

Surrendering to the Vine of the Soul: Ayahuasca Shamanism as a Logotherapy

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Dedications

In honour of Viktor Frankl, of the indigenous ancestors and of the teacher plants.

Table of Contents

Abstract.....4
Literature Review.....5
Methods.....17
Results.....24
Discussion.....36
References.....49
Appendices.....54

Abstract

The existential vacuum is a form of spiritual distress wherein the afflicted individual is unable to perceive the meaning and purpose of one's life. If the existential vacuum goes untreated, it could lead to forms of psychological distress including depression, anxiety, and suicide ideation. Since the current healthcare system overlooks spiritual issues as a real health concern, more and more Westerners are turning to alternative therapies to treat their spiritual needs, including ayahuasca shamanism. Ayahuasca shamanism is a traditional spiritual ritual practiced by the indigenous people of the Amazon to treat a variety of ailments with the aid of a psychoactive brew called ayahuasca. Given the spiritual nature of ayahuasca shamanism, it was predicted that participating in traditional ayahuasca ceremonies could help people increase in perceived existential meaning. The sample of this study included 15 men and 14 women ($N=29$) with a mean age of 37.6 years ($SD=12.0$; age range: 24-69) who attended the ayahuasca centre Nihue Rao Centro Espiritual near Iquitos, Peru. Participants were asked to complete a set of questionnaires before and after their ayahuasca experiences, which included measures of demographic information, attitudes towards life, psychological well-being, depth of alterations of consciousness, as well as profundity and mysticism of experience. In addition, participants were interviewed after participating in the ayahuasca ceremonies. A paired samples t-test revealed an overall significant difference of existential meaning before ($M=208.78$; $SD=25.64$) and after ($M=225.44$; $SD=18.02$) the ayahuasca experience with $t(26)=3.67$, $p=.001$ (two-tailed). The results indicated that this change in meaning was not necessarily attributed to the alterations of consciousness produced by drinking ayahuasca, nor that those who were seeking meaning were more likely to attain meaning, but rather that the greatest predictor for change in meaning was having a surrendering attitude throughout the ayahuasca experience. These findings suggest the need for further investigations on surrendering as a potential therapy for treating existential issues concerning the meaning and purpose of one's life.

Surrendering to the Vine of the Soul: Ayahuasca Shamanism as a Logotherapy

Although more recent psychological research has attempted to understand the role of spirituality in mental health and well-being, the healthcare system continues to neglect spirituality as a vital component in general health. The World Health Organization has defined health as, “a complete state of physical, mental and social well-being, and not merely the absence of disease or infirmity” (WHO, 2003). This definition fails to include the importance of spiritual well-being, which raises concerns about the lack of spiritual care in healthcare practices. Spirituality plays a major role in general health as it has a major influence on both mental and physical well-being due to the mind-body-spirit connection (Jutchenko, 2014). Evidence for this is found in various studies that reveal an association between spiritual well-being and psychological well-being, life satisfaction, as well as a higher pain tolerance (Siddall, Lovell, & MacLeod, 2015). Koenig (2012) did a systematic review of over 3,300 quantitative studies on the influence of religiosity/spirituality on mental and physical health and found that a majority of studies provide significant relationships between religiosity/spirituality and better health.

Polls around the U.S.A. have indicated that most people wish to have their spiritual needs considered while receiving health care but often fail to find it (Puchalski, 2001). For example, the *USA Weekend* Faith and Health Poll revealed that 65% of people in general wished to have their doctors speak about spiritual beliefs with them, yet only 10% of doctors have had such conversations with their patients. In a study at the University of Pennsylvania, 66% of pulmonary outpatients reported to have trusted in their physician more when the physician inquired about spiritual beliefs; 94% of the patients who regard spirituality as highly important wish to have their spiritual beliefs addressed by their physicians; and 50% of the patients who don't regard

spirituality as highly important felt that physicians should at least inquire about patients' spiritual beliefs in cases of serious illnesses (Puchalaski, 2001).

Due to the lack of spiritual regard in the health care system, more and more Westerners are turning to alternative solutions to fulfil their spiritual needs (Jutchenko, 2014). Amongst one of the more popular alternatives is to take a pilgrimage to the Amazon rainforest with the intent of participating in traditional ayahuasca ceremonies. A traditional ayahuasca ceremony is a spiritual practice amongst the indigenous people of the Amazon and ayahuasca itself is deemed a sacred brew for its mind-altering and healing properties. The purpose of this study was to examine whether participation in these ayahuasca ceremonies can help enhance one's sense of existential meaning.

A Cultural Malaise: Materially Prosperous, Spiritually Impoverished

Spirituality relates to one's relationship with that which is sacred, or the transcendent (Koenig, 2012). Koenig (2012) defines the transcendent as that which goes beyond the self, yet it is also contained within the self. This transcendent phenomenon has varying labels across a wide range of traditions and cultures: God, Allah, HaShem, Higher Power, Brahman, Tao, the Absolute, or source (Koenig, 2012). Spirituality encourages the search for and the discovery of the transcendent through various practices such as prayer, literary studies, meditation, rituals, sacraments, etc. These practices are often coupled with deeper understandings about the nature of reality and they offer guidance on how to carry out a fruitful and meaningful life (Gottlieb, 2013). The expression of spirituality as a structured code of conduct with defined collective beliefs and practices is known as religiosity (Koenig, 2012).

To understand the divide between spirituality and healthcare in modern Western society, an analysis and history of culture will first be provided. Culture is built upon the philosophical foundations of society, which are subject to change as human progress and knowledge evolves. Paul Tillich (1946) described the distinction between two different philosophical foundations that structure culture: autonomy and theonomy. An autonomous culture is governed by practical rationality, in that every person is free to act but must act based on rational morality, whereas a theonomous culture enforces its laws based on religious and spiritual governance. Such foundations structure all aspects of culture, including its social, political and economic structures, its linguistic and artistic expressions, and its educational and health practices (Tillich, 1946).

Over the last century, Western culture has become increasingly autonomous and secular, as most activities are done with no religious or spiritual basis (Pannenberg, 1996). The secular revolution is perhaps due to an adverse social reaction to the collective afflictions caused by the religious dogmas in the European medieval era (Pannenberg, 1996). The domination of religion over cultural structures in the medieval era eventually lead to a chaotic social order with bigotry, indoctrination, and ongoing religious wars (Pannenberg, 1996). As a result, philosophers such as Descartes, Hobbes, Hume, and Kant sought to birth new cultural structures based on rational and secular moral values. Thus, the Enlightenment project was born in the 17th century granting scientific rationalism, industrialization, individual freedom, democracy, tolerance, and economic progress as the new pillars of Western society (Cicek, n.d.). While this new era did bring about more social tolerance and individual sovereignty, it came at the expense of excluding the sacred, the religious, the spiritual, and the traditional (Cicek, n.d.). Western society has since retained its

autonomous and secular identity, as individuals are granted their freedom yet they are starved for a spiritual substance.

