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Do entheogen-induced mystical experiences boost the immune system? **Psychedelics, peak experiences, and wellness**

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Abstract:

DAILY EVENTS THAT BOOST THE IMMUNE SYSTEM (as indicated by levels of salivary immunoglobulin A), some instances of spontaneous remission, and mystical experiences seem to share a similar cluster of thoughts, feelings, moods, perceptions, and behaviors. Entheogens — psychedelic drugs used in a religious context—can also produce mystical experiences (peak experiences, states of unitive consciousness, intense primary religious experiences) with the same cluster of effects. When this happens, is it also possible that such entheogen-induced mystical experiences strengthen the immune system? Might spontaneous remissions occur more frequently under such conditions? This article advances the so called “*Emxis hypothesis*” — that entheogen-induced mystical experiences influence the immune system.



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COMBINED OBSERVATIONS from biology, medicine, religion, psychology, and psychotherapy point to the possibility of a fascinating relationship among entheogens (psychoactive plants and chemicals used in a religious context), mystical experiences, and the immune system — that entheogen-induced mystical experiences may strengthen the immune system. I call this proposition the “*Emxis hypothesis*” - “*emxis*” being a partial acronym of sorts for “*Entheogen-induced Mystical eXperiences Influence the immune System.*”

This article summarizes the observations that contribute to the *Emxis hypothesis*, and it explores some possible connections among these observations and their academic disciplines. In skeletal form, the *Emxis hypothesis* is based on the following observations: the immune system is boosted

by a number of emotionally positive events in people’s daily lives; these events are weaker forms of similar experiences that occur during mystical states; and under the right psychological state and physical location—known in the literature as “*set and setting*”—entheogens induce mystical states. To be clear, it is not my contention that the *Emxis hypothesis* is proved but rather that it offers leads worth investigating. There are many unknowns here, as suggested by my own varied entheogenic experiences: powerfully overwhelming states of unitive consciousness probably occurred about one-sixth of the time, while brief, more diluted episodes of a feeling of sacredness occurred over half the time.

These mixed results prompt the first of several caveats I want to note. First, the *Emxis hypothesis* does not apply to all

psychedelic usage or to all religious uses but only to those occasions when entheogens bring about states characterized by profound experiences of oneness. Some religions use marijuana sacramentally (see, for example, Chevannes 1995), but this usage does not seem to produce states of unitive consciousness, and thus falls short of the mystical state that is an essential element of the Emxis hypothesis.¹

Again, the hypothesis does not apply to psycholytic psychotherapy (Grof 1975/1993, 1980/1994; Passie 1997), which uses small doses of LSD in multiple sessions as a way to help bring otherwise blocked material to consciousness. Since the small doses, used as an adjunct to usual psychotherapeutic practices, do not produce a mystical experience, this is outside the Emxis hypothesis, too.

On the other hand, psychedelic psychotherapy (Grof 1975/1993, 1980/1994; Passie 1997), in contrast to low-dose psycholytic psychotherapy, uses single, heavy-dose sessions that have the intent of providing psychotherapeutic mystical experiences. In the instances in which this goal is reached, the Emxis hypothesis would look for boosts to the immune system. The fact that psychedelic therapy does not always produce a state of unitive consciousness could be useful in studying the hypothesis. Conceivably, if the predominant emotions raised by the therapy were negative and if the patients' stress were unresolved, such "unsuccessful" sessions would provide a control to mystical-experience sessions: both would be high-dose but with opposite emotional tones.

Finally, a caution: Even if entheogen-induced mystical experiences strengthen immune functions, they might not be strengthened enough to influence health or may be strengthened only marginally. As Stone et al. (1996) found in a study of salivary immunoglobulin A (IgA), the role of positive emotions may be primarily to counteract negative emotions; the positive emotions may not actually add strength to the immune system beyond its normal capacity. The whole issue of the possible immune effects of exceedingly positive experiences is not clear because all scientific research done to date has been within the range of normal daily events. The

immune effects of exceedingly strong positive affect have yet to be studied.

Such cautions and caveats notwithstanding, this article argues three main points: that entheogens sometimes produce mystical experiences, that mystical experiences contain exceedingly powerful positive affects and cognitions, and that in daily life-events, lesser instances of these feelings and thoughts strengthen the immune system somewhat. It then pursues two related questions: Do the powerful positive affects and cognitions during mystical experiences strengthen the immune system a great deal? Is it possible to find anecdotal and clinical reports of unusual cures that are associated with mystical experiences and/or the typical thoughts and feelings that accompany them? We begin our investigation by taking a closer look at entheogens and mystical experiences.

