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Möten med Moder Ayahuasca: Effekter av den spirituella upplevelsen på mentala processer och fysiologiska reaktioner

Meetings with Mother Ayahuasca: The effects of the spiritual experience on mental processes and physiological responses

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Abstract

Research on using psychedelic substances for treating various psychological problems such as addiction, treatment resistant depression and death agony seem to indicate that under the right circumstances the use of psychedelics could have positive outcomes on mental health. Studies also suggest that the potentially positive outcomes on mental health cannot be reduced to pharmacological effects alone. Subjective spiritual experiences during the time of consumption seem to have an important role in outcome. Much of the research on psychedelic substances uses quantitative methodology to assess the substance's effectiveness in treating various mental disorders and illnesses. While the spiritual experience is considered significant and the importance of integration is mentioned, little focus is placed on understanding how the spiritual experience is related to changes in the consumer's mental health. The aim of this study is to establish the connection between the spiritual experience and the changes that occur in mental processes and physiological responses. Using semi-structured chat-based interviews and thematic analysis, we examine subjective experiences during Ayahuasca ceremonies in 11 participants, recruited through an anonymous online discussion forum. An Ayahuasca intervention needs to be understood as a drug induced altered state of consciousness and spiritual experience, guided by a shaman, and influenced by context. The spiritual experience is intimately connected to mental processes and physiological responses. Such an understanding is vital for an appropriate integration of the medicine into a culture that may be skeptical of spirituality and the validity of subjective accounts. The expertise of the shaman in ceremonies seems to also carry great significance for the experience and should be paid detailed attention to.

Key words: Spiritual experience, mental processes, physiological responses,

Ayahuasca, Expertise of shaman

Abstrakt

Forskningen om användning av psykedeliska substanser för behandling av olika psykologiska problem som beroende, behandlingsresistent depression och dödsångest tycks indikera att användning av psykedelika under rätt omständigheter kan ha positiva resultat för mental hälsa. Forskningen antyder också att de potentiellt positiva resultaten för mental hälsa inte kan reduceras till endast farmakologiska effekter. Den subjektiva andliga upplevelsen under tiden för konsumtion tycks spela en viktig roll för resultatet. Mycket av forskningen om psykedeliska substanser använder kvantitativ metod för att bedöma ämnets effektivitet vid behandling av olika psykiska störningar och sjukdomar. Medan den andliga upplevelsen betraktas som betydelsefull och vikten av integration nämns, placeras lite fokus på att förstå hur den andliga upplevelsen är relaterad till förändringar i konsumentens mentala hälsa. Syftet med denna studie är att upprätta sambandet mellan den andliga erfarenheten och de förändringar som sker i mentala processer och fysiologiska svar. Med hjälp av semistrukturerade chattbaserade intervjuer och tematisk analys undersöker vi subjektiva upplevelser under ceremonier hos 11 deltagare, rekryterade genom ett anonymt diskussionsforum online. Resultatet av en Ayahuasca-intervention behöver förstås som en hallucinogen som inducerar ett förändrat medvetandetillstånd och andlig upplevelse vilket guidas av en shaman och påverkas av sammanhang. Den andliga upplevelsen är intimt kopplad till mentala processer och fysiologiska reaktioner. En sådan förståelse är avgörande för en lämplig integration av läkemedlet i en kultur som kan vara skeptisk till andlighet och giltigheten av subjektiva berättelser. Shamans expertis i ceremonier verkar också ha stor betydelse för upplevelsen och bör belysas med större detalj.

Nyckelord: Andlig upplevelse, Mental processer, fysiologiska reaktioner, Ayahuasca, shamanens expertis

Background

Today there are a great variety of treatment methods and medications for treating mental illness, but these methods do not seem to work for everyone. The more common treatment method in psychology today is cognitive behavioral therapy (CBT) which has a strong evidence-base but is in need for additional research to examine its efficacy for randomized-controlled studies according to Hofmann (2012). In the search for finding alternative treatments scientists are now starting to rediscover psychedelics, both as objects of basic research and as therapeutic applications to treat depression, death agony in terminally ill patients, various addictions and other categories of mental illness (Carhart-Harris & Goodwin, 2017). Before the prohibitive legislature in the mid-1960s which led to the end of all major psychedelic research programs, drugs such as LSD showed initial therapeutic promise as an aid to psychotherapy for the treatment of mood disorders and alcohol dependence (Carhart-Harris & Goodwin, 2017). In reopening this field of research and redefining the ways we view these drugs more people are getting conscious of its potentially beneficial effects. This leads people to look for new way to heal and for many people, the path of healing has led them to a psychedelic substance much like LSD, a psychoactive drug called Ayahuasca. This plant-based brew is not a new phenomenon, it's believed to have been consumed by humans for spiritual and religious purposes for hundreds of years and is still used by some religious groups as a sacrament (Dobkin de Rios M et al., 1996 as cited in Riba, 2003). There has recently been a significant increase and garnered attention in westerners that are looking for places that offer ritual use of Ayahuasca for its potential in treating mental illnesses, such as substance use and depressive disorders (Winkelman, 2005).

This search for a more holistic and metaphysical way of dealing with mental illness with its ceremonial setting and symbolic thinking¹ stands in stark contrast to the classical medicine which operates in a climate of rational discourse and scientific knowledge accretion that regulate its activities. There have been some psychological studies that focuses on the pharmacological effects of ayahuasca and how it effects mental health. The current state of research examining the role of the connection between the subjective experience and pharmacological effect in the treatment potential of psychiatric illnesses is, however, poor.

¹ According to *APA dictionary of psychology*, symbolic thinking is the ability to think of objects and events outside the immediate environment ("Symbolic thinking" n.d)

Ayahuasca: Introduction and History

Ayahuasca, also known as natema, daime, vegetal and yajé, is a traditional Amazonian decoction made from bark of the *Banisteriopsis caapi* vine, containing beta-carboline alkaloids, and leaves of the *Psychotria viridis* bush, supplying the hallucinogen N,N-dimethyltryptamine, (DMT). The use of this psychoactive drink dates back to the earliest aboriginal inhabitants of the Amazonian basin, where it was used by shamans in traditional medicine, healing rituals, magical experiences and spirit communication (Halpern, J. H., Sherwood, A. R., Passie, T., Blackwell, K. C., & Rutenber, A. J. 2008).

Originally there were small private ceremonies where the shaman² and the patient, and perhaps one or two others, would consume ayahuasca. The consumption often leads to intense diarrhea and vomiting, before visions begin to appear and the nature of the disease is revealed to the patient and the shaman (Desmarchelier, C., Gurni, A., Ciccio, G., & Giulietti, A. M. 1996). Thus, the ingestion of ayahuasca, induces a spiritual experience³ with transpersonal⁴ elements in the form of symbolic visions and physiological responses which the consumer post-ceremony integrates⁵ through intellectualizing the experience and deriving meaning and knowledge from it.

During the past several hundred years, this ancient pattern of use has given way to a more widespread and frequent consumption. In Colombia, Peru and Ecuador it was integrated into folk medicine, and in the 1930s the practices evolved when three Brazilian churches began to use it as a sacrament (Riba, 2003). In addition to this, it is today used by tourists seeking a spiritual experience and by recreational users all over the world. With increasing use of ayahuasca it is important to understand its behavioral effects, safety and potential clinical uses. Research into medical use indicate that Ayahuasca has potential as a treatment for

² According to *APA dictionary of psychology*, Shaman's, in indigenous cultures, are spiritual leaders that possess alleged supernatural powers, such as communion with spirits, which help them in their diagnosis and healing practices. ("Shaman" n.d.)

³ When referring to *spiritual experience* in this essay, it is particularly the phenomenology of Ayahuasca experience that is being discussed.