Pannenberg (1996) points out that the consequences of replacing the rational over the spiritual is that it gives rise to a feeling of meaninglessness. In his words, “there is a vacuum in the public square of political and cultural life, and this invites violent outbreaks of dissatisfaction” (section V). Tillich (1946) questions who of us has never been shocked by this void and thus it becomes clear that religion is used for a higher purpose, not merely a means to apply social conduct. He explains that the word “salvation” used in religious texts implies healing in the ultimate sense, and as such the work of the physician in a theonomous culture symbolizes an expression of salvation for the ultimate restitution of the patient. In a secularized culture, however, religious salvation and medical healing are separated, which leads to frustration amongst both the physician and the patient. Frankl (1965) illustrates the problem,

A well-known psychiatrist once remarked that Western humanity has turned from the priest to the doctor. Another psychiatrist complains that nowadays too many patients come to the medical man with problems which should really be put to a priest. Patients are constantly coming to us with problems such as, what is the meaning of their lives. It is not that we doctors attempt to carry philosophy over into medicine, although we are often accused of doing so; the patients themselves bring us philosophical problems. The individual doctor, confronted with such problems, may well be driven into a corner. But medicine, and psychiatry in particular, has thereby been compelled to cope with a new field. (page ix)

In 2014, Auld and Bailey presented this exact problem in the “Toronto Star” newspaper as they wrote about the increase of suicidal teenagers flooding emergency rooms across Canada over the past ten years. These teens fail to demonstrate indicators of psychiatric disorders proposed by the DSM and instead appear to be suffering from existential issues such as, “I’m empty, I don’t know who I am, I don’t know where I’m going, I don’t have any grounding and I don’t know how to manage my negative feelings” (Auld & Bailey, 2014, p. A3). Consequently,

clinicians in these hospitals are on the verge of burning out due to the unprecedented influx of suicidal teens and a lack of protocols available to treat these existential concerns.

Some critics argue that the pinnacle of the void in Western culture is not merely the lack of spirituality, but also the overemphasis of materialism in the bureaucratic structures of society (Baruss, 2014). Capitalism encourages materialistic pursuits as a way to represent personal value, which results in an endless consumption of material possessions and superficial accomplishments. Such pursuits lack genuine fulfilment because they are not inherently meaningful. As a result, Western society is suffering from a mass existential vacuum. What's worse is that when victims of the existential vacuum try to seek treatment, the professionals who are supposed to help them are clueless on how to address the issue because the materialist doctrine that provokes the mass existential vacuum is the same doctrine that dominates health care. This materialist doctrine fails to recognize spiritual malaise as a real concern (Sperry, 2001), as the complexities of human distress are reduced to elementary principles, such as that distress is a result of chemical imbalances within the brain (Ajaya, 1983). Koenig (2012) concludes, "The research findings, a desire to provide high-quality care, and simply common sense, all underscore the need to integrate spirituality into patient care." (p. 15).

Logotherapy as a Psychospiritual Therapy

Viktor Frankl (1965) noticed how the cultural void could penetrate through the individual psyche as a form of spiritual distress. He coined the term *existential frustration* (also known as existential vacuum) to illustrate the feeling of despair over the meaning of one's life. This despair arises from a sense of boredom, apathy, feeling lost and confused, or a frustration to fulfil a meaningful life. Previous research has found that the existential vacuum promotes feelings of

stress, depression, hopelessness, and suicide ideation (Heisel & Flett, 2011). Frankl (1965) argues that being concerned about the meaning of life is not necessarily a psychiatric symptom, although it could lead to various forms of psychopathology, but rather it is a cry for a deeper significance in one's life. If one is to properly diagnose and resolve the issue, one must be able to see the spiritual side of humanity (Frankl, 1965). Accordingly, Frankl came up with a therapy called logotherapy, which signifies healing through meaning.

The main goal of logotherapy is to assist individuals move from existential despair to existential meaning. Existential meaning implies a profound sense of significance that is determined by what an individual inherently values (Frankl, 1969). Since every individual is different, existential meaning is relative to each individual. For instance, while one person finds meaning in working towards new scientific discoveries that advocates human health, another person may find it more meaningful to run a non-profit organization that advocates social justice. The job of the logotherapist is therefore to find out what the client inherently values and encourage activities that fortify those values. Frankl (1969) claimed that existential meaning could be found through work (i.e. one's life purpose), through love (i.e. caring for someone), and through one's attitudes towards life's difficulties (i.e. seeing the meaning behind suffering).

Researchers have speculated about the role of existential meaning in mental health and have found that it plays a significant role in well-being. One study conducted by Heisel and Flett (2011) found that meaning in life significantly protected against suicide ideation amongst community-residing older adults. Dezutter, Casalin, Wachholtz et al. (2013) found that chronically ill patients who experience higher levels of meaning in life also experience higher levels of well-being compared to patients with lower levels of meaning. The rationale is that existential meaning is the key to human motivation, as it provides the individual with a

significant reason to continue living and it promotes a strong attitude towards the challenges of everyday life.

Logotherapy begins with the idea that humans are primarily motivated by the intentionality of striving towards a meaning and purpose to fulfil (Frankl, 1966). This idea is contrary to most other motivational theories, which claim that the primary human motivation is to strive for homeostasis by reducing psychological tensions and maintaining inner equilibrium. The homeostasis theory is guided by the pleasure principle, as it assumes that securing one's pleasures and achieving self-gratification maintains healthy homeostasis. Frankl (1966) argues that the homeostasis theory is erroneous because it depicts the human being as a closed system living only for survival and for oneself. He proposed instead that the human being is self-transcendent by nature, "a constitute characteristic of being human [is] that it always points to, and is directed, to something other than itself" (Frankl, 1966, p. 97). If humans are self-transcendent by nature, existential meaning can only be achieved when self-interests are transcended to serve a higher purpose, such as working for the sake of some cause, task, or other people. Frankl proposes that the key to a meaningful life then is self-transcendence, as the individual strives towards goals that fulfil a meaning outside of oneself rather than striving towards goals that fulfil self-interests.

Mystical States of Consciousness to Transcend the Self

If the key to existential meaning is self-transcendence, then it is likely that transcending the ego could help individuals understand the meaning and purpose of their lives more clearly. The ego is defined as the conception of "I" that separates oneself from the external world (Walters, 2008). It consists of unique characteristics that define one's individuality, such as one's

appearance, roles, achievements, fears, attitudes, beliefs, etc. Ego consciousness is the state of mind that people find themselves in everyday waking life. The ego has evolutionary value, for it is concerned with the adaptation and survival of the individual in any given environment. However, an excess of ego could interfere with fulfilling a meaningful life because the ego is only concerned with self-interests, whereas existential meaning can only be achieved when self-interests are overcome and one's attention is directed towards something other than oneself.

