

# A Study of Ayahuasca Use in North America

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**Abstract**— Eighty-one subjects who used ayahuasca at least once in North America answered a lengthy set of open-ended questions and completed the 81-item After the Spiritual Experience Questionnaire. An additional 50 ayahuasca users were interviewed in person. The data for this study represent ayahuasca experience based on more than 2,267 ceremonies. A comparison group of 46 people attending a Catholic spiritual retreat weekend also completed the After the Spiritual Experience Questionnaire. A factor analysis of this questionnaire yielded three factors: Joy in Life, Relationship to the Sacred and Toxic Feelings. Although the ayahuasca users had significantly higher scores on the first two factors, the two groups had modest mean differences indicating a similar response to two very different spiritual experiences. This key finding strongly supports the view that ayahuasca users are engaged in an authentic process as spiritual in nature as that of the retreatants. The qualitative data revealed that ayahuasca users reduced their alcohol intake, ate healthier diets, enjoyed improved mood and greater self-acceptance and felt more loving and compassionate in their relationships. Seventy-four percent of the ayahuasca users said they had a relationship with and received ongoing guidance and support from the spirit of ayahuasca.

**Keywords**— ayahuasca, integration, North America, religious freedom, spiritual

Interest in ayahuasca, a psychedelic admixture from the Amazon basin, is steadily growing in the Western world. There has been a multifold increase in drug tourism to South America (Dobkin de Rios 1994) by travelers from developed countries seeking an indigenous ayahuasca ceremony, yet coming home with both positive and negative reports. Brazilian syncretic churches, Santo Daime (SD), União de Vegetal (UDV) and Barquinha, which use ayahuasca as a sacrament have established centers in developed countries from Japan to Australia as well

as throughout Europe and the United States. Tupper (2009) examined how the global spread of ayahuasca has affected drug policy along with the implications of cultural appropriation. The Internet advertises ingredients and instructions for making the potent brew (Dalgarno 2008), and there are a plethora of websites describing personal experiences and videos of actual ayahuasca ceremonies. McKenna (2005) has taken the position that the spirit of the ayahuasca plant has both the sentience and intention to “encircle the world.”

Although ayahuasca is viewed as a medicine by indigenous users and as a sacrament by members of the syncretic churches, in the United States its active ingredient is classified as an illegal drug. This makes research on its effects challenging, to say the least, with the result that most researchers have conducted studies abroad. Callaway and colleagues (1999) provided an in-depth pharmacological description of the Amazonian tea using samples from South America. The Hoasca Project (Da Silveira et al. 2005), led by a multinational team of researchers,

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This research was funded by the Inner Guidance Fund.

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provided the first psychiatric assessment of adolescent members of a Brazilian syncretic church (UDV). They found wide-ranging benefits, including better mental health and reduced drug and alcohol use in church members as compared to controls. Barbosa and colleagues (2005) studied naïve subjects in Brazil before and after their first time drinking ayahuasca in syncretic church ceremonies (SD and UDV) and reported that subjects felt greater serenity, self-assertiveness and joy. Santos and colleagues (2007) found a reduction in panic-related signs and feelings of hopelessness in syncretic church members (SD) in Brazil.

There are only a few research studies on ayahuasca use in North America. Trichter, Klimo and Krippner (2009) found that American subjects reported similar spiritual themes after their first ayahuasca ceremony conducted in a neoshamanic setting. Halpern and colleagues (2008) found lowered anxiety and less alcohol abuse in syncretic church members (SD) in Oregon.

The present research used both quantitative and qualitative data to learn more about who is using ayahuasca in North America, for what purposes and with what long-term effects. Special interest centered on how people integrate their experience of ayahuasca into their ongoing psychological and spiritual lives. This focus is based on William James' (1985) perspective that the value of a mystical experience is reflected in its impact on the lived life, how the experience is "sifted and tested . . . with the total context of experience" (Barnard 1997). The extent to which the ayahuasca users were involved in an authentic spiritual process was explored through use of a comparison group attending a Catholic spiritual retreat.