⁴ According to *Oxford Languages*, transpersonal refers to states of consciousness that transcend the limits of personal identity ("transpersonal" n.d)

⁵ Integration refers to the process post psychedelic experiences in which consumers intellectualize and make sense of their experiences and derive meaning and personal truth from the experience, which in turn could aid the consumer in implementing changes in their lives.

depression, anxiety, and addictions (Thomas, Lucas, Capler, Tupper & Martin, 2013; Hamill, 2019).

Winkelman (2005) writes that Ayahuasca ceremonies have been found to have physical and psychological healing properties; ceremonies may evoke spontaneous images that are meaningful and often related to problem solving, knowledge acquisition, creativity, spiritual development, divination, community cohesion, and encounters with entities. It is for these reasons that in the last 20 years, Ayahuasca and Ayahuasca healing ceremonies has received an increasing interest among Western (nonnative) participants seeking physical, psychological, emotional, and spiritual healing (Winkelman, 2005). The known, yet insufficiently researched healing effect of Ayahuasca reported by past Western pioneers who ventured to South America, along with the increasing number of visitors from the West, has also created an increased interest among researchers in studying Ayahuasca's physiological, psychological, spiritual, and even artistic effects and benefits.

Previous Research

A recent systematic review of 34 studies all including human participants, who had ingested psychedelic substances, concluded that the emotional breakthroughs, mystical experiences and sense of connectedness were the mechanism leading to positive long-term sustained changes in participant's personalities, moods and wellbeing (Aday, Mitzkovitz, Bloesch, Davoli & Davis, 2020). The authors argue that when appropriate precautions are taken, the psychedelic experience will generally have positive outcomes among carefully screened individuals, however the article does mention that people who have had less favorable experiences in the past may be less likely to participate in such studies. Furthermore, only 1 study included Ayahuasca, while 5 used LSD and 28 Psilocybin and only four studies included a qualitative methodological approach (Aday, Mitzkovitz, Bloesch, Davoli & Davis, 2020). As another review paper argues, Ayahuasca is best understood through a bio-psycho-socio-spiritual model (Frecska, Bokor & Winkelman, 2016). Thomas, Lucas, Capler, Tupper & Martin (2013) find statistically significant improvements in areas such as mindfulness and quality of life outlook and admit to the limitations of relying to a greater extent on a quantitative methodology such as quantitative self-assessment protocols in favor of their

qualitative findings. In order to establish a deeper understanding in the nature of the mystical experience and how it relates to mental and physiological processes one must nuance the research through qualitative methodology and take into account the importance of context (Talin & Sanabria 2017). For instance, a person may consider themselves to be more spiritually inclined and have a more positive mood, but may also be out of touch with his or her surroundings and delusional in their convictions (see the Jungian definition of psychic inflation in the Jung chapter). The systematic review does mention the importance of integration in their conclusion (Aday, Mitzkovitz, Bloesch, Davoli & Davis, 2020).

In their review article, Frecska, Bokor & Winkelman (2016), argue for an understanding of Ayahuasca through a bio-psycho-socio-spiritual model and assess the possible therapeutic effects of Ayahuasca on various diseases through an extensive review of the previous research on the subject. Ayahuasca is understood through a psychodynamic lens as a substance that lowers psychological defenses and allows repressed memories to enter consciousness and allow for insight into maladaptive habits and their consequences. Authors claim that: *“Ayahuasca experiences are a constant flow of mental contents, during which knowledge is gained by intuition rather than logic”* (Frecska, Bokor & Winkelman, 2016 para. 35). While the authors do touch upon the fact that Ayahuasca users may become more spiritually inclined after consuming the plant and praise the consumer’s subjective accounts, they do not offer an in-depth review of the content of such accounts. Furthermore, they do mention the *“internal phenomenon of being held and guided by an intelligent power”* (2016, para 35) and speculate whether it is this phenomenon that avoids further traumatization and aids the consumer in overcoming the previous trauma.

Qualitative insights on Ayahuasca consumed in ceremonial settings

One of the most central themes among participants of the qualitative studies is that they all seemed to participate in ceremonies to address serious personal issues such as addiction and mental illness (Kjellgren, Eriksson & Norlander, 2009; Argento, Capler, Thomas, Lucas & Tupper, 2019; Cohen 2017; Talin & Sanabria 2017). Whilst most participants also speak of the importance of the spiritual experience, few studies seem to analyze the content of the actual experience and establish a clear connection between the spiritual experience, mental processes and physiological responses.

Ido Cohen's dissertation *Re-Turning to Wholeness: The Psycho-Spiritual Integration Process of Ayahuasca Ceremonies in Western Participants from a Jungian Perspective* (2017) is an example of the above-mentioned dilemma. The methodology used was an adaptation of grounded theory to understand the integration process as it unfolds in time, with particular attention given to the phenomenology of Ayahuasca ceremonies and each individual's subsequent integration process. Semi-structured interviews were conducted with 13 individuals, aged 21 and above, at least 1 year after their experience participating in Ayahuasca ceremonies in retreat centers. Using Jungian psychological theory, this study aimed to develop an initial thematic description to help understand the somatic, emotional, psychological, and spiritual processes participants experienced in their integration process (Cohen, 2017). Many of the participant's in Cohen's dissertation seem to understand Ayahuasca as a spiritual intelligence, as exemplified by the following quote:

I think that Ayahuasca is an entity, a spirit and that it helped me see those places in me that are wounded in me. It is hard to say because I think Ayahuasca is such a powerful medicine. It is as though she guided me to those places and accompanied [me] as I was watching all those visions, understanding all those past experiences, and feeling all those intense feelings.
(Cohen, 2017, p. 77)

The above quote seems to indicate a similar sentiment as that expressed by Frecska, Bokor & Winkelman (2016) in regard of an intelligent power aiding the consumer in revisiting traumatic memories and events while also avoiding further traumatization. The participants in Cohen's dissertation ascribe feminine and motherly qualities to the spirit of ayahuasca. Furthermore, the above quote is the clearest indication of a connection between the spiritual experiences, mental processes and physiological responses in Cohen's dissertation. Psychological processes, somatic experiencing, emotional catharsis, spiritual opening and visions are the codes featured in his theme: *Ayahuasca ceremony experiences*, however how these codes are connected to each other and to the spirit of Ayahuasca is not clarified or discussed.

Kjellgren Eriksson and Norlander (2009) also touch upon the transpersonal aspect of the Ayahuasca experience, mentioning that participants experienced dimensions beyond time

and space, revisiting traumatic experiences and having encounters with plant spirits, but do not delve into an analysis of the actual content of the experience and how it could possible relate to changes in participants mental processes and physiological responses. They also touch upon the limitations of communicating their experiences through language which can also be witnessed among Cohen's participants:

This was mystic because I felt the whole universe pouring through my body. It was all coming through me and it was all love. I studied mystic poetry for 10 years before, and this was the first time I got what they were saying. (Cohen, 2017 p. 61)

After the sessions, they reflected upon the difficulties of describing the indescribable. It was stated that there were no relevant words available to describe the experience (Kjellgren, Eriksson & Norlander, 2009). Talin and Sanabria (2017) argue for the importance of context, ritual execution, and appropriate care in Ayahuasca treatment and claim that psychedelic assisted therapy cannot solely be understood as pharmacological interventions, but as therapeutic interventions with pharmacological assistance:

“While ayahuasca may – pharmacologically speaking – facilitate such changes, these are rendered effective in the longer term within certain contexts and collective structures that enable a reconfiguration of one's self understanding and insights into one's addictive patterns.” (Talin & Sanabria 2017 p. 27)

Thus, making a strict distinction between the pharmacological and social aspects of the intervention may lead to a lack of appropriate understanding of the efficacy of the Ayahuasca experience in addiction treatment (Talin & Sanabria 2017). Employing the qualitative methods of ethnographic observation and in depth semi-structured interviews, the authors conclude that there can be a difference in outcome if psychedelics are consumed recreationally without setting a proper intention and in an unsupportive context. Many of the participants compare their ritual Ayahuasca consumption to psychiatric interventions and claim that differences in a sense of community, a sense of freedom and care practices all

carried significant meaning for their healing trajectories whereas in conventional psychiatric settings they felt stigmatized (Talin & Sanabria 2017).