Since ego consciousness is the state of mind of everyday reality, then it can be presumed that altering one's consciousness can help transcend the ego. There are countless types of altered states of consciousness and even more techniques to alter one's consciousness but this study will focus on drug-induced states of consciousness. Psychedelic drugs that are used in spiritual contexts are known as entheogens and they are known to produce mystical states of consciousness (Cole-Turner, 2014). Grof and Grof (1989) illustrated an example of a typical mystical experience:

Feelings of oneness with the entire universe. Visions and images of distant times and places. Sensations of vibrant currents of energy coursing through the body, accompanied by spasms and violent trembling. Visions of deities, demigods, and demons. Vivid flashes of brilliant light and rainbow colors. Fears of impending insanity, even death. (p. 2)

Although many researchers have attempted to construct a criterion for the mystical experience, only two characteristics are consistently present across all definitions of mysticism: transcendence of the ego and a sense of unity or merging with the universe. Outside of these two characteristics, the details of the mystical experience vary from person to person, including emotional states, perceptions, ineffability, and so on.

Neuroscientists have recently found that entheogens produce mystical states of consciousness by reducing activity in areas of the brain that are associated with the ego (Cole-

Turner, 2014). In particular, they found that psilocybin decreases blood flow in areas that make up the default mode network, such as the posterior cingulate cortex. The researchers contend that the default mode network is the “physical counterpart of the narrative-self or ego” (p. 6) because it is responsible for higher level functioning and metacognitive activities that are exclusive to humans and it takes up more energy and blood flow than any other brain regions (Carhart-Harris et al. 2014). The result is a temporary ego disintegration wherein the individual has the potential to experience a mystical state of consciousness.

Psychedelic Drug Therapy for the Chronically Ill

Prior to the prohibition of psychedelic drugs in the 1970’s, there was an abundance of research that revealed the healing potentials of these drugs on a variety of ailments (Fang & Casadevall, 2013). This research is resurfacing again, as some health professionals desperately seek solutions to relieve their clients’ existential concerns. The ones who are at highest risk for the existential vacuum are the chronically ill because their circumstances may produce feelings of hopelessness and they may perceive life as worthless (Fang & Casadevall, 2013). Stephen Ross labelled this condition an “acute spiritual deficit state”, as it debilitates the patient’s ability to manage her affairs and she fails to connect with loved ones in a meaningful way. Psychotherapy may help bring some relief to these individuals, but psychotherapy is not likely to provide relief quickly enough for those with a shortage of time. Instead, psychedelic drug therapy has demonstrated to provide quick and sustained relief from acute spiritual deficiency to terminally ill patients (Fang & Casadevall, 2013).

A clinical psychedelic drug therapy requires the supervision of a psychotherapist to monitor the client’s physiological and psychological well-being during the experience, as well as

to guide the client's experience in a positive manner. The therapy requires a positive set and setting for optimal results. Set refers to the mindset one has going into the experience and setting refers to the environment one is in during the experience. All these factors combined with sequential talk therapy are the key ingredients to a successful psychedelic drug therapy (Fang & Casadevall, 2013).

Researchers theorize that the reason why this therapy works so well is because psychedelic drugs give clients access to portals of the mind that are not easily accessible otherwise. In the midst of the experience, clients have the ability to review past traumas, attain psychological insight, change patterns of perception, and regain positive attitudes towards life (Fang & Casadevall, 2013). One cancer patient described how the effects of psilocybin therapy changed her perceptions of life,

I have come to realize the universe consists of more than what readily meets the eye. An abiding sense of inexplicable vastness of what is real and what is possible has affected my worldview. I no longer define myself by what has happened to my body, or even my emotional life, since my cancer diagnosis. (Fang & Casadevall, 2013, p. 66)

Unlike anxiolytic drugs such as Xanax that requires repeated use for relief, psychedelic drug therapy is capable of providing patients with long lasting relief with only a few doses because perceptual change is a long-term outcome. Fang and Casadevall (2013) claim that psychedelic drug therapy could be the central focus in palliative care since potential "psycho-spiritual epiphanies" could help diminish worries about the future and death.

Ayahuasca Shamanism

Although there are a variety of entheogens that have the potential to bring existential relief to individuals, this study will focus on ayahuasca because of its surrounding ritualistic practices and because of the growing ayahuasca tourism in more recent years (Labate & Cavnar,

2014). Ayahuasca is a psychoactive brew that is produced by boiling water with a vine called *Banisteriopsis caapi* and the leaves of the *Psychotria viridis* bush (Kjellgren Eriksson, & Norlander, 2009). According to Josep Fabregas, the researcher who conducted the world's largest study on the long-term effects of ayahuasca, it is not ayahuasca itself that is capable of healing people but rather it is the ritual use of ayahuasca that heals (Erci, 2013). Ayahuasca shamanism is the ritual use of ayahuasca, which involves a variety of elements.

In its traditional term, ayahuasca means “vine of the soul” or “vine of the dead” from the indigenous language of Quechua (Kjellgren Eriksson, & Norlander, 2009). Because these plants originate in the Amazon, it is the indigenous people of the Amazon who have mastered the proper usage and practices surrounding ayahuasca. Therefore, the healing benefits of ayahuasca are best understood in the context of indigenous beliefs (Luna, 2011). According to the Amazonian worldview, there is an unseen and spiritual force that drives all of physical reality. Drinking ayahuasca gives people access to enter this spiritual dimension for healing, learning, and divination purposes (Quevedo, 2009). Ayahuasca ceremonies are held to make contact with those spiritual realms.

An ayahuasca ceremony is held in a hut throughout the night wherein a group of people sit around in a large circle and drink ayahuasca (Shannon, 2002). Perhaps the most important element of the ayahuasca ceremony is the guidance of an adequately trained shaman. The role of a shaman is similar the role a psychotherapist who guides a clinical psychedelic drug therapy. The difference is that shamans also ingest the psychoactive substance to find the root cause of a patient's illness and to consult spirits on how to cure the patient (Shanon, 2002). Shamans also guide participants through their experiences with the use of *icaros*. *Icaros* are a variety of songs used for different purposes, such as to protect an individual from certain spirits, to treat particular

illnesses, to travel to certain dimensions, and to strengthen or weaken the effects of ayahuasca (Luna, 2011).

Upon ingestion of the brew, participants may experience a variety of uncomfortable physiological reactions, including vomiting, diarrhea (Kjellgren, Eriksson, & Norlander, 2009) and difficulties with motor control and co-ordination (Shanon, 2002). This physical catharsis is known as the purge and it is said to be a spiritual and emotional cleanse from all the negative toxins one has accumulated throughout one's lifetime (Palladino, 2009). Psychological reactions may include recalling distant memories from one's life. One may feel as though one is in the process of going insane or dying, or as though the return to ordinary consciousness will never be possible. (Shanon, 2002). The drinker may be presented with powerful visions that have the potential of inducing personal insights, access to knowledge about the universe, and a perceived encounter with the transcendent (Shanon, 2002). These are merely examples of what could happen under the effects of ayahuasca but there is no real criterion that constitutes universal effects of ayahuasca. The ayahuasca experience will vary from person to person and from time to time.