## METHOD

Ayahuasca users were recruited via an anonymous snowball method of data collection through personal networks, at conferences on psychedelic research and through an announcement on the Multidisciplinary Association for Psychedelic Studies (MAPS) website. Eighty-one subjects, four members from a Santo Daime church and 77 from shamanic or Carioca groups, completed the questionnaire; most were returned by snail mail and ten via the Internet. An additional 50 people were interviewed by the first author, also through a snowball or serendipitous method of identification (a few of these responses appear later in this article). The comparison group consisted of 46 people who attended a contemplative weekend retreat at a Catholic retreat center. The intention was to find a group of spiritually-minded people who would be having a concentrated, albeit less intense, experience of a spiritual nature. Demographic data (age, gender and education) were collected from all subjects along with history of psychotherapy treatment, meditation, yoga or other spiritual discipline.

Both the ayahuasca users and the retreatants completed an 81-item After the Spiritual Experience Questionnaire asking how they had changed since their respective experiences. This questionnaire was adapted by the present authors from the Persisting Effects Questionnaire used in the Johns Hopkins psilocybin study (Griffiths et al. 2006), which was based on work by Pahnke (1969, 1963), Doblin (1991) and Richards (1977). The five-point Likert-type scale covered aspects associated with mystical experience: unity, transcendence of time and space, deeply felt positive mood, sense of sacredness, objectivity and reality, paradoxicality, ineffability and transiency (Pahnke 1966).

A correlation matrix of responses to the 81 items was followed by a principal components factor analysis with Varimax rotation. This yielded three interpretable factors. Ayahuasca users and retreatants were compared on these three factors using a MANOVA.

Ayahuasca users also completed a lengthy set of open-ended questions about their ayahuasca experiences, details of set and setting, their intentions and personal reflections. This qualitative questionnaire was developed with the consultation of very experienced users, some of whom were also trained to practice as shamans. Subjects were asked about their original intentions to drink ayahuasca, how their intentions had changed over time and what their most recent intentions were. Specific questions about the ayahuasca experience itself focused on details regarding dietary and physical preparations, setting, the ceremony and any follow-up contact. Respondents were asked to describe changes as a result of their ayahuasca experience(s) in terms of behavior, alcohol and drug use, health, diet, personal relationships, emotional moods, dreams, synchronous events, personal attitudes, spiritual beliefs and personal insights. In addition, they were asked, "Do you feel that you have a personal relationship with the spirit of ayahuasca?" along with follow-up questions exploring this relationship.

Many subjects answered these questions with paragraphs of personal information and self-reflection. The analysis of qualitative data was informed by Dey's description of grounded theory (2007) and Seale's recommendation to count phenomena (2007).

## RESULTS

### Demographics

The ayahuasca users (N = 81) had a mean age of 44 years compared to the retreatants (N = 46) with a mean age of 60. There were more men in both groups: 57% of ayahuasca users and 65% of retreatants were male. The most common level of education for both groups was college graduate, with 40% having obtained a graduate degree.

As expected, the retreatants were predominantly Catholic since the retreat center was affiliated with the Catholic church. More than half had attended previous

spiritual retreats. Expressions of religious preferences by the ayahuasca users were wide-ranging, including agnostic and pagan. Buddhism was the most frequently mentioned religion ( $N = 8$ ); three simply identified as Christian.

Equally high percentages of the retreatants (90%) and ayahuasca users (84%) reported that they had a spiritual discipline which they practiced four to five times a week, with prayer and meditation at the top of their respective lists. Fifteen percent of retreatants and 75% of the ayahuasca users reported having had a psychotherapy contact.

Ayahuasca users reported extensive experience with other psychedelic compounds such as LSD (75%), psilocybin or mushrooms (75%) and MDMA (50%). The total of number of sessions experienced by ayahuasca users was 2,267. While ten had only one experience with ayahuasca, 24 subjects had 20 or more. The ayahuasca tea in their most recent experience was reported by 50% as having been brewed in South America, in North America by the other half.