Other qualitative studies also argue for the superior efficacy of the Ayahuasca experience over conventional therapeutic interventions and state the spiritual aspect as a vital component which conventional therapies lack (Argento, Capler, Thomas, Lucas & Tupper, 2019).

Jungian Theory

As more westerners seek out psychedelic experiences, the demand for therapist that understand and help their patients make sense of the experiences may grow. However, since the psychedelics alter the consumers state of consciousness and induce a mystical experience, many clinicians practicing within a culture skeptical of spirituality and transpersonal experiences may lack an appropriate theoretical framework for the integration of such experiences induced by psychedelics. Thus, the psychedelic renaissance has practical implications for the work of clinicians. In order to ease the transition across cultural barriers, it is of interest to consider what the relevance of the therapeutic modality of Carl Jung's analytical psychology may play in the integration of psychedelics into our modern culture.

The aforementioned studies indicate that there is a transpersonal element to the Ayahuasca experience which carries significance for the outcome of the experience. Merely applying a psycho-dynamic lens is thus insufficient in making sense of the experience and taking its transpersonal elements into consideration. In order to establish a connection between the spiritual experience, the mental processes and physiological responses that take place during an ayahuasca ceremony, a theoretical framework that sufficiently takes all of these aspects into account needs to be applied. For this reason, the writings of Carl Jung will be examined in this section, with particular emphasis on his conceptualization of the collective unconscious and archetypes as it is these theories that can explain the transpersonal elements of the Ayahuasca experience.

Genetic disposition could, according to Jung, not be considered a satisfactory explanation for excessive emotional reactions to seemingly harmless stimuli. Jung theorized that both the emotional outbursts and physical ailments could be understood as being influenced by past trauma or forbidden erotic desires residing in the unconscious part of the human psyche as

the conscious part could not bear the content of that which it had suppressed. However, that which resides in the unconscious will continuously strive to manifest and make itself known to the conscious psyche, for instance, through symbolic language in dreams, but the conscious psyche would either fail to understand the significance of the symbolism or suppress it due to its unacceptable and disturbing nature. Jung claims that the shadow of the psyche is “suppressed from the hierarchy of the conscious soul and have become independent complexes” (Jung, 1993 p. 33). Thus, the conscious part of the human psyche has dissociated itself from that which it deems unacceptable to such an extent that it does not claim it as part of itself. While some might be aware of this internal conflict and actively engage in suppression others might pride themselves as not having a shadow aspect to their psyche, these were thus the patients that suffered from unexplainable physical ailments and nervous symptoms which Jung considered as a manifestation of the suppressed content (Jung, 1986). If the conflict between the conscious and unconscious disposition remains without resolve, it would cause fragmentation in the personality which in turn would be expressed as neurosis causing psychic energy to “overflow in all directions” (Jung, 1986 p. 16). While integrating the content of the unconscious is considered a painful process oftentimes met with reluctance, Jung (1993), theorized that man, through knowing his own shadow, could be cured from neuroses and cultivate greater compassion for one’s own nature and extent that compassion to his fellow man rather than unconsciously projecting an unreasonable and violent attitude onto them. Thus, what distinguishes Jung from the Freudian school of psycho-analysis was his belief that integrating the suppressed aspects of the self, that which Freud called the ID, would lead to the desirable state of wholeness, free from neuroses and rich in self insight. Jung advocated neither identifying with the conscious or unconscious dispositions but finding a relative balance. Jung empathized the existence of psychological dichotomies and how the subject would continuously find itself drawn to its subconscious counterpart in its external world. While Freud assigned great significance to mankind’s drive for destruction and sex, Jung meant that these were merely aspects of the psyche and mentioned morality as an integral part of the psyche as well, not to be confused with something superimposed by culture (Jung, 1993). Since the process of integrating the unconscious into the conscious is often an unpleasant one, Jung suggests that it is the moral quality of a person that forces her to this process, which in turn leads to the expansion of the personality (Jung, 1986).

Beyond the personal unconscious, Jung theorized that a collective unconscious existed, according to him: “the collective unconscious represents the objective-psychological, the personal unconscious the subjective-psychological” (Jung, 1993 p. 81). Those accessing the collective unconscious will be confronted with the archetypes⁶, mythological images inherited from ancestral life. The archetypes are like the concept of gods in pagan societies and belief systems. It thus becomes important for each person to distinguish between that which belongs to one’s subjective unconscious and that which belongs to the collective unconscious, this should, however, not be done through suppression, rather one should acknowledge and observe it (Jung, 1993). The archetypes may show up as “symbolic representations of the subjective complex” (Jung, 1993 p. 109). Through consciously working with the materials that arise from the archetypes the transcendent function⁷ would be triggered and one could arrive at a new understanding. “With “understanding,” I don’t mean merely an intellectual understanding, but understanding through experience” (Jung 1993, p. 132). The individual personality should appropriately be viewed as a mixture of universal traits (Jung, 1986). Through dissolving the material in one’s personal unconscious and understanding how it is related to the objective-psychological nature of the archetypes, one starts identifying more with the world and the objective as a whole (Jung 1986). The self is to be understood as the total sum of the conscious and unconscious psyche, however through continuously delving into the symbolic realm of the archetypes one may dissolve the conscious personality to an unhealthy extent, this usually happened when the subject delved into the collective unconscious out of intellectual curiosity or a desire to escape reality. Only when one is dealing with deeply personal issues is an encounter with the collective unconscious a legitimate endeavor (Jung, 1986). Jung observed two common trajectories of those who assimilated their unconscious, which could be understood as dichotomies of each other. Either the subject assigned greater importance to the self and considered it their duty to awaken others or started loathing the self as a result of encountering and accepting the unconscious. This then, is defined as psychic inflation, which occurs when the boundaries of the personality have been stretched far beyond the personal (Jung, 1986). An encounter with that which is transpersonal could, thus lead to an obsession with an inner vision which

⁶ “Archetypes are not just images, but a psychosomatic experience, as Jung saw them, as they link body, psyche, affect, instinct, and image” (Cohen, 2017 p. 24).

⁷ Psychological function that arises through tension between two conscious dichotomies (Sharp, D. 1993).

dissolved the former personality (Jung, 1986). Similar situations have been observed by Mabit (2007) who claims that the transpersonal experience of Ayahuasca and encounters with the archetypes in the collective unconscious may convince the subject that it is their true-life purpose to be a healer or shaman, instead of appropriately interpreting the encounter through metaphoric language. The archetypes possess superior power over the individual who merely can adjust his or her attitude towards them. Through cultivating awareness, one can reduce the risk of unconsciously falling prey to an archetype. When this does happen one's, own humanity is diminished, and one becomes reduced to a collectively recognized stereotypical trait. According to Jung: "the personal value lies solely in the philosophical representation, not in the primary vision" (1986, p 34). Herein lies the importance of reason which Jung argued, is a psychological function belonging to that which is conscious, however that which is godly cannot be intellectualized and the irrational is also a psychological function, belonging to the collective unconscious in particular. The function of reason is to create order out of chaos, however one should not attempt to eradicate the irrational or identify solely with reason, just as one should not abandon it and fall prey to delusion (Jung, 1993; Jung, 1986). The rational nature of the modern condition suppresses that which is irrational into the subconscious, thus the archetypes present themselves mainly as projections (Jung, 1993). An example of projection mentioned by Jung (1986) is when people in hyper-rational societies, alienated from nature and their own unconscious consider religious and spiritual cultures and their practices as mentally deranged. Overwhelming emotional triggers and projections reveal what lies in the unconscious of the person experiencing the emotion. In order to integrate, a dialogue needs to occur between the irrational emotions of the unconscious and the reasonable attitude of the conscious self (Jung 1986). In this way, one reaches a settlement with the unconscious, which is a desired outcome of the therapeutic process.