Some have described the ayahuasca experience as a mystical experience, wherein one transcends ordinary human existence to feel a merging with the universe. In this state, people often report ecstatic and numinous feelings, and it is common to feel an encounter with the transcendent (Palladino, 2009). One study reported that the feeling of encountering the transcendent was the greatest contributing factor to psychological improvement in depressed participants (Palladino, 2009). Because of this encounter, participants claimed to have gained new insight on the interconnectedness of all things and were able to see that there is a sense and reason to everything. The exposure to that larger realm of reality helped these individuals

overcome constricting and limiting perceptions, which shifted their perception of how their depression is experienced (Palladino, 2009).

Hypotheses

Shanon (2002) stated that under the influence of ayahuasca, the individual might feel as though the meaning and purpose of everything is being revealed to oneself. Ayahuasca drinkers usually report having a new appreciation for the reason why humans are here on earth and that the world of everyday life appears to be a work of art. If ayahuasca shamanism has the ability to bring people to new insights, it is predicted that that participating in a traditional ayahuasca ceremony can help produce a greater sense of existential meaning. The three hypotheses in this study are:

1. Participating in ayahuasca ceremonies increases one's sense of existential meaning.
2. Depth of alterations of consciousness during ayahuasca ceremonies is a predictor for increased existential meaning.
3. People who have a higher tendency to seek existential meaning are more likely to feel enhanced meaning after an ayahuasca ceremony than people who have a lower tendency to seek meaning.

Methods

Participants

The data consisted of 29 participants who attended *Nihue Rao Centro Espiritual* during the time frame of December 6th 2015 and January 2nd, 2016. There were 15 men and 14 women ($N=29$) with a mean age of 37.6 years ($SD=12.0$; age range: 24-69; $N=29$). All 29 participants

were ethnically white, with 22 residing in the USA, 2 in Canada, 2 in Australia, and 3 in the UK. There was a wide range of occupations amongst the participants in fields such as healthcare, education, food and hospitality, business, engineering, and the arts and entertainment. As for levels of education, 3 indicated that their highest level of education was high school, 17 reported having graduated from college, and 9 reported having attained a post-graduate degree. The most commonly reported religious affiliation was “Own Beliefs” with 18 participants, followed by 8 participants who chose “Other”, 4 chose “Christian”, 3 chose “None”, 2 chose “Buddhist”, and no one chose Judaic or Muslim. Frequency of religious practice ranged from “Daily” with 13 participants, “Weekly” with 4 participants, “Monthly” with 2 participants, “Hardly Ever” with 5 participants, and “Never” with 4 participants. 15 participants reported that they had never participated in an ayahuasca ceremony, 11 reported having experienced ayahuasca ceremonies 1-10 times previously, and 3 reported having participated in ayahuasca ceremonies more than 10 times. 23 of the participants were only staying at the centre for 7-10 days, 2 of them were staying for 2-3 weeks and 4 of them were staying for 3 weeks or more. Finally, only 2 of the 29 participants reported that they were at the centre for shamanic training purposes.

Materials

Consent form. The consent form contained a brief description of the study, along with instructions that participants would have to partake in if they chose to participate in the study. This form also included the risks and benefits of participating in the study, as well as a reassurance of confidentiality on any given information. Contact information of the associate academic dean, the principle investigator, and the research supervisor was provided. Lastly, there were a few lines for participants to provide their printed name, a signature, the date, and optional email address if they chose to participate in the study.

Demographics Form. The demographics section was used to gather basic information about participants, including the following: age, gender, occupation, country of residence, ethnicity, highest level of education, religious affiliation, frequency of religious practice, previous experience with ayahuasca ceremonies, length of stay at *Nihue Rao*, and if they were attending *Nihue Rao* for shamanic training purposes. Additionally, this section provided a space for participants to express their motivation for participating in ayahuasca ceremonies, and what they expected to get out of this participation. This section was co-created by the principle investigator and project adviser to target key demographic questions.

Life Attitudes Profile (LAP). The Life Attitudes Profile Scale was used to operationalize concepts related to existential meaning with the following seven dimensions: Life Purpose, Existential Vacuum, Life Control, Death Acceptance, Will to Meaning, Goal Seeking, and Future Meaning to Fulfil. The scale used in this study is the older version produced by Reker and Peacock in 1981, which was obtained from PsychTESTS. This scale contains 44 items in total, which were rated on a seven-point Likert scale from one being “strongly disagree” to seven being “strongly agree”. Examples of items on this questionnaire include: “I have discovered a meaningful life purpose”, “My life is in my hands and I am in control of it”, “I think about the ultimate meaning of life”, and “In my life I have very clear goals and aims”. This scale was used both in the *pre* measures package, as well as in the *post* measure to compare the means in subsequent data analysis. The reliability of the scales were measured with the Cronbach’s alpha of .83 for Life Purpose, .75 for Existential Vacuum, .78 for Life Control, .70 for Death Acceptance, .57 for Will to Meaning, .66 for Goal Seeking, and .55 for Future Meaning to Fulfill (Reker & Peacock, 1981). The Life Attitudes Profile scale that was used in this study contained a few printing errors. First, the word “disagree” was missing in option one and three of the Likert

scale, so the statements read as “strongly” and “slightly” instead of “strongly disagree” and “slightly disagree”. The last word on item number 24 was missing, but the researcher was able to add the word “appeal” manually to the statement that read, “I try new activities or areas of interest and then these soon lose their appeal”. Lastly, the sentences on items number 13 and 36 were cut off, so the researcher crossed them off so participants would not have to answer these items. The scales were adjusted to compensate for these errors and these adjustments did not have an influence the results of the study.

Scales of Psychological Well-Being. Carol Ryff’s Scales of Psychological Well-Being was used to measure participants’ psychological well-being prior to partaking in an ayahuasca ceremony. This instrument consists of six subscales including: Autonomy, Environmental Mastery, Personal Growth, Positive Relations with Others, Purpose in Life, and Self-Acceptance. Each subscale consisted of three items for a total of 18 items with alpha values of .37, .49, .40, .56, .33, and .52 respectively. Although these are small values, the three items in each scale correlate strongly and positively only with their own respective scale and each of the three items making up a scale had been selected because of its strong correlation with its parent scale in the long version of the questionnaire (Ryff & Keyes, 1995). Examples of some of the items include: “I like most aspects of my personality”, “Some people wander aimlessly through life, but I am not one of them”, and “Maintaining close relationships has been difficult and frustrating for me”.

Phenomenology of Consciousness Inventory. The Phenomenology of Consciousness Inventory by Pekala (1991) is a retrospective report that was used to evaluate the degree to which participants went into an altered state of consciousness when they participated in the ayahuasca ceremonies. There are a total of 53 items on the scale and each item is composed of two opposing statements separated by a seven-point Likert scale. For example, “I felt very frightened

0 1 2 3 4 5 6 I felt no emotions of being frightened”, “My imagery was very vague and dim 0 1 2 3 4 5 6 My imagery was as clear and vivid as object in the real world”, and “I experienced very few images 0 1 2 3 4 5 6 My experience was made up almost completely of images”. This scale is composed of 12 subscales, including altered experience, positive affect, negative affect, attention, imagery, self-awareness, altered state of awareness, internal dialogue, rationality, volitional control, memory, and arousal. The coefficient alpha for the subscales ranged from a low of .56 for volitional control to a high of .93 on imagery and total mean of .82 for all subscales.