### Quantitative Data

Factor analysis of the 81-item After the Spiritual Experience Questionnaire was undertaken, as is commonly the case, for purposes of data reduction and conceptual clarity. Three readily interpretable factors were identified:

- Factor One – Joy in Life (18 items) included ratings of change on item stems such as: My feeling of being at home in the universe has . . . ; I feel that I now know a new dimension of life . . . ; My experience of inner peace (centeredness, serenity, calmness, contentment has . . . The items in this factor reflect a more positive relationship to life with greater joy and self-confidence, and a deeper sense of meaning, authenticity and inspiration.
- Factor Two – Relationship to the Sacred (15 items) included ratings of increase/decrease on item stems such as: My belief in some form of continuance after death has . . . ; My experience of the sacredness in daily life has . . . ; My feeling of an emotional bond with all of humanity has . . . Items clustering on this factor reflect spiritual experiences: interconnectedness of all life; profound sacredness of daily life and a deep sense of gratitude.
- Factor Three – Toxic Feelings (seven items) included ratings of increase/decrease on items such as: My feelings of anxiety or nervousness have . . . ; My feelings of sadness or depression have . . . ; My expression of hateful feelings toward others has . . . Although it is only comprised of seven items, the nature of the factor is very clear. It reflects not only a decrease in experience of negative affects, but also a decrease in negative expression toward others.

Results of a MANOVA comparing the ayahuasca users and the retreatants are shown on Table 1. It is evident that

the mean values of the two groups differ on Factor One, Joy in Life, and on Factor Two, Relationship to the Sacred, at statistically significant levels. Means for the two groups on Factor Three do not differ at the commonly cited  $p < .05$  level.

Although the ayahuasca users scored significantly higher on Joy in Life and Relationship to the Sacred, their mean scores per item as shown on Table 1 are not clinically different. Both groups answered individual items similarly—the ayahuasca users were slightly above a four response on a five-point scale and the retreatants slightly below. It should be noted, as can be seen from the comparable ranges of factor scores, that the finding of slightly higher mean scores for the ayahuasca group was not a function of extreme outliers. These findings indicate that both groups, as might be expected after an authentic spiritual experience, reported positively on Joy in Life and Relationship to the Sacred.

Finally, it is evident that mean scores for the two groups on Factor Three, Toxic Feelings, did not differ as indicated by statistical significance. Neither was there any hint of additional information to be gleaned from Factor Three scores in Table 1.

### Qualitative Data

The original intentions of almost all ayahuasca users can be characterized as either personal or spiritual growth. Three were searching for physical healing from medical diagnoses, and three described themselves as curious. The intentions changed with experience to become more spiritual. One subject described it as “. . . less personal and more transpersonal.” Two of the three subjects who were initially curious said that they now saw their curiosity as profane and that they have become more focused on inner healing. The most recent intentions included the desire to heal specific psychological patterns or to deal with current crises such as the death of a mother. They also described an awareness of the process of healing—to go deeper, surrender more and open to a greater experience of love.

Dietary recommendations were given to 90% of the ayahuasca subjects, and most took these suggestions quite seriously. Some fasted for a few days, some for a few hours. For physical preparation, most ayahuasca subjects did yoga or gentle exercise and tried to arrive for the ceremony well rested. Warnings were given to 90% of the subjects about mixing current medications with ayahuasca. Although most ceremonies were group rituals, five subjects took ayahuasca alone in their own homes.

The physical settings for the ayahuasca ceremonies were retreat-like and private with access to natural beauty. A shaman or leader was present for 80% of the subjects, and almost everyone reported feeling safe and secure. Most groups had live singing of icaros (traditional songs) and music consisting of rhythmic drums and rattles with some flutes and guitars. Ceremonies took place at night and were

**TABLE 1**  
**Factor Scores of Ayahuasca and Retreat Groups**

Factor	Score Range	Ayahuasca Users			Retreatants			P	
		Mean	SD	Mean Item Rating	Score Range	Mean	SD		Mean Item Rating
I	52–90	75.96	9.55	4.22	46–86	68.49	9.35	3.58	<.001
II	45–75	62.16	8.90	4.14	46–71	56.72	7.57	3.78	<.001
III	14–35	26.15	4.36	3.78	10–34	24.85	4.56	4.14	>.1 N.S.

held indoors. Half the subjects reported that there were rules or a contract of some sort describing appropriate behavior for the ceremony.

Interactions between shamans or leaders and participants before and after the ceremonies consisted of informal socializing to talking stick circles. During some ceremonies, participants were expected to remain quiet and seated meditatively, while other ceremonies included dancing and emotionally cathartic expressions. Two-thirds of the leaders participated in group sharing after the ceremonies, but only 10% of the subjects reported that the leaders were available for consultation and follow-up guidance after the ceremony.