Jung admitted, however, that balancing the conscious personality with the collective consciousness after assimilation could be a daunting and difficult process. When psychic inflation occurs, one must suppress the collective unconscious in order to re-establish a personality (Jung, 1986). Psychic inflation as a phenomenon was not limited to analytical therapy, any experience that grants the subject with insight too great to handle would lead to a hypnotized obsession which in turn would socially alienate the subject from his

surroundings (Jung, 1986). Thus, approaching the Ayahuasca experience with a lack of intention and awareness could disintegrate and destabilize a person's psyche.

Herein also lies the challenge for westerners seeking out the Ayahuasca experience in Latin America under the guidance of a shaman. Due to the lack of symbolic thinking, the absence of the spiritual dimension in western society and the emphasis on individuality, those who may delve into exploring altered states of consciousness without taking into account appropriate preparations, setting an intention and respecting the ritualistic execution of the Ayahuasca ceremony may subject their mental and physical health to danger (Mabit, 2007). In order to avoid further traumatization, disintegration and a misinterpretation of the experience, those consuming ayahuasca need greater awareness of the symbolic dimension accessed in an altered state of consciousness (Mabit, 2007).

Purpose and research question

The epistemological approach in this study is that of phenomenology which van Manen (1997) describes as "the study of lived experience or the life world". Here the world is to be seen as something lived by a person rather than the world being something separate from the person (Valle, 1989). Since our interest lies in the phenomenology of the ayahuasca experience, and more precisely the interpretation on how the participants subjective experience of ayahuasca may influence them, we find this epistemological approach appropriate. We also rely on qualitative empirical data which makes our study empirical-holistic in nature. With the help of our empirical data and our theory we aim to gain new understanding of the ayahuasca experience and the connection between ayahuasca phenomenology, mental processes, and physiological responses. Most of the research, whether qualitative or quantitative, points towards Ayahuasca as a medicine with healing properties, whilst also highlighting the importance of ritual, intention, shamanic expertise, and integration. However, the actual spiritual experience and its transpersonal elements are rarely paid detailed attention to and connected to mental processes and physiological responses.

The purpose of this essay is to provide a holistic analysis of the Ayahuasca experience taking into account its spiritual dimensions and connecting it to mental processes and physiological responses. Unlike the review paper by Frecska, Bokor & Winkelmann (2016), mentioned in

the previous research chapter, a top-down approach will be the focus of this essay, starting with the spiritual and subjective aspects and examining how it relates to mental processes and physiological responses. In this way, the spiritual experience can become prioritized and utilized as a source of knowledge rather than a by-product of neuropsychology. Our research question is:

- How can the spiritual experience induced by ayahuasca explain the changes in participants' psychological state?

Our aim is to answer this question through two question formulations.

- How is the spiritual experience induced by ayahuasca connected to mental processes and physiological responses?
- How do participants make sense of their experience in hindsight?

Spiritual experience is defined as a metaphysical transpersonal experience in an altered state of consciousness.

Methods

Design

The collection of empirical data in this study was made through qualitative interviews. In qualitative interviews, the emphasis is placed on the interviewees' own perceptions and views, which is what this study aims to achieve. We decided to conduct interviews through an online discussion forum instead of having face to face interviews. This made our range of possible participants wider and it also made it possible to reach an otherwise small population that would have been hard to get in contact with using more local recruitment methods. Additionally, this data collection method allowed for total anonymity of the subjects. Kvale and Brinkman (2009) argue that the purpose of the qualitative research interview is to try to understand the research subjects' point of view, develop meaning from their experiences and understand their lived world as it was before scientific explanations.

Bryman (2011) argues that there are several terms to describe qualitative interviews, but that unstructured interviews and semi-structured interviews are the most important forms. Unstructured interviews tend to resemble a conversation and the researcher uses a PM at most as a form of memory aid for various topics to be addressed during the interview. In a

semi-structured interview, the researcher has more specific topics to be addressed and these are often compiled in an interview guide (ibid.). The method of semi-structured interviews made it possible to create structure and have some control over the interview through the development of an interview guide, while retaining the flexibility and opportunity to be open to the interviewees' interests. This approach favored the study as interesting tracks highlighted by the interviewees could be followed up. Since it was the interviewer who decided to a certain extent which topics would be deepened, the interviews were somewhat different, even though some control remained on the themes from which the interview was based.

One must be aware of the risk of misinterpreting a participant account as well as the participants incapability to communicate certain experiences when applying qualitative research. It is also important to consider how our own values, attitudes, and preunderstanding may affect the study as we explore this subject. Matters such as the choosing of method, the findings considered most appropriate and the framing and communication of conclusions, will in some degree be affected by our background and position. This was something we kept in mind during this study while discussions about our own prejudices were held so that it would have as small impact as possible on the outcome of the study. Within phenomenology this is called bracketing. Osborn (1994) describes bracketing as “identifying one's presuppositions about the nature of the phenomena and then attempting to set them aside to see the phenomena as it really is”. The questions we posed were descriptive in nature and our input was more that of trying to get the participant to elaborate on their answer, rather than asking counter-questions so that our presuppositions would affect the participants answer as little as possible.

Participants and recruitment

Due to the COVID-19 pandemic and to ensure complete anonymity we decided not to conduct interviews in person. Thus, we chose to search for participants as well as conduct our interviews online on an anonymous forum. We chose the internet forum reddit.com for this task, since it is the biggest online forums on the internet and for it being completely anonymous. To recruit participants, we formulated an invitation text (see appendix A) which was then also posted on the community “*Ayahuasca - wisdom and healing from the plant medicine*” forum. We also posted in the Facebook group: Copenhagen Psychedelic

Integration Community and asked interested participants to contact us (anonymously) on reddit as all interviews were conducted there. All the interview was conducted in one take and lasted approximately 45 minutes to two hours each.

A total of 29 participants responded on our post on reddit. Out of these, 14 were excluded due to not responding on the day of the interview and 2 due to not fulfilling our requirements of having consumed ayahuasca legally and an additional 2 that did not meet the requirements of having a shaman present. Our final sample included 11 participants (8 males, 3 females). The age range was 22-39 with a mean age of 29,7 (standard deviation: 4.49). The subjects were of differing nationalities including Sweden, United Kingdom, Lithuania, Venezuela, Australia, Ireland, USA and Netherlands.

Analysis strategy

Since our purpose for this study is to examine the participants accounts of subjective experience and our data consist of qualitative interview transcripts, we choose a thematic analysis. A thematic analysis is done by closely examining the data and structuring it based on themes (Langmar, 2008). This was done by first familiarizing ourselves with the details of the transcript. This is usually done while transcribing but since we conducted our interviews through written communication in forums this was not necessary. Before going further, it is important to add here that we already had three themes coming up during the construction of our interview PM. These were; before, during and after the ceremony and were based on how our questions were formed and laid out in our PM. After becoming familiarized with our data, we initiated code generation which was done by coding through the text line-by-line to give a label to describe the contents of a line of transcript text. These labels were put under our already made themes and then based on the labels content we came up with categories. The emerging categories could then be paired with the already decided themes. The last stage was theme definition and labeling where we examined these themes against the original data which according to Dennis Howitt (2019) is essential since there is a possibility that these themes are not fully defined or even particularly refined at this stage. During the analysis phase, we made sense of the data through the application of Jungian theory. Transpersonal accounts of spirit encounters were understood as encounters with the archetypes residing in the collective unconscious, whilst the guidance of the spirits

in the purging process was considered as the archetype aiding in the dissolution and sense making of the personal shadow.

