycle. It may be that both psychedelics and kundalini refer to a state of hyperactivation of these brain stem pathways leading to a hyperactivation of higher brain centers. In other words, the psychedelic state and the state of awakened kundalini may refer to a state of hyper-awakeness as determined by increased brain stem activation of higher brain centers. Such a state may actually trigger off the same mechanisms that lead to dream formation yet under conditions where the rest of the brain is fully awake and active. This suggests we may be dealing with a third major state of consciousness distinct both from normal sleep and normal waking consciousnesses.

Another neurological facet of the data collected in this survey involves cerebral hemispheric specialization. Though this is not evident in the numerical data presented above, the textual data collected leads to the idea that psychedelic drugs enhance gestalt and holistic cognitive function and may decrease language based cognitive functions. [The textual data is presented in full in the file LSDSUV.ZIP which contains the file PSYCSURV.HLP. The ZIP file is being widely distributed in cyberspace and is at the FTP site minpro.mng.psu.edu in the directory /pub/OBE/misc]. These functions correspond to the known functions of the right and left cerebral hemispheres of right handed people, respectively. Thus, psychedelic drugs appear to enhance right hemispheric function and may or may not affect left hemispheric function. This strongly suggests that the ascending brain stem pathways that mediate psychedelic effects have asymmetrical connections to the cerebral cortical hemispheres.

Such ideas leads to the following testable prediction: noninvasive brain scans (such as MRI, PET scans, or EEGs) performed on individuals undergoing bona fide kundalini awakening should be similar to such scans of individuals under the influence of psychedelic drugs, and both groups will be different from controls.

In particular, it is predicted that right cerebral hemisphere activity will be increased in both psychedelic drug users and those experiencing kundalini awakening over controls.

To this author's knowledge, such observations have not been made yet.

Conclusion

If indeed the contention is true that the psychedelic drug induced state is similar to the state of aroused kundalini, this has many implications. The most important implication in this author's opinion is that if psychedelic drugs can cause symptoms of kundalini awakening, then there must be a definite biological basis for the kundalini phenomena. Physical models of kundalini have been suggested such as Itzhak Bentov's model of the micromotion of the body. This model postulates that various body structures can potentially form resonant oscillators with each other leading to the production of increased magnetic currents in the cerebral cortex [3; pp. 316-340]. Bentov correlates this enhanced electromagnetic action in the cortex with kundalini release. To this author's knowledge this model is only speculation and also suffers the weakness that it ignores standard neurophysiological observations of brain function. Other authors have suggested a number of neurologic and physiologic correlates with the state of awakened kundalini, including models based on the limbic system, the sensory cortex, and even the phenomena of kindling [3; pp. 298-310]. However, none of these alternative models match the phenomenology of kundalini awakening as much as the psychedelic experience does. Thus, the basis of the mode of action of psychedelics may overlap considerably with the causative mechanisms behind the awakening of kundalini.

Clearly, psychedelic drugs can serve as a reasonably reproducible tool for the study of altered states, though the action of these compounds in the nervous system is only incompletely understood at present [11] and consensus as to the nature of psychedelic effects is lacking. Comparing kundalini awakening with psychedelic effects is a step towards alleviating this lack of consensus about the nature of psychedelic effects - or at least helps expand the game field of ideas that we can use to conceptualize the psychedelic experience.

If the connection between psychedelics and kundalini is valid, then it is expected that the physiological changes associated with both states will be similar. Thus, by using psychedelic drugs as a "model system" of kundalini awakening, and determining the mode of action of psychedelics, we may come to understand, at least in part, the physiological changes associated with awakened kundalini. Such work promises to unravel the biological correlates of the siddhis (or psychic powers) and the process of enlightenment associated with kundalini awakening (and the psychedelic experience). What this means is the possibility of joining parapsychology and the study of paranormal and esoteric states of consciousness to the rest of the world of accepted science, in particular neurobiology. To bring the study of the so-called paranormal into the fold of the accepted scientific disciplines is no trivial feat; psychedelics offer such a tool if used reasonably. Furthermore, the introduction of Eastern concepts related to kundalini yoga into a neurobiological framework could serve to enlarge the Western view of the potentials of the human brain and mind.

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