Profundity Scale. The Profundity Scale was used to determine whether the participants perceived the ayahuasca experience as profound and meaningful. It contains seven items in total and it was scored on a seven-point Likert scale from one being “strongly disagree” to seven being “strongly agree”. Examples of some of the items include: “This experience was profound”, “During this experience, I had a sense of the sacred”, and “What I experienced was spiritual in nature”. Baruss, Van Lier, and Ali (2014) created this scale to detect a sense of profundity in various states of consciousness. The scale holds a promising reliability with the Cronbach’s alpha of .87. The Profundity scale used in this study contained a printing error in the Likert scale on option one, as the word “disagree” was missing from the statement “strongly disagree”. This error was unlikely to have made a difference in participants’ responses but it is something to keep in mind.

Hood’s Mysticism Scale. The Hood’s Mysticism Scale that was used in this study was the modified version by Dakwar et al. in 2014 from its original version by Hood in 1975. This scale was used to evaluate whether an ayahuasca experience enables mystical states of consciousness. Examples of some of the items include, “I had an experience in which I realized the unity of all

things”, “I experienced a perfectly peaceful state”, and “I had an experience both timeless and spaceless”. There were nine items in total on a five-point Likert scale ranging from zero, “definitely not true” to four, “definitely true”.

Digital Audio Recorder. The digital audio recorder was used to record post-experience interviews, which were conducted the mornings after an ayahuasca ceremony. The researcher interviewed each participant individually, starting with the question, “Can you please describe your ayahuasca experience from last night and what was most memorable about it?”, followed by further asking for any clarifications as the description of the experience went on. All 42 of the interviews were recorded on digital voice recorders and later transcribed.

Debriefing Form. The debriefing form was given to participants after they completed the entire study. This form thanked participants for participating in the study and it informed participants of the purpose of the study, all three hypotheses, how the performed tasks were related to the hypotheses, the expected results and how this research will make an important contribution to the scientific community. Additionally, this form provided participants with two references to learn more about logotherapy and the nature of ayahuasca, as well as the researcher’s contact information should any questions or comments arise in the future.

Procedure

The data for this study were collected at an ayahuasca spiritual centre called *Nihue Rao Centro Espiritual*, which is located approximately 90 minutes outside of Iquitos, Peru. The researcher travelled from Toronto, Canada on December 5th, 2015 and arrived in Iquitos, Peru on December 6th, 2015. The data were collected from December 6th, 2015 until January 2nd, 2016.

The procedure was as follows:

As of November, a letter of invitation (see Appendix A) was emailed to all participants who were attending the centre during the time frame that the researcher was going to be at the centre. This letter was sent on behalf of *Nihue Rao* and it informed attendees about the nature of the study and the tasks involved if they chose to join the study. Participants could have addressed any questions or concerns to the researcher via email during this time. The purpose of this letter was to have an idea of how many participants would be interested in joining the study.

Upon arrival at *Nihue Rao* on December 6th, the researcher asked all attendees individually if they were interested in joining the study. Since the attendees usually only stay at the centre for 10 days, there were 3 rotations of groups of people during the research time frame. The researcher explained the nature of the study to all attendees and gave each one of them a consent form (Appendix B), which explained the details and tasks involved in the study. If participants agreed to join the study, they would sign the consent form and complete the *pre* measures package. The *pre* measures package included a Demographic Sheet (Appendix D), Life Attitudes Profile (Appendix E), and Scales of Psychological Well Being (Appendix F). This would take approximately 20 minutes to complete.

The *interim* measures package was administered to participants the day after one of the ayahuasca ceremonies. This package included a second set of questionnaires and a recorded interview based on the participant's ayahuasca experience from the previous night. If participants were not comfortable with a recorded interview, they had the option of writing out their experience on paper instead (Appendix G). Following the interview or written description, participants were asked to complete the following questionnaires included in the *interim* package: Phenomenology of Consciousness Inventory (Appendix H), Hood's Mysticism Scale (Appendix I), and the Profundity Scale (Appendix J). This session took approximately 20

minutes to complete. Since *Nihue Rao* encourages participants to stay at the centre for at least 10 days and participate in 4-6 ceremonies, participants had the choice of repeating the interim measures for as many ceremonies as they wished.

On the last day of their stay at *Nihue Rao*, participants completed one final questionnaire: the Life Attitudes Profile as a *post* measure. This questionnaire took approximately 5 minutes for participants to complete. Once this was completed, participants received a debriefing form (see Appendix C) and were thanked for participating in the study.

Results

Sample Characteristics

The Scales of Psychological Well-Being (SPWB) questionnaire was used to create a psychological profile for the sample in this study. To determine the psychological well-being for this group, the means of this sample were compared to the published norms of SPWB using individual *t* tests. The results revealed a significant difference for all the scales on the SPWB, as shown in Table 1. The results indicate that the sample in this study scored below the population norms in each of the six subscales.

Table 1. Comparison of Sample against Norm Means

Scale	Sample Scores (N=29)		Norm Scores (N=1108)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Self-Acceptance	<i>M</i> =9.0	<i>SD</i> =3.6	<i>M</i> =14.6	<i>SD</i> =3.1	-8.3	.000
Environmental Mastery	<i>M</i> =11.3	<i>SD</i> =2.0	<i>M</i> =14.9	<i>SD</i> =2.8	-9.64	.000
Positive Relations with Others	<i>M</i> =8.5	<i>SD</i> =3.8	<i>M</i> =14.8	<i>SD</i> =3.2	-8.99	.000
Purpose in Life	<i>M</i> =7.1	<i>SD</i> =2.7	<i>M</i> =14.4	<i>SD</i> =3.2	-14.16	.000
Personal Growth	<i>M</i> =4.8	<i>SD</i> =2.0	<i>M</i> =15.7	<i>SD</i> =2.5	-29.04	.000
Autonomy	<i>M</i> =7.9	<i>SD</i> =3.3	<i>M</i> =15.2	<i>SD</i> =2.6	-11.85	.000