Entheogens and mystical experiences

What are entheogens? Because psychedelics select certain emotional and cognitive processes, focus one's attention on them, and magnify subjective awareness, they produce a great variety of effects—sometimes conflicting effects. In this article, we are interested in the occasions that psychedelics produce states of unitive consciousness, or mystical experiences. When causing this kind of experience, they are called "entheogens."

The literature on psychedelics and mystical experiences occurs predominantly in two disciplines, religion and psychotherapy. The word "entheogen" comes from the religious literature. The term, which literally means "realizing the divine within" or "generating the experience of god within," was coined in 1979 (Ruck et al.) specifically to denote the religious experiences of psychedelic use. The Native American Church's use of peyote as a sacrament is probably the most widely recognized example.

The classification of a psychedelic as an "entheogen" comes from its use, not its chemical structure or any other drug taxonomy. The process of labeling a psychedelic as an entheogen is similar to classifying the wine in a religious ceremony as a sacrament, in other words by its use,

1 - Of course, it would be interesting to know whether less intense strengthening of the immune system occurs under these less intense conditions—that is, whether there is a gradual, dose-related strengthening or a step-function that suddenly occurs.

rather than by its chemical structure or its possible use as a food, medicine, or recreational drug.

The scholarly writings on entheogens occur in religion, theology, psychology, archeology, anthropology, sociology, history, law, literature, and a scattering of related fields. Taken as a whole, but still with widespread disagreement, there is general consensus that, under the right conditions, entheogens may induce experiences that are identical with, or closely resemble, mystical experiences that can be attributed to religious practices such as fasting, prayer, meditation, an ascetic life, or "the grace of God."

Religious writings on entheogens contain a large number of complex arguments about whether entheogen-induced mystical experiences are genuine religious experiences and a large number of considerations about how one goes about interpreting these experiences as religious phenomena. As important as these religious issues and distinctions are, in this article we are going to side-step them, and focus rather on the existence of entheogen-induced mystical experiences and the effects of mystical experiences on the immune system.

That entheogens do produce mystical experiences that are akin to religious experiences is indicated by two respected but by no means universally accepted scholarly investigations. One is Forte's anthology *Entheogens and the Future of Religion* (1997), and the other, an earlier work, is the chapter "Psychedelic Drugs and the Human Mind" in Grinspoon and Bakalar's *Psychedelic Drugs Reconsidered* (1979/1997). As for the Forte anthology, the well-known philosopher of religion, Huston Smith, evaluates it as "the best single inquiry into the religious significance of chemically occasioned mystical experiences that has yet appeared." With various flavors to their answers, the contributors maintain that entheogens sometimes produce religious experiences.

This outlook echoes Grinspoon and Bakalar's analysis two decades earlier in their comprehensive review of psychedelic research. The evidence, they argue, demonstrates "that psychedelic drugs produce experiences that those who undergo them regard as religious in the fullest sense." In

addition, "drug-induced religious and mystical experience is often reported to be unusually intense."

Additional support for the proposition that psychedelics can induce mystical experiences comes from a more recent review, Hood's *The Facilitation of Religious Experience* (1995). Hood judges "that somewhere between 35 and 50 percent of psychedelic participants report religious experiences of a mystical or numinous nature, even without religious contexts." This number rises to about 90% if one includes reports with any religious imagery or religious vocabulary.

Thus, the literature abounds with instances of entheogen-occasioned mystical experience. The next question is: do these events share characteristics with experiences that are known to strengthen the immune system?

Characteristics of mystical experiences

It is important to distinguish between the different ways that the term "mystical experience" is used in common language and in philosophy and religion. In the former, it is associated with parapsychology, the occult, cultic practices and with television shows about "the unexplained." In philosophy, religious studies, and the psychology of religion, "mystical experience" denotes a specific experience or a group of similar experiences. (There is considerable discussion on this point.) Typically, mystical experiences are characterized by subjective qualities. Pahnke and Richards (1966) list nine: (1) a feeling of oneness, that is, ego transcendence; (2) objectivity and reality—noetic quality or sense of truth; (3) a transcendence of time and space; (4) a feeling of sacredness; (5) deeply felt positive mood; (6) an awareness of paradoxicalness—an awareness that is anomalous in the Western scientific paradigm; (7) a feeling that the experience is ineffable; (8) transiency; and (9) positive changes in attitude and/or behavior. As will be discussed below, these subjective characteristics resemble those that are associated with a strengthened salivary IgA levels and, indeed, with spontaneous remissions.