Interview method and protocol

Since our research question is mainly focused on the spiritual experience induced by Ayahuasca, much of the interviews were dedicated to persuading participants to give an in-depth account of their experiences. The questions are as listed below. While the guide was used, not all questions were necessarily asked to all participants.

What is your age, sex and nationality?

When did you first come in contact with ayahuasca and what started your interest?

For what reason did you consume Ayahuasca? What intrigued you into consuming it?

In your own words, describe what you experienced during the ceremony.

Subconscious/Shadow

Did you become aware of any aspects about yourself that you were not aware of before?

Did you have any insights about any aspect of yourself?

Did any particular memories come to mind that you had repressed?

Did any particular memories, bodily sensations or visions come to mind that you felt related to your issues we were talking about earlier?

Were your memories and emotions related to any bodily sensations?

Did you have any visions?

Did you encounter a consciousness that felt separate from your own?

After the experience

Did you derive a deeper truth from the experience?

What changes happened in your life after the experience?

How were those changes related to your Ayahuasca experience?

Ethical consideration

Since interviews were held in the reddit.com chat, we made sure to grant all participants anonymity and encouraged them to contact us anonymously (see Appendix A). As the participants were anonymous, no consent forms were signed. However, before starting the interviews, we informed the participant that we wanted them to describe their experience, how much and what they wanted to talk about was up to them. Also, that they did not have to answer a question that they did not feel comfortable with and that they could choose to stop the interview at any time without presenting a reason. Additionally, they were told that the result would be used in our bachelor thesis in psychology and that we would follow the ethical guidelines associated when carrying out psychological research. And lastly that the thesis would be sent to them upon completion if they desired. If this was accepted by the participant, we initiated the interview. Since the interviews were conducted on reddit, rather than in person, there was less social pressure for participants to continue. Participants were also informed about the purpose of the essay. There was no compensation for the participation in the study, thus the withdrawal of participation would not be disadvantageous to the participants. Even though the data includes sensitive and personal accounts, since anonymity is granted none of these accounts can be linked back to a specific person. For the sake of anonymity, the participant's names have been changed into numbers.

Results

Table 1 *Summary of themes and their subsequent categories.*

Intentions for participating in Ayahuasca ceremonies	The Ayahuasca experience	Life post-ceremony

Hopes for healing	Expertise of the shaman	Making sense of the Ayahuasca ceremony
Spiritual curiosity	Spirit encounters	Outcomes of the experience
	The influence of the spiritual experience on mental processes and physiological responses.	

Intentions for participating in Ayahuasca ceremonies

The first theme deals with participant's lives before the consumption of Ayahuasca. Our interview guide was deliberately constructed to investigate people's intentions prior to Ayahuasca, experiences during the ceremony and life post Ayahuasca. As much of the research suggests that intention setting and integration are quintessential aspects of psychedelic therapy, we thought of constructing an interview guide that chronologically investigates people's motives and reasons, followed by questions regarding their actual experience and finishing by questions regarding their life's after the experience.

Hopes for healing. The main reason for the participants of this study to consult Ayahuasca was that of healing. Many participants had either traumatic experiences they did not know how to handle or cope with, whilst others felt stuck in life and did not know how to proceed:

I wanted to heal. My healing is still ongoing, but now in Jungian analysis, Ayahuasca was the catalyst I believe. I've had the problem most of my life. I have had anorexia nervosa

since I was 15, and I was sexually abused when I was 4.

Participant 2

As exemplified above, participant 2 clearly mentions the word healing in the quote, other examples employ a subtler suggestion such as:

The reason I wanted to try it was to see if I was missing anything, like I felt different from other people, that was at least a part of it. My father was violent to me a few times, I was bullied and had to change schools. I was also diagnosed with neurodevelopmental disorders (that I did not want nor felt associated with), ADHD and Aspergers. Participant 1

Whilst participant 1 does not explicitly mention a yearning for healing, they list traumatic experiences and clarifies feeling different from others, thus appropriately fitting into the hopes for healing category. Other examples include:

I have had general anxiety for many years, first not being aware of it, then not admitting to it, then it was getting worse through the years. In the meantime, I have been researching possible ways of helping myself, or more likely ways to 'diagnose' myself. I have come across psilocybin. After several journeys with mushrooms, I have realized the root cause of my anxieties - childhood PTSD. Participant 3

Honestly, I wasn't happy in my life and I was looking for a panacea. A lot of people who have experienced ayahuasca that I've listened to presented it as a miracle cure. I knew there is no such thing, but I still wanted to believe that it would somehow make me into a higher version of myself overnight.

Participant 6

The genuine interest came when I was really depressed and wanted to experience something explosive, but yet therapeutic. I had tried psychodynamic therapy previously

and it did help somewhat, but I felt like I would've needed 10 more years to process everything. And when I then came to think of Ayahuasca it was the most self-evident idea I had ever had. Participant 10

Spiritual Curiosity. A secondary reason for the consultation of Ayahuasca was that of curiosity, many participants were intrigued by the spiritual aspect of Ayahuasca and wanted to experience something beyond their ordinary state of consciousness.

Spirituality, beauty, enlightenment. I wanted to witness something truly meaningful so that I could have an artistic vision. I also used spirituality to understand my existential despair that philosophy seemed to be perpetually delving into. So in a way I was looking for God. Participant 4

Initial interest was exploration of consciousness. Participant 3

In some participant's it was their spiritual curiosity that led them on the path of healing:

Well, at that point, I was studying Ayurveda and was looking for an Ashram to go to in India but I constantly found a wall or blockage - so to speak. I was looking at Somatic plants and their psychedelic influences on the Yogis and they could ascend to these realms of knowledge and since Ayahuasca was making huge changes to these people's lives not just as a purgatory or detoxifying plant but showing them the doors they needed to open to heal themselves I thought she might have these Somatic qualities of rejuvenation and education so that was my primary goal.

I was seeking to experience divinity. The healing was the key to fully integrating this understanding into my day to day. It's the reconnection I needed to be able to fully realize something not just perceive it with my mind. Participant 5

I always had an interest in exploring the mind (particularly my own), so I suppose I naturally gravitated towards ayahuasca because I saw it as a means to do so.

Secondly, I liked the idea of stepping into the unknown. I also liked the idea of consuming something that would put me back in touch with myself, because I had begun to really lose that at the time. Participant 6

The Ayahuasca Experience

The second theme deals with the actual experience during the ceremony. In this section the category expertise of the shaman emerged after examining the data while the most important category in regard to answering the essay question: The influence of the spiritual experience on mental processes and physiological responses was already somewhat preconceived. The second category meeting with spirits is closely related to the third the influence of the spiritual experience on mental processes and physiological responses. However not all spirit encounters were necessarily related to mental processes and physiological responses, but due to its recurring nature in the interviews it deserved a category of its own.

Expertise of the Shaman. Several of the participants mentioned the shaman's involvement in the healing process during the ceremony as "energy work" whilst attempting to make sense of the experience as a sort of mass hypnosis controlled by the shaman, regardless of the implications, it is clear that the shaman's practice and expertise was felt to be significant in the outcome of the experience.

The things I experienced in my own head I could logically [explain], but the "energy work" of the shamans, or the feeling of an almost "shared consciousness" in the group, I could not, today I don't really know if anything about it was "supernatural", but I guess part of me would like to explain it away as a form of mass hypnosis/mass hysteria, that the shamans can "control", only because that leaves less questions for me to ponder on. Like, it felt very clear to me, that the shamans could control the whole mood and setting of the ceremony, with their songs and "energy" Participant 1

The healing with the shaman involved kneeling in front while he touched my head and blew smoke on my head and under my shirt and sang icaros. I had the mareaceón very strong and was wobbling around everywhere but he held me up like some kind of force. I felt an energy transfer that was pure ecstasy.