Subjects reported a range of activities in response to, “Did you do anything to integrate your ayahuasca experience in the days/weeks following?” They journaled, meditated more, prayed, stayed on the recommended diet, spent more time in nature and received massages. Some talked about their experience with loved ones, while others preferred to keep silent. A number wrote about changing their lives based on insights during the ayahuasca ceremony or having a more profound sense of gratitude.

When asked whether they sought therapy after the ayahuasca experience, one subject said “. . . it was ten weeks of psychotherapy in one night.” An overwhelming number of subjects did not seek therapy, saying that therapists who had not experienced ayahuasca would not be able to understand. “The very idea (of seeing such a therapist) sounds peculiar at best, ridiculous at worst.” However, one person did report that a Jungian psychotherapist was helpful.

When asked whether they received any messages or instructions during their recent ayahuasca experience, subjects cited a rich array of positive spiritual advice. Themes included: love yourself more, open your heart to yourself and others, empower yourself, another’s pain is your pain, normal waking consciousness is just one of many realities, love what is. More specifically, one person was told to visit his father more often, while another was instructed to talk to another participant after the ceremony about a fundraising idea. Many subjects felt they had received a large “download” of complex insights and information that was described as far too complex and extensive to describe in a questionnaire.

Almost all subjects described changing their lives in a positive way, most often citing feeling more calm and centered with a greater appreciation of life, more open and loving, an increase in spiritual awareness and being more present in the moment. One important exception was the person who said he failed to integrate insights gained during the ayahuasca ceremony into ongoing behavior change.

Almost all subjects reported drinking less alcohol or stopping altogether. One person said he received a clear message to stop, and another said that he no longer had any desire to drink. Responses regarding marijuana use were more varied. Some stopped; some continued; and some said they used it in a more sacred way, feeling that marijuana is an ally of ayahuasca. Most subjects reported less use of other psychedelics, but if they did use them, they did so in a sacred way. One person said that he was “loyal to ayahuasca and doesn’t want others (drugs); they seem superfluous.”

Improved abilities most often mentioned were healing, psychic intuition, creativity and musical expression. Subjects also said that ayahuasca improved their focus and attunement, thus providing a boost for their meditation. In response to a question about change in physical health, subjects described feeling younger or rejuvenated with less pain and better breathing. Many reported an increase in physical activity, and six said they lost weight, with two people reporting a 30 and 40 pound weight loss. In general, people said they were more conscious of their diet, making better choices for healthier food and less junk. About a dozen people became vegetarian with some trying to eat more raw food. One person said she had “less anxiety around eating,” and another described simply “eating less and feeling better.”

When asked about changes in relationships, subjects most often responded feeling more connected to their hearts and able to love. They were more interested in authentic, honest relationships and more able to be tolerant, patient and aware of others. A few described letting go of toxic relationships. One said his “emotional triggers were gone,” and another said he was “more aware of his conditioning and able to let it go.” One described a desire for community, and about six people reported improving their relationships with their parents specifically. On the

other hand, one woman who was interviewed described the phenomenon of becoming an “ayahuasca widow” when her husband left her because she wasn’t interested in drinking the tea, and he “took up with” another woman who was part of the ayahuasca community.

The most frequent words used to describe changes in mood were calm and peaceful, compassionate and loving. As was evident from the scale ratings, subjects reported they were less judgmental, angry, anxious or depressed. Specific quotes included: “I’m more accepting of the anxiety and depression I’ve always had.” “. . . no changes but my ability to handle my moods is 100% better.” And “I’m less likely to get swept up in my own dramas.”

Subjects reported that dreams were more intense, vivid and clear and that they could remember them more easily. One person described what he called “learning dreams where I am shown things about myself that I don’t see with usual consciousness. I think of this as an integration of healing.”

Synchronous events were reported to occur more frequently around the time of the ayahuasca ceremonies. One subject questioned whether they actually occurred more often, or perhaps he just noticed them more. Another said, “I’m more in tune with what life wants me to experience,” but another said, “I no longer believe in synchronicity.”

Regarding changes in attitude toward their own selves, the words most often used were more loving, accepting, forgiving and self-confident. Subjects reported being less judgmental and more grateful, content, kinder, and more comfortable in their body with greater clarity about their life purpose. One subject said, “I’m becoming my own best friend.”