Thanks to Hood's construction of a *Mysticism Scale* in 1975 and its subsequent

Frequently,
high-dose psychedelic
sessions are a mixture
of extreme emotions,
both positive and negative.
How these would effect
immune indicators such as
salivary immunoglobulin A
or cortisol is anybody's guess.
My guess is that
the final emotional state
will be most influential.

IgA "is the major immunoglobulin in the fluids that bathe the mucosal surfaces of the body and the surfaces that are the paths of entry to invading bacteria and viruses into the body (e.g. tears, saliva, gastrointestinal, vaginal, nasal, and bronchial secretions)" (Valdimarsdottir & Stone 1997).

modifications and also to the concurrent growth of transpersonal psychology (*Journal of Transpersonal Psychology* 1969+), there is a substantial amount of empirical research on mystical experiences. Three summaries of the literature (Council on Spiritual Practices 1997, Hruby 1996, Lukoff & Lu 1988) contain many findings relevant to our discussion here. To begin, these summaries show that mystical experiences tend to be associated with indicators of positive mental health. Further, as compared with people who have not had mystical experiences, those who have experienced them report lives that are more meaningful and hopeful and more often report that they feel a purpose or direction in their lives. They have higher levels of education and income and rate themselves higher in levels of personal talent and capabilities, self-sufficiency, intelligence, and ego strength. They picture themselves as more psychologically mature, less motivated by personal fame and a desire for high income, and as more altruistic. They say their mystical experiences were more conducive to mental health than to mental illness.

Now, because most of these findings come from correlational studies, it is not clear whether mystical experiences help produce these characteristics, intensify already existing traits, or occur because of a third factor such as personality traits. Future experimental studies with entheogens might help clear up this theoretical ambiguity. In any event, for us the critical question is whether the characteristics of mystical experiences correlate with improved functioning of the immune system.

The immune system and salivary immunoglobulin A

Here we will focus specifically on increased levels of salivary IgA—sIgA—as a presumed indicator of overall immune strengthening. Salivary IgA is, of course, only one measure of immune function. I select it for the many advantages listed below. Other immune indicators presumably could show similar effects and deserve attention, too.

Because one of its locations in saliva, IgA is especially easy to sample. Since one hope behind this article is to encourage research into positive emotional experi-

ences induced by entheogens, salivary IgA has the advantage of being readily obtainable while causing a minimum of interruption to an on-going entheogenic session. Its use is additionally appropriate during a situation when suggestibility is heightened and subjects may be easily frightened or stressed by blood-taking procedures, which, further, would be beyond the professional qualifications and personal preferences of many potential researchers into this area, including theologians and sociologists.

A prime reason for using salivary measures, and specifically IgA, as indicators of the immune system's health is the large number of studies that form a theoretical and empirical base. In their 1992 review *Saliva as a Diagnostic Fluid*, Glock, Heller, and Malamud list 2298 citations from over 7500 that were initially retrieved. Of these, 174 consider immunoglobulins. From 1993 through September 1998, Medline lists 6486 IgA citations, some salivary, some not. Thus, in all, salivary IgA studies are embedded in a widely recognized research base with established methods and professional practices.

From the perspective of the Emxis hypothesis, a problem with these sIgA studies is that many of them do not use human subjects, and of these only a small fraction address wellness, positive health, or positive experiences. However, if we assume that positive emotions have the reverse effect of negative emotions, the Emxis hypothesis is supported by a large database of illness-related studies, showing that stressors reduce salivary IgA and other immune functions.

A final reason to focus on salivary IgA is that there are intriguing research leads that link stressful daily events in one's life with lower salivary IgA levels and positive events with higher levels. For example, in a series of studies by Stone et al. (1987, 1994, 1966), desirable and undesirable daily events are found to influence IgA up or down respectively, and as the Emxis hypothesis assumes, mood mediates the effects. We shall return to these studies.