Participant 2

The role is to keep the space energetically clear. Call the medicine in and to know which songs to awaken the medicine on the participant. This can also be to what degree or strength the medicine needs to be for each participant. The other role is to be the vessel for purging or detoxification in case the participant can't handle purging themselves.

Participant 5

Towards the end of that "battle" (for lack of a better term), she poured water over my head. Similar to what a baptism might be. I'm not Christian or religious, but it was one of the most powerful moments of my life. I felt reborn.

Participant 7

Encounters with spirits. The Encounters with spirits category formed due to the ubiquitous recurrence of the topic in many of the interviews, it is closely related to the category that follows after it: The influence of the spiritual experience on mental processes and physiological responses, however it remains distinct as not all spirit encounters necessarily were related to significant changes in participant's psychological state. Many participant's gave detailed accounts of encounters with spirits which seemed to have been a guiding force during the experience. Those with clearer implications on mental processes and physiological responses will be featured in the next category and in many instances relate to the quotes in this one.

It [the spirit] made me face fears, like every fear I could contextualize I was facing, for a while it was going through my mind, almost making fun of me. I felt like it felt "entity-like", this energy that was "conversing" with me. it showed me things that happened in the past, sometimes making me

feel silly, like : why did you think that was a big deal, other times it showed me things with empathy, and "told" me I had to forgive myself, it was not my fault etc. (I put things like "told" in comma [quotation marks] because it was not necessarily speaking to me through voice or words, more like concepts through visions and feelings. Participant 1

She [the spirit] was very gentle and maternal but strong like a goddess. After I went back to my spot the vision of mother aya came to me she was blue and purple and like a woman/octopus. She whispered softly like a snake and spoke telepathically to me. Participant 2

The first psychedelic like patterns were of a giant snake or Boa wrapping herself around me from the feet up to my head. I remember saying something like hello and I winked and the snake winked back then a portal opened up from my crown and then everything turned to crystalized light. It was beautiful. Participant 5

I met mother aya. I asked her for help with learning to treat food with respect and live a healthier life. She was a small, silent very old woman. She was tiny but had this very stern eye. Like "I know you. Do the right thing. Participant 7

Also, probably the most notable thing I experienced was different presences. Similar to how a person has a presence, but these presences were not people, they seemed to be entities not bound by physical means but more energetic in nature. They were welcoming and guiding me through this intense journey that I chose to take. Participant 8

A toad with a smile appeared slowly and smiled welcomingly towards me. "We have been waiting on you for 25 years." I then see how I am floating in a cosmic river, which in hindsight looked like the Amazonas. Participant 10

A woman's voice, whenever I asked, "How do I be a warrior for good?" saying: Patience, and Discipline. each time "Patience and Discipline". It felt like I was getting blocked out from speaking with something. Participant 11

The influence of the spiritual experience on mental processes and physiological responses. The above category carries the greatest relevance to our research question. Inhere we exemplify how experiences in the altered state of consciousness induced by the consumption of Ayahuasca are directly related to changes in mental processes and physiological responses. For a greater contextual understanding, it is recommended to relate the quotes in this category back to the appropriate participant's quotes in the previous category.

I went through many dark thoughts and got something akin to answers in the form of clarity on the situations from the past I was pondering. They were more like answers from someone else but shown through emotional and psychical states, as well as through allegorical visions in my mind. When I had dark thoughts, I saw transparent serpents and insects through closed eye visuals. This related to reactionary emotions as in my emotions related to what I saw, but also vice versa. 1

I received one-two-one healing from the shaman and it felt like a baptism. Then a vision of mother ayahuasca visiting me, saying she could heal me but I wasn't ready yet, and I cried my heart out. My illness is anorexia, it's a very difficult one to treat even now still. But before Aya the illness made me think I didn't want to be free from it. I cried after she left because of what she said I wanted to be ready. I felt a lot of physical pain and discomfort for what seemed like hours, and then gentle love. Participant 2

I remember walking back to my accommodation with my hand on my heart in pure bliss. The visuals made everything come alive. The next morning, I knew I had found Soma. Or a quality that is Somatic. Participant 5

“Why can’t I throw up? Why do I feel so awful?”, and all of a sudden, clear as day, I saw a shimmering green and yellow scaly wall appear before my vision with what seemed to be an Aztec’s woman’s face superimposed on the scales. Very clearly, I heard her say “Because you’re keeping it in”, which to me had a double meaning. Of course, I couldn’t purge and hence felt sick because I was keeping the contents of my stomach in [consumption of Ayahuasca typically induces vomiting and diarrhea], but I also saw it as a metaphor for how I felt miserable in life because I wasn’t expressing any parts of me and I was keeping them all in. At the moment I heard those words, I began purging immediately. I suppose after that the entire ‘mission’ of that night was to ‘get it all out’.

Participant 6

But it was not my own feeling. It was outside of myself but directed towards me. As I allowed myself to surrender to that presence and feeling it was as if weights were being lifted off my body. I was letting go of burdens I didn't even realize I was carrying. The visual aspects were usually secondary to the somatic and mental processes that were happening. Lots of connections being made, emotions being felt intensely. I wouldn't say I was fully aware of them before or even after I had released them. It was more of a feeling of lightness afterward that clued me into that I was previously holding on to something. The releases, or purges, came in many forms: shaking. Yawning, crying, and sweating mostly. So, if you could think about the feeling a mother has for her child, the guidance, the protection, the love. That was one of the feelings I was experiencing but it was not my own feeling. It was outside of myself but directed towards me. As I allowed myself to surrender to that presence and feeling it was as if weights were being lifted off my body. I was letting go of burdens I didn't even realize I was carrying. Participant 8

I start seeing explosions of light that breach me into flying through the clouds. The clouds change into colors and the colors transform into feelings inside my body. Before I know it, I land in a story of why my money was running out. The reason why is so obvious, and I follow that understanding of it. Participant 9

After that I accepted and she said "Ok, well if you want to deal with bad and evil things outside of you: you need to get rid of them inside of you first? And asked if that was alright, when I said yes, then I lost control of my arms, legs, mouth, I was basically rolling on a mattress unable to move and opening and closing my eyes but just saw a memory. It was a memory I repressed in which a friend of mine was raped when I was living in Egypt. The voice then said, "fight that then." I was suspended in this state seeing a visual memory of that incident on a repeated loop for what felt like an eternity - but what might have been 3 hours. Participant 11

Life post ceremony

The last theme deals with life post ceremony. Here we examine how participant's lives and worldviews have changed. As some participants drank Ayahuasca regularly as part of their lifestyles and others (such as participant 4) just had finished a ceremony, the answers in this theme vary due to the unequal amount of experience and time passed between participants' last ceremonies.

Making sense of the Ayahuasca ceremony. In this category participants try to rationalize their experiences and derive deeper truths and life lessons from their experiences. Notably, most participants seemed to develop an appreciation for the spiritual and godly aspects of the experience. Certain quotes could also fit in the previous theme under Influence of the spiritual experience on mental processes and physiological responses, however these quotes deal rather with sense making whereas those under the previous category describe more concrete scenarios experienced during the ceremony.

I'm not very spiritual, in a conventional sense of the word, but I had a hard time explaining what I experienced. The things I experienced in my own head I could logically [explain], but

the "energy work" of the shamans, or the feeling of an almost "shared consciousness" in the group, I could not. Today I don't really know if anything about it was "supernatural", but I guess part of me would like to explain it away as a form of mass hypnosis/mass hysteria, that the shamans can "control", only because that leaves less questions for me to ponder on. Like, it felt very clear to me, that the shamans could control the whole mood and setting of the ceremony, with their songs and "energy". Then again, I was not of sober mind, hehe.