Attitudes toward life changed in the direction of more faith in a divine presence along with more confidence in guides and trusting the unknown: “I’m more confident to trust that life is supporting me wherever I go.” One subject described this as a “major shift in world view;” another said, “I’m part of the Cosmos.” Subjects reported greater compassion and a desire to make a positive difference in the world along with a reduced fear of death. One subject said, “I now think we know very little about the universe. There seems to be a richer tapestry of spiritual dimensions for us to access, explore and learn from.” In a very personal statement, another said, “. . . I better understand the strength I draw from past trauma . . . I’ve become an adult woman.”

Subjects were asked specifically about their spiritual and religious beliefs. Many reported a renewed and deepened faith and love of God. Others reported a greater awareness of nature and a belief in the sentience in plants and in spirit entities from other realities. “I now believe the universe is connected through consciousness, that we are all one and interconnected through an energetic web and love of life. I used to not believe in anything.”

Most of the subjects reported the experience of being guided, receiving both inspiration and often explicitly personal advice. Some felt they had learned to trust life and surrender to such guidance; others felt that they now had a mission in life. One person described it this way: “This is probably the most important change. I have regular contact with spirit guides—something I never believed in before.”

When asked what they learned from ayahuasca, a number of subjects wrote that it was too much and too complex to fully answer. In general, subjects said they learned that everything is connected and alive, that a divine force is working for us, that it’s a great joy to love and to serve. They said they learned about plant spirits and that they can call on ayahuasca at any time for help. One woman said she learned about her relationship with her mother, but another person said, “It feels like it’s [learnings] faded ’cause I didn’t have a network to discuss it.” Other quotes include this one from a Ph.D. psychologist: “Always choose love. We are singularly alone yet never alone. No traditional psychotherapy can achieve the results that ayahuasca can heal. The heart of learning is that everything changes. We cannot control much, but we should be very intentional with the things we do control—our speech, our actions.”

Subjects reported specific life changes: moving, going back to college, career changes, traveling to Peru and the end, beginning or renewal of relationships. One person said, “I made peace with my ex-husband, and it made a huge difference for us and our two children.” Another said, “No serious changes but my aim in life is now toward spiritual development and not just to merely improve my lifestyle.”

When asked whether they had a personal relationship with the spirit of ayahuasca, 74% of subjects replied “yes.” The spirit of ayahuasca was most often described as a wise teacher, grandmother or healer from a higher spiritual dimension and intelligence who provides guidance and loving, comforting, protective support. Five said they experienced cellular changes in their bodies; three said they experienced the spirit of ayahuasca as a lover. Subjects described their style of communication with the spirit of ayahuasca as intuitive or psychic, through thoughts, feelings and visions. Some connected with ayahuasca in meditation or prayer while others asked spiritual questions to receive answers and guidance in making life decisions. Eight of the 57 subjects who reported such a personal relationship said they were grateful, and three said they were humbled. Thirty-five said they call upon the spirit of ayahuasca for help, support, guidance and love. As a result of this relationship, subjects said that they felt loved and lovable, connected to the Great Mystery and able to forgive themselves. One said, “I glow light.” When asked how this relationship was unfolding, 12 said slowly; six said as a result of the ceremonies; and two said in mystery.

## DISCUSSION

In terms of both numbers of subjects and breadth of data collected, the present study is the largest research conducted on ayahuasca use in North America. The 81 ayahuasca users participated in 2,267 ceremonies, and this number does not include the experiences of the 50 interviewees. This number of ayahuasca ceremonies is similar to that reported on by Shanon (2002) in his landmark study on ayahuasca visions.

Two congregations (one Santo Daime in Oregon and one União de Vegetal in New Mexico) have the legal right to use ayahuasca as a sacrament according to the Religious Freedom Restoration Act. Based on the comparison of ayahuasca users and the retreatants on Joy in Life and Relationship to the Sacred, this study strongly supports the view that ayahuasca users are, in fact, engaged in an authentic spiritual process. The data support the right of these churches to legally use ayahuasca as a sacrament in keeping with the Religious Freedom Restoration Act that granted a similar right to Native Americans to use peyote in their ceremonies.