Motivations and Expectations

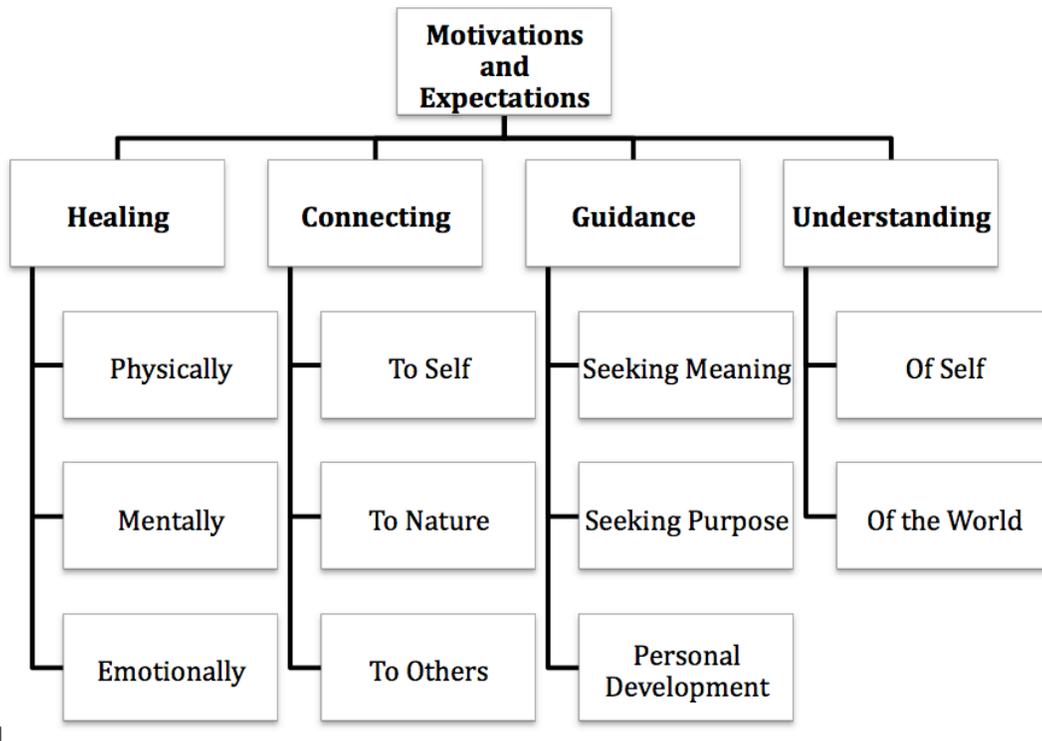
Participants were asked in an open-ended format to express what their motivations and expectations for the ayahuasca experience were. Figure 1 demonstrates the four basic themes and other subthemes that were revealed. Details about the four themes are as follows:

- 1) *Healing*. Most participants expressed that they would like to be healed from a range of physical, mental, and emotional ailments. Examples of physical ailments include: balancing endocrine system and skeletal structure, autoimmune disease, rheumatoid arthritis, fibromyalgia, tremoring, lack of muscle function, a broken tail bone. Examples of mental ailments include: depression, anxiety, addiction, trauma, and insomnia. Examples of emotional ailments include: relationship issues, overeating, fear, self-love, and blockages.

- 2) *Connecting*. Participants reported they would like to develop a stronger connection with themselves, with nature, and with others. Specific examples include: “connect emotionally”; “connect with the universe/the spiritual”; “further the exploration of connectedness to nature and myself”; “to connect deeper with myself...for connectedness, support and love and to call in my life partner”; “to be more open to the spiritual connections of earth and the universe”; “to be in my Highest Self”.
- 3) *Guidance*. Participants expressed that they sought the ayahuasca experience for guidance on their life purpose, on fulfilling a meaningful life, and on personal development. Specific examples include: “clarity I can use moving forward in my life”; “confused about what I want out of life/what life wants from me”; “discover my path in life”; “I need to make some career decisions and have been feeling a loss of purpose”; “to know my purpose and gifts I've been given and share with those around me”; “to find out what I am capable of and what my soul's purpose is here”; “to reach another level of personal development”; “to find meaning and purpose in my life. I have accomplished all of my professional ambitions, yet my life does not fulfil me”; “find focus for my future...to pursue a career in medicine. Find clarity with my decision and aim to be a parent”; “strength to face the future”.
- 4) *Understanding*. Participants reported having a desire to deepen their understanding of themselves and of the world around them. Specific examples include: “knowledge/wisdom about healing from the use of plant medicines”; “to examine oneself”; “to grow my understanding of myself and reality”; “to find out more about my spirit”; “to explore new realms”; “to cultivate a deeper understanding of myself and the planet in order to understand the oneness of all”; “insight”; “clarity”; “understanding of

myself and situations in my life that are not healthy”; “to learn from the plant and understand it”.

Figure 1. Themes and subthemes of motivations for participating in ayahuasca ceremonies.

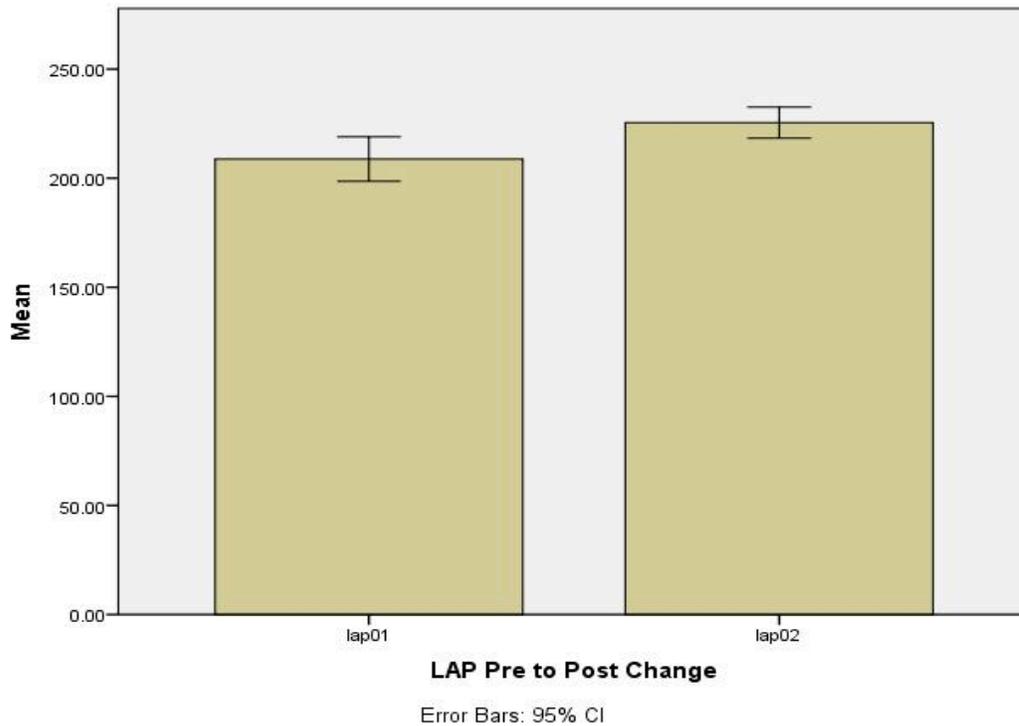


Hypothesis 1: Participation in ayahuasca ceremonies increases existential meaning

To analyze this hypothesis, the mean scores for both the *pre* and *post* measures of the Life Attitudes Profile (LAP) were used to create two variables. Then the *post* variable was subtracted from the *pre* variable to create a variable of overall change in meaning. A paired samples t-test revealed that participants' overall sense of existential meaning increased from the time of *pre* testing ($M=208.78$; $SD=25.64$) to the time of *post* testing ($M=225.44$; $SD=18.02$) with $t(26)=3.67$, $p=.001$ (two-tailed). 24 participants improved in existential meaning, three participants deteriorated in meaning, and two participants failed to fully complete the *post* test.

Figure 2 demonstrates the mean difference between *pre* and *post* measures of the Life Attitudes Profile.