Participant 1

I have touched creation itself, immense love and understanding about... everything, God.. From what I know now, from science, I would guess that it is possible that my consciousness has warped on some quantum level, because it seems like I was in a field of potentiality - like creation itself, dualistic nature. I'm sorry, if it doesn't make sense, but I really don't have words to describe it. I have understood motherly love - this is a driver force of creation - all giving, unconditional. Masculine, feminine energies / black & white / yin and yang / existing and non-existing at the same time... how all is connected, how we are an expression of nature herself through this defined 4-dimensional reality... I cried from bliss, I still cry from happiness, this immense feeling of life... Motherly theme, motherly energy was very strongly felt among circle participants. I have never shared so much free, unconditional love towards other women - I felt like we all were mothers to each other, and to the whole world itself.

Participant 3

First a purging of the mind(thoughts) the body(vomiting) and emotions (intense laughter) then this is followed by a remembering, a realization of our nature in a luminous communion of everything without beginning or end, that results in total awe and astonishment. Participant 4

When I said that I experienced God, experienced it as a feminine presence that's both me and the universe around me. I felt her looking down on me with love and compassion, as a parent would on their child. I felt deep within myself that no matter what I did in life, whether it was hurtful to me or others, this presence would still have undying compassion for me. I also saw that this presence was connected to my entire being, and to run from myself is to run from God. Yet, I felt that even if I were to turn away from her, she would be waiting for me with no grudges if I were to turn to her. Participant 6

Found during that ceremony my spirituality. That everything starts within you, this is a theme that came during my first ceremony. I taught myself then and there that I had a road ahead of me of becoming real with myself. Participant 9

It's hard to explain - but I have this appreciation for that same cosmic energy that I saw on all three nights. On the third, I saw it the clearest, like there is a wave of energy sort of, that transmits emotion/rationality/wisdom, but it's an appreciation, not ability. Participant 11

Outcomes of the experience. The final category explores how the participants' lives changed after the consumption of Ayahuasca. All participants seemed to have had valuable experiences that helped them work through trauma and grow spiritually. This reflected in the changes that they implemented in their lives as well.

I stopped drinking as much, did not drink a lot of alcohol before either but I don't like getting drunk anymore, stopped feeling a need to take other drugs. I did become lazy with university for a while as I felt "it did not matter", but then went back to fixing it and the rest of practicalities out of necessity. Participant 1

I began to work on recovery for the first time in my life, I no longer wish to hold onto my illness. I'm starting to confront my pathology and I was ready to address the past and learn

how to process it. It's ongoing. It's hard work, but I feel hope and I'm much more psychologically well. Participant 2
After the first ceremony, I have left with so many ideas about where I want to focus my energy and gifts (talents, skills, personality traits), knowing better myself, loving myself, understanding fellow humans better and full of hope and belief in myself. Worth to mention - after the first ceremony I haven't had a single anxiety attack. Participant 3

I was doing things I didn't want to do. Hanging with people I didn't want to be. Eating what I didn't want to eat. I did too many things in a sort of automatic mode. And this accumulated in a life that had many elements that were not aligned with anything meaningful or fulfilling to me. So, it was like coming back to this mess that I have to fix. Participant 4

The first 3 months I felt great and really felt like I had seen something super special and felt blessed. Although after 6-12 months those feelings of disappointment or depression started to come back - little by little. It definitely allowed me to be more present which lasted the longest. Participant 5

I certainly feel that I'm a little wiser following the ceremony, and my experience is something I look back on when I need to for the lessons it's taught me. As for my life, it's mostly the same. Don't get me wrong, I think that I've grown in some ways, but for the most part it's the same as pre-ceremony. Participant 6

Felt so much gratitude and I brought a lot of that with me. It also helped me start daily meditation, which has been positive. Participant 7

Generally, I was more aware of those expectations that I was putting out there and was able to handle them in a way that was more open to different outcomes than the one I wanted. This allowed me to reduce the amount of stress I felt about

certain situations and enjoy the process, which in turn helped me be more effective at whatever I was focusing on.

Participant 8

Ow, I stopped smoking a pack a day cigarette, quit alcohol almost entirely. Became empathic towards others. I started to choose who I wanted to share my life with and who not. I found my passion for cooking and on and on and on. I am completely different now than before summer 2016. only my essence stayed. I found my wife and we have a kid now on the other side of the world! Participant 9

I regained my self-worth, I was reminded of my talents and life purpose, and above all I had a soul awakening.

Participant 10

Discussion

The purpose of this essay is to examine the spiritual experience that is induced through the consumption of Ayahuasca and relate it to the outcomes of the experience. Our two questions are the following:

How is the spiritual experience induced by ayahuasca connected to mental processes and physiological responses?

How do participants make sense of their experience in hindsight?

Ultimately the answer to the above questions will answer the main question of the essay: How can the spiritual experience induced by ayahuasca explain the changes in participants' psychological state?

The results indicate that the ingestion of Ayahuasca induces an altered state of consciousness, leading to a transpersonal spiritual experience in which participant's encounter spirits which help them make sense of personal traumas through mental processes and physiological responses in the form of purging. This indicates that the traumas are held onto in the participant's bodies, which the spiritual experience then helps them release. The purging happens mainly through vomiting, but also through other physiological responses such as crying and sweating. Participant's seemed to make sense of the experience as having

encountered a divine intelligence which has helped them make sense of and release personal trauma.

Similar to the claim Frecska, Bokor & Winkelman (2016) make when they state that the “Ayahuasca experiences are a constant flow of mental contents, during which knowledge is gained by intuition rather than logic” the results of this investigation seem to indicate the same. In addition, Jung also emphasizes the importance of understanding through experience rather through intellectual conceptualization. Frecska, Bokor & Winkelman (2016) and Cohen (2017) also suggest that there are transpersonal elements at play in the subjective experience. This is clearly exemplified when reading the quotes under *Encounters with spirits* and *The influence of the spiritual experience on mental processes and physiological responses*. Applying a Jungian lens, one could make sense of the transpersonal aspects of the experience as an encounter with the collective unconscious and the objective psychological. Participants consistently ascribe feminine and motherly qualities to the spirit of Ayahuasca, she could thus be understood as a maternal archetype that guides the participants in dissolving the content of their personal shadows. When specifically considering *The influence of the spiritual experience on mental processes and physiological responses* it seems that once participants are experiencing the transpersonal, they are at the mercy of the forces they encounter, this becomes exceptionally clear when Participant 2 claims that the spirit of Ayahuasca told them that they were not ready for healing and when participant 11 claims that they lost control over their limbs as the spirit told them they needed to battle the evil inside themselves. In many instances the physiological response of purging seems to be triggered, in participant 6 the purging only occurred after an encounter with a spirit that told them that they were “keeping it in.” As suggested by Argento, Capler, Thomas, Lucas & Tupper (2019) and Cohen (2017) The spiritual experience and the healing process are intimately intertwined. Thus not making a definitive connection between the spiritual experience, the mental processes and physiological responses it triggers, like Kjellgren Eriksson and Norlander (2009) failed to do, risks reducing the spiritual aspect of the experience as an aesthetic by-product or a mere magical hallucination without any particular significance to the purging processes. The results seem to indicate that it is through the guidance of the spirits the participants encounter that the content of the personal unconscious are dealt with and made sense of and ultimately trauma is physically purged from one’s system. This becomes evident when participant 2 claims: “My illness is anorexia, it’s a very

difficult one to treat even now still. But before Aya the illness made me think I didn't want to be free from it." Or when participant 8 claims: "I wouldn't say I was fully aware of them before or even after I had released them. It was more of a feeling of lightness afterward that clued me into that I was previously holding on to something."