It should also be noted that ayahuasca users described a serious approach to their ceremonies and reported literally no indication of any signs of abuse. The ayahuasca ceremonies were conducted as sacred rituals with both opening and closing prayers. Most ayahuasca users received responsible warnings about diet and preparation. They reported feeling safe with caretakers in a secure ceremonial setting.

Although most subjects reported that there was some sort of sharing circle after the ceremony, many added that they did not have the opportunity to discuss their experiences with the shaman or leader. On the other hand, subjects often mentioned an active ayahuasca community both in person as well as via the Internet where they shared experiences and support. As ayahuasca ceremonies adapt to a different culture, they need to respond more to Westerner's interest in psychological reflection and insight following the intense emotional experience of ayahuasca.

This study has limitations, of course, in that there was neither a random selection of subjects nor other features of a hypothetico-deductive ideal. Nor was there any control over the chemical content or amount of ayahuasca used in ceremonies or, for that matter, the timing or number of ceremonies experienced. These difficult to control variables, along with the illegal status of ayahuasca in most circumstances, will continue to challenge further research in this area.

The life changes reported by ayahuasca users were overwhelmingly positive in areas that are central to psychological well-being: sense of self and personal relationships. Moreover, the ayahuasca users reported important improvements in their health behaviors such as reduced alcohol intake and improved diet and exercise, all positive

changes for which psychotherapy has not always had a strong track record. The present findings thus highlight the potential therapeutic benefits of ayahuasca.

The qualitative data were so overwhelmingly positive that the first author began to actively search for interviewees who had a negative response to an ayahuasca experience. The reports closest to negative had a similar theme: "I had a very hard time. . . ." "It was a difficult trip. . . ." Then the interviewee would invariably add ". . . but I learned so much from it."

The ayahuasca users were very well-educated seekers of personal healing and spiritual development, with similar intentions as those in Winkleman's (2005) study of ayahuasca tourists in South America. These goals are in contrast to the indigenous use of ayahuasca in South America for health problems and especially for sorcery, including the casting or removal of spells by jealous neighbors or straying spouses (Dobkin de Rios 1972). As ayahuasca enters newer cultures in developed countries, the belief system surrounding this potent medicine may also acculturate. This can be viewed as cultural appropriation or as the inevitable immigration process similar to the entrance of Buddhism and Hinduism into mainstream American culture. The precedent of these religious imports exemplifies both how the religions have changed as well as how they have changed American culture. For instance, the number of people who now believe in reincarnation has increased as a result of the cultural influence of both Buddhism and Hinduism. How the American culture will change if ayahuasca continues to grow and extend its tendrils into North America is open to question. Some say this process has already begun with the similarities between the ayahuasca experience and the visionary and philosophical elements present in the highly successful movie, *Avatar*.

How people are integrating their ayahuasca experience appears to be a spiritual process as much as a psychological one. Even without professional psychological help, people seem to derive considerable benefit from their ayahuasca experiences. The challenging spiritual question is the traditional one of discernment. How do I know what nonordinary experience to trust? How do I understand the source or validity of the information I receive? What is the spirit of ayahuasca that almost three-quarters of the ayahuasca users reported being in relationship with? Most psychologists would likely answer that these sources of information or voices are aspects of the self, perhaps a higher self or the unconscious. It is important to note that the experience of the spirit of ayahuasca was reported as an entity perceived as intelligent, independent and totally separate from the ayahuasca user's sense of self. Two well-known professors of religion (Forman 2010; Smith 2010) were asked, "What is the spirit of ayahuasca?" Since both independently replied, "We don't know," psychologists would do well to be open to the possibility of not knowing.

Another psychospiritual issue from previous psychedelic research (Grinspoon & Bakalar 1997) focused on the difference between religious experiences and a religious life. That is, an ecstatic experience does not necessarily lead to a transformed life. This research indicates that ayahuasca users improved their lives in ways that are both psychological and spiritual. Perhaps it is the repeated use of ayahuasca in their lives that enabled subjects to gradually integrate their experiences. This

speculation opens the door to further research. Specifically, how do frequent users compare with novices? How do ayahuasca users differ depending on ritual shamanic use versus use within an ayahuasca church context? How does the ayahuasca experience change a user's world view and belief system? What are the potential therapeutic benefits of ayahuasca use for psychiatric diagnoses such as alcoholism or depression?

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