Figure 2. *Change in Existential Meaning from pre to post.*

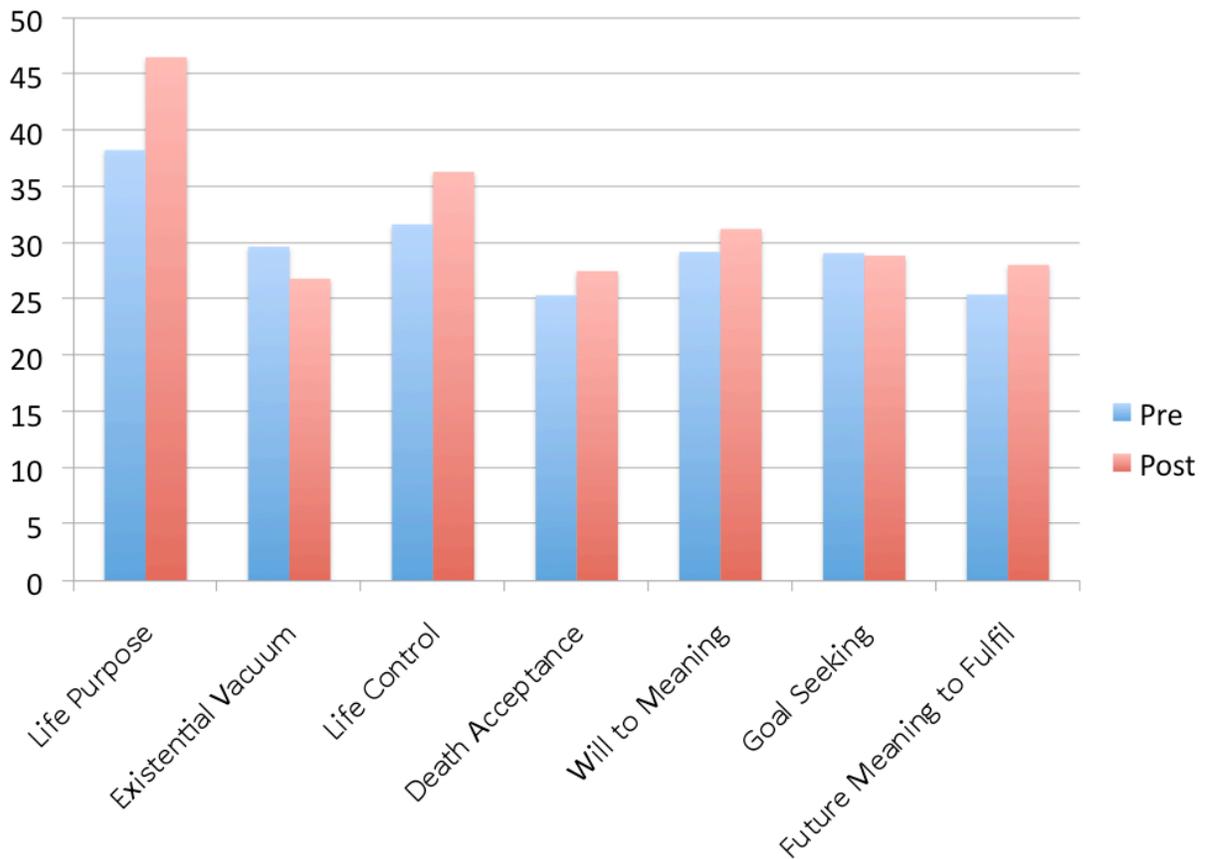


Note. Error bars shown are for independent samples.

Following the total score analysis, a multivariate analysis of variance for the difference of the LAP subscales from *pre* to *post* was statistically significant with Roy's Largest Root $\lambda=.55$, $F(7, 20) = 3.42$, $p=.014$. In particular, there was a significant change for Life Purpose, Life Control, and Future Meaning to Fulfil. A paired samples t-test revealed that Life Purpose had the greatest change from *pre* ($M=38.26$; $SD=10.24$) to *post* ($M=46.52$; $SD=10.96$) testing with $t(26)=4.78$, $p=.000$ (two tailed). Life Control revealed to have the second greatest change from *pre* ($M=31.67$; $SD=6.45$) to *post* ($M=36.33$; $SD=4.50$) with $t(26)= 3.77$, $p=.001$ (two tailed). Lastly, Future Meaning to Fulfil revealed a significant change from *pre* ($M=25.44$; $SD=4.02$) to

post ($M=28.07$; $SD=3.37$) with $t(26)=3.22$, $p=.003$ (two tailed). Figure 3 demonstrates the difference between *pre* and *post* measures for all seven variables on the LAP.

Figure 3. Mean difference from *pre* to *post* measures for individual variables on the LAP.



Hypothesis 2: Depth of alterations of consciousness is a predictor for change in existential meaning

A stepwise multiple linear regression analysis was conducted to determine whether any variables on the Phenomenology of Consciousness Inventory (PCI) were predictors for overall change in meaning, but no significant correlations were found. The same analysis was used to predict regression of change in individual variables of the LAP on PCI variables and several

predictors were found. First, there was a significant negative correlation between Life Purpose and Volitional Control with $R^2 = .26$, $F(1, 23) = 8.20$, $p=.009$, with a beta value of $\beta=-.513$, indicating that those who felt less in control of what was happening to them during the ayahuasca ceremony were more likely to have an increase in life purpose. Figure 4 demonstrates the regression of Life Purpose on Volitional Control. Memory was found to be a predictor for Future Meaning to Fulfil with $R^2 = .16$, $F(1, 23)=4.30$, $p=.049$, with an beta value of $\beta=.40$, indicating that the more the participants were able to remember their ayahuasca experience, the more likely they were to have a future meaning to fulfil. Figure 5 demonstrates the regression of Future Meaning to Fulfil on Memory. Lastly, Death Acceptance was negatively correlated with Internal Dialogue with $R^2=.16$, $F(1, 23)=4.50$, $p=.045$, and an beta value of $\beta=-.40$, indicating that the less participants were silently talking to themselves during the ayahuasca ceremony, the less likely they were to be concerned about death and dying. Figure 6 demonstrates the regression of Death Acceptance on Internal Dialogue.