A surprising finding from the interviews was the significance participants assigned to the power of the Shaman. States of consciousness and their modifications play a significant role in the understanding of illnesses in traditional societies and also contribute to the symbolic expression and poetic language in their explanations of their systems of knowledge and medicine (Mabit & González Mariscal 2013). Due to the hegemonic position of the west, one must be cautious of religiously imposing a hyper-rational viewpoint on the practices of shamanism (which are greatly respected in indigenous societies) and mistakenly dismissing them as magical beliefs when these practices are based on sophisticated systems of knowledge (Mabit & González Mariscal 2013). One must thus cultivate awareness of cultural biases, such as the assumption that the systems of medicine of the developed western world being the epitome of progress and the practices of indigenous cultures being a by-product of a lack of modernization and availability (Mabit & González Mariscal 2013). The shaman's role is to guide the experience during the altered state of consciousness, their expertise of the symbolic dimension and the importance of ritual, should not be reduced to a superficial interpretation of merely creating an enjoyable and relaxing environment (Mabit & González Mariscal 2013). Participant 1 likened this to an induction of mass hypnosis or hysteria. Other participants seemed to believe the shamans were able to exert power over the experience because of their mastery of the spiritual dimensions. Regardless of the matter, when discussing psychedelic therapy, in particular therapies that originated within an indigenous framework, including the participation and guidance of a shaman, the scientific community should proceed cautiously when extracting plant medicines from their ecology. As Talin and Sanabria (2017) argue, the best way to understand Ayahuasca is through the concept of a therapeutic intervention with pharmacological assistance. Thus, the outcome of the experience may be dependent on the guidance of the shaman, the context it is taken in and the spiritual experience itself.

When making sense of their experience's participants seemed to be in awe and wonderment, employing philosophical language to aid the process, which to the reader may seem rather esoteric. The words used to describe the divine such as: god, cosmic energy, creation itself

all suggest that something beyond the self, greater than the self, has been encountered and has had great significance in the healing process. Through connecting with the spiritual and subsequently purging traumas, participants report that they have implemented positive changes in their lives and cultivated a greater understanding and appreciation for their lives and struggles.

Whether psychic inflation occurred in the participants or not may be difficult to conclude, examining the quotes from the *Making sense of the Ayahuasca experience* indicate a heightened awareness and appreciation for spiritual concepts, following up with the quotes from *Outcomes of the experience* it seems that most participants had started intellectually integrating their experiences and implementing changes to their daily lives. As Jung writes: “the personal value lies solely in the philosophical representation, not in the primary vision,” (1986, p 34) this seemed to be integrated to a greater extent in those participants who had a greater time gap between their interviews and experiences, yet again this may be difficult to conclude from interviews conducted via chat where vital aspects such as a person’s behavior and mannerism are filtered out for analysis. Some limitations of language as noted in Cohen’s (2017) and Kjellgren Eriksson and Norlander’s (2009) studies were also present in this study as participant’s struggled to make sense and communicate what they had experienced, in particular in the *Making sense of the Ayahuasca experience* category. As the consumption of Ayahuasca induces an experience that is esoteric and well beyond ordinary consciousness, perhaps the best methodology for examination of the subjective experience is that of participant observation or ethnography, which traditionally are methodologies employed within anthropology. The limitations of employing interviews as a methodology, in particular interviews conducted via chat, is that the quality of the data becomes to the greatest extent dependent on the participant’s ability to articulate their experience through written language. Herein also lies the challenge for the reader to intellectually conceptualize what a transpersonal psychedelic experience is like. Whilst the results indicate that participant’s purged their trauma, gained greater clarity into their personal issues and implemented positive changes into their lives, these are based on subjective self-reports thus it can be difficult to measure the positive effects of the experiences, in some cases were participant’s claim that they stopped smoking and drinking the effects are more tangible than in cases were participant’s claim that they gained greater insight. All participants in this study seemed to ultimately have favorable experiences with favorable outcomes, however it may be difficult to draw conclusions regarding the outcomes of Ayahuasca experiences in general, as Aday,

Mitzkovitz, Bloesch, Davoli & Davis (2020) mentioned, people with less favorable outcomes may avoid participating in studies. Mabit & González Mariscal (2013) argue that the role of the shaman is to guide the participant's through the experience and the results indicate the shaman having an effect on the outcome of the experience, thus an ill-prepared or ill-intentioned shaman, or Ayahuasca ingested without the guidance of a shaman, may lead to unfavorable outcomes. This then further strengthens Talin and Sanabria's (2017) view of Ayahuasca as a therapeutic intervention with pharmacological aid.

Whether one views the spiritual experience as a heightened sense of perception in an altered state of consciousness or a mere hallucination resulting from the ingestion of a hallucinogenic drug may be a topic of discussion more relevant for the discipline of philosophy. When examining the qualitative data in this study as well as the qualitative studies in the introduction, one could argue that Ayahuasca, or psychedelics in general, do not function the way conventional medicine does, thus it needs to be appropriately considered as a substance that alters the user's state of consciousness and induces a spiritual experience that carries great implications for the mental processes and physiological responses that result from it. This may be self-evident for people working with or consuming Ayahuasca, but less evident from the quantitative studies which have reductionist tendencies. A reductionist understanding of transpersonal matter may risk an inappropriate application of the medicine in the wrong context. As Ayahuasca use in the west becomes more ubiquitous, there is a need for a greater cultural understanding and sensitivity regarding the topic. The challenge herein lies in the appropriate integration of the medicine into a culture skeptical of spiritual matters and the validity of subjective accounts. To prevent damage or inappropriate use of these substances, it is important that people ingesting them understand the implications of altered states of consciousness and transpersonal spiritual experiences. Like much of the research on psychedelics already presumes, one's intentions, context and integration carry great significance for the outcome of the experience, however we would also like to conclude that the presence and expertise of the shaman also appears to play a significant role in outcome. For further research, one could perhaps pay greater attention to the shaman's work and examine how they influence the experience whilst also remembering that the outcome may be greatly influenced by context and intention, thus psychedelics cannot merely be understood as pharmacological interventions.

In conclusion, through analyzing the qualitative data of this study we hope to establish a clear link between the phenomenology of the Ayahuasca experience and the mental processes and physiological responses that ensue as an effect of the experience. The results seem to indicate that the transpersonal experience in an alerted state of consciousness has a clear link to the consumers mental processes and physiological responses. This allows us to arrive at a conceptual understanding of Ayahuasca as, not only a brew that is consumed, but also a spirit that is encountered in an alerted state of consciousness. Such an encounter and experience leads to transformative changes in the consumer's psychological state. In many ways such, an understanding is perhaps not groundbreaking and written between the lines of studies such as Cohen's (2017). It may at first glance seem as if the obvious is being pointed out, especially by those that either consume or work with Ayahuasca themselves. However, since most studies on psychedelics in the field of psychology has either been based on brain scans and quantitative data, a holistic understanding of Ayahuasca phenomenology and how it relates to mental and physiological is important, in particular for those considering consuming the medicine and for clinicians employing possible therapeutic modalities that insufficiently address spiritual experiences induced by psychedelics. Furthermore, the results indicated the importance of intentions, context of consumption and the expertise of the shaman present, thus as Talin and Sanabria's (2017) claim, Ayahuasca needs to be understood as a therapeutic intervention with pharmacological assistance. Through understanding psychedelics as substances that illicit altered states of consciousness and induce transformative experiences, with outcomes influenced by the context and the shaman, the scientific community can carefully proceed exploring the indigenous systems of knowledge and how they possible could compliment and nuance our understanding of what constitutes health and healing.

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Appendix A

Hello! Me and my friend Hamoar are writing our bachelor thesis in psychology on Ayahuasca. We are looking for participants who have legally consumed Ayahuasca in a ceremonial setting with the guidance of a shaman. If you are interested in participating in an interview, please contact us anonymously here on our reddit account: liiiinus92. The interview will be conducted in either English or Swedish. For the sake of you own privacy make sure your reddit account does not reveal your identity.