Psychospiritual and psychosocial boosts for the immune system

Might mystical experiences (peak experiences) be an intervening variable between entheogens and increased im-

mune system functioning? If mystical experiences share characteristics with events that enhance salivary IgA, it is entirely reasonable to hypothesize that they could serve such mediating roles.

In exploring the data, we need to keep in mind that most of the treatments tried so far as interventions to enhance sIgA are presumed to reduce stress—that is, reduce negative emotions rather than increase positive emotions and boost the immune system (a general strategy that, of course, is in keeping with contemporary medicine's orientation to illness rather than wellness). Coping with negative mood may not be the same as increasing positive mood, especially increasing positive mood to the great extremes occurring during some kinds of mystical experiences. Nevertheless, the reduction of unpleasant emotions, depression, and other stressful daily events that weaken the immune system as measured by sIgA is, in essence, an increase in positive mood.

In "Psychosocial Factors and Secretory Immunoglobulin A," Valdimarsdottir and Stone (1997) select and summarize about two dozen research studies on the relationships between sIgA and both stressful events and stress-reduction interventions. Although the authors caution that "methodological refinements are needed before more definitive conclusions can be made," they maintain that the studies indicate that various stress-reduction interventions are associated with increases in salivary IgA levels. The question that concerns us is whether the interventions that increase salivary IgA exhibit in some form the characteristics of mystical experiences?

Among the stress-reduction techniques that have been tried, we find relaxation response, progressive relaxation, guided visualization, imaging powerful immune functions, back massage, music combined with self-induced state of appreciation (McCarty et al 1996), self-hypnosis, suggestions, and humorous movies (McClelland & Cheriff 1997). These interventions are consistent with the decreased need for ego defensiveness that accompanies ego-transcendent states and with feelings of belonging and unity, deeply felt positive mood—all characteristics of mystical experiences. Further, on the basis of the assumption that human

abilities vary in strength from one mind-body state to another (Roberts 1989), it is likely that the abilities of visualization suggestion, hypnosis, and imaging are more powerful in some altered states of consciousness, an important possibility considering that entheogens alter consciousness.

In short, although these interventions do not investigate the hypothetical relationship between mystical states and improved immune function, as a whole they are in the expected direction. Perhaps these stress-reduction interventions can best be considered as mild examples of more powerful entheogenic interventions. The most common feature of both types of interventions is positive emotions.

Studies of social support offer another possible link to the characteristics of mystical experiences. For example, Jemmott and Magloire (1988) found that high levels of sIgA are associated with social support. One can argue that, for people who have had mystical experiences, the feelings of unity, belonging in the universe, and "coming to one's ultimate home" provide feelings of extreme support, even cosmic support. For people who have experienced these states, cosmic belonging may substitute—more than substitute—for ordinary, interpersonal social support.

Studies of social support, positive psychological mood, and desirable daily events show all three are correlated with increased sIgA. These studies also provide some general support for the Emx hypothesis, especially the link between positive experience and increased sIgA, or they are at least consistent with this hypothesis.

Mystical state and spontaneous remission

Let us ratchet up the importance of the possible significance of the Emx hypothesis. If positive day-to-day experiences strengthen the immune system somewhat, might powerfully positive experiences—mystical states, states of unitive consciousness, or ego-transcendent states—strengthen the immune system to the point of being associated with unusual cures? We can raise this question because some suggestive data prompt it.

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In *Spontaneous Remission: An Annotated Bibliography*, O'Regan and Hirshberg (1993) present a table of "Psychospiritual Correlates of Remission." Resembling both the characteristics of mystical experiences and the daily events, moods, and attitudes that are associated with increased levels of sIgA, many of their list of 27 correlates seem like old friends: group support, hypnosis/suggestion, meditation, relaxation techniques, mental imagery, psychotherapy/psychoanalysis, behavioral therapy, group therapy, miraculous spiritual phenomena, prayer/spiritual belief, religious/spiritual conversion, autonomous behavior/increased autonomy, faith/positive outcome expectancy, fighting spirit, denial, lifestyle/attitude/behavioral (changes), social relationships/interpersonal relationship/family support, positive emotions/acceptance of negative emotions, environmental/social awareness/altruistic, expression of needs/demands /self-nurturing, sense of control/internal locus of control, desire/will to live, increased or altered sensory perception, taking responsibility for the illness, sense of purpose, placebo effect, diet /exercise.

Many of these 27 psychospiritual correlates are characteristics of both mystical experiences and events that boost salivary IgA. Others, such as sense of belonging, discarding ego-centeredness, reorienting one's life, and altered states of consciousness are typical of mystical experiences but do not appear in sIgA research. The correlates that emphasize insights into one's personal life and social relationships parallel the results of decreased ego-attachment that often follow ego transcendence, both psychedelic and non-psychedelic. One cluster of correlates is composed of experiences of altered-states phenomena—the very nature of mystical experience.

Taking such parallels into consideration, might it be reasonable to say that there is a persistent cluster of feelings, thoughts, moods, and behaviors that recur in mystical experiences, daily events associated with increased sIgA levels, and spontaneous remission?

At this point, an inclination toward a positive answer can be only a surmise. O'Regan and Hirshberg report disappointingly few findings that show a relationship

between mystical states and unaccountable cures. (Given that both spontaneous remissions and mystical experiences occur at certain low rates in a population, this may not be so surprising.) Still, they provide some suggestive clinical observations.

They note that at the first conference on spontaneous regression held at Johns Hopkins in 1974 (see *Medical World News* 1974), "Dr. Renee Mastrovito of the neuropsychiatric service at Memorial Sloan Kettering Cancer Center alluded to historical references to cures following religious conversion or prayer." They also point to a study of five selected cases "who made a narrow escape from cancer," by Ikemi et al. (1975). According to O'Regan and Hirshberg, the authors claim that the patients' spontaneous cures were "supported and encouraged by their religious faith or favorable change of human environment [social relationship]" and suggest "that the background of Oriental thought also might help them reach such a blessed state of mind." In three of the five cases, "the unchanged or rather elevated immunological capacity which was usually lowered in cancer patients has been confirmed."

A comment on another survey of 18 cases of cancer regression (Weinstock 1983) can also be aligned with the typical feelings of hope, purpose, and meaning that follow mystical experiences. "All 18 definitely did not have anything for which to live before the favorable psychosocial change, and all found life very much worth living afterwards."

O'Regan and Hirshberg cite clinical reports by Meares of 12 cases of spontaneous regression of cancers associated with intensive meditation. In the discussion of one case, Meares (1979) writes, "It may well be that the extreme reduction of anxiety in these patients triggers off the mechanism which becomes active in the rare spontaneous remissions. This would be consistent with the observation that spontaneous remissions are often associated with some kind of religious experience or profound psychological reaction."

We can suppose that the religious conversion experiences, blessed states of mind, and marked favorable psychosocial change reported by researchers probably indicate strongly felt positive moods and

possibly peak or ego-transcendent mystical experiences. From a transpersonal perspective, a consistent source of psychological anxiety and its resulting physical stress is over-identification with the ego. As the saying goes: The ego has problems, and the ego is a problem. Might it be that ego transcendence or dis-identification during meditation helps account for instances of spontaneous remission?

Ego transcendence is also a common experience during intense psychedelic sessions. While using psychedelics with cancer patients not to cure cancer but as an adjunct to psychotherapy, Richards et al. (1977) reported that the most significant variable in psychedelic psychotherapy is "the peak experience variable."

Taking up unfinished work

In their summary of psychosocial factors effecting sIgA, Valdimarsdottir and Stone (1997) conclude that both negative and positive affect mediate between daily events and sIgA levels. This "indicates that researchers should not only focus on the role of negative affect but should also consider the contribution of positive affect." The Emx hypothesis might add, "Especially extremely powerful positive affect!"

Twenty years ago in *Psychedelic Drugs Reconsidered*, the book-length review of the scientific and scholarly literature (over 1000 studies), Grinspoon and Bakalar (1979) summarized their position:

After more than ten years of almost total neglect, it is time to take up the work that was laid down unfinished in the sixties. We need to arrange a way for people to take psychedelic drugs responsibly under appropriate guidance within the law, and a way for those who want to administer them to volunteers for therapeutic and general research to do so.

They wrote this after examining and compiling nearly the whole corpus of psychedelic research in psychotherapy, religion, creativity, psychology, and related fields. Now, two decades later, little progress has been made, but the Emx hypothesis gives a new rationale to restart this research: Entheogen-induced mystical experiences may boost the immune system. •

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