Figure 4. *Regression of Life Purpose on Volitional Control.*

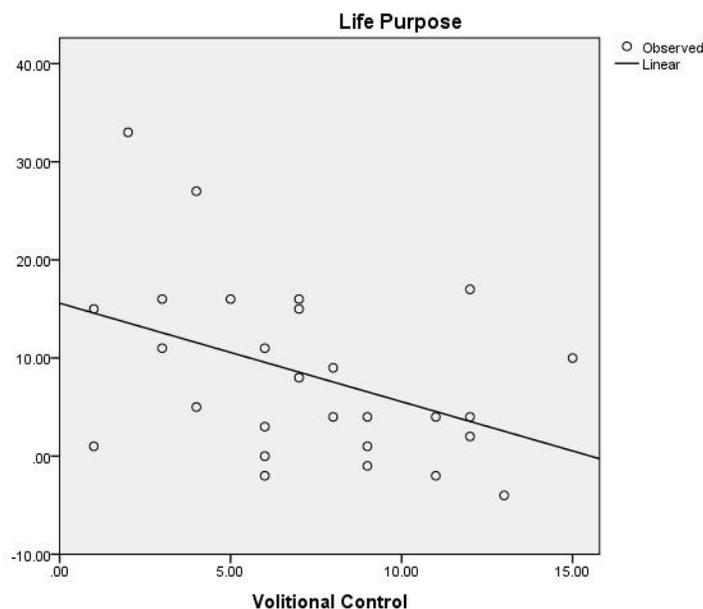


Figure 5. *Regression of Future Meaning to Fulfil on Memory*

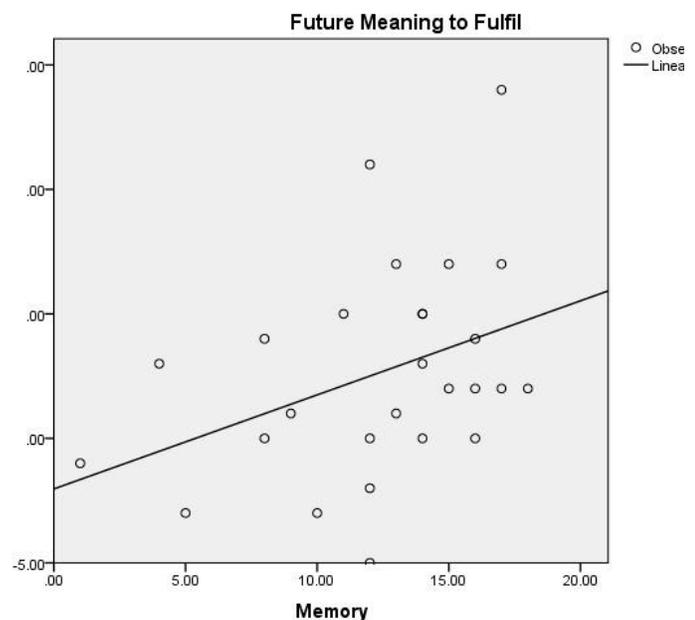
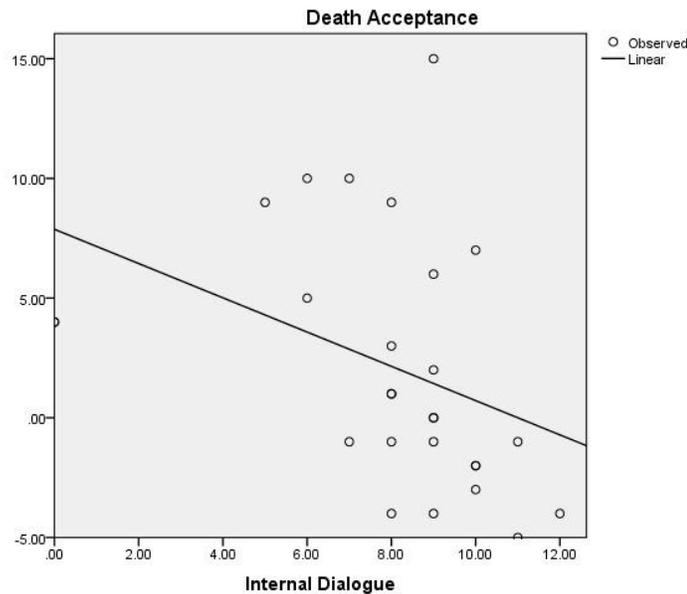


Figure 6. *Regression of Death Acceptance on Internal Dialogue.*

Hypothesis 3: People who have a higher tendency to seek existential meaning are more likely to feel enhanced meaning after an ayahuasca ceremony than people who have a lower tendency to seek meaning

A stepwise multiple linear regression analysis was used to determine whether the overall *pre* score on the LAP had an influence on the overall change in meaning, but a significant correlation was not found. However, two of the individual variables on the *pre* measures of the LAP were predictors for change in overall meaning, namely Goal Seeking and Life Control with $F(2, 24)=21.62, p=.000$. Goal Seeking in the *pre* measures was negatively correlated with change in overall meaning with $R^2=.55, \beta=-.54$, indicating that the more goal seeking oriented a person was, the less likely one was to experience a change in existential meaning from the ayahuasca experience. Life Control in the *pre* measures was also negatively correlated with change in overall meaning with $R^2=.64, \beta=-.37$, indicating that the less a person felt in control of one's life, the more likely one was to experience a change in existential meaning after participating in the ayahuasca ceremonies.

Post Hoc Analyses

Post Hoc Analyses were conducted to obtain a better understanding of the gathered data. Altered experience, gender differences, mysticism, and profundity, as well as the qualitative data were analyzed.

Altered Experience

Altered experience was one of the twelve variables on the PCI and this variable was used to validate whether the altered experience that participants were having during the ayahuasca ceremonies was mystical and profound. A stepwise multiple linear regression analysis of mysticism on PCI variables revealed that the altered experience was mystical with $R^2=.58$, $F(1, 22)=30.57$, $p=.000$, $\beta=.76$. The same analysis of profundity on PCI variables was conducted it was found that the altered experience was also profound with $R^2=.61$, $F(1, 22)=37.32$, $p=.000$, $\beta=.79$. There was not a significant correlation between altered experience and overall change in existential meaning, indicating that the altered experience induced by ayahuasca alone was not a predictor for change in meaning.

Gender Differences

A correlation analysis revealed several differences between the men and women in this sample. First, we found a significant correlation between gender and frequency of religious practice with $r(28)=-.47$, $p=.012$, indicating that the women in this sample tend to participate in religious practices more frequently than the men. There was also a significant correlation between gender and the various variables on the PCI, including: Rationality with $r(29)=-.47$, $p=.011$, Altered State of Awareness with $r(29)=.40$, $p=.030$, Volitional Control with $r(29)=-.40$, $p=.036$. This indicates that during the ayahuasca experience, the women in this sample were less

rational, they found themselves in a more extraordinarily unusual state of awareness, and they were more passive and receptive to the experience compared to the men. Lastly, it was found that the women in this sample were having a more mystical experience than men with a significant correlation of $r(27)=.43, p=.024$.

Shamanic Training

A correlation analysis revealed a significant correlation between shamanic training and Internal Dialogue with $r(29)=.52, p=.004$. This means that the participants who attended *Nihue Rao* for the purposes of shamanic training and have gone through the ayahuasca process longer are less likely to silently speak to themselves during the experience compared to the participants who are only attending the centre for a short period of time. In this sample, only two of the 29 participants were attending *Nihue Rao* for shamanic training purposes.

Mysticism

A multivariate regression analysis was conducted to determine who was most likely to have a mystical experience during the ayahuasca ceremonies and it was found that Goal Seeking in the *pre* measures of the LAP and gender were predictors for mysticism with $F(2, 23)=7.11, p=.004$. Those who were initially more goal seeking oriented were more likely to have a mystical experience with $R^2=.23, \beta=.42$. Women were also more likely than men to have a mystical experience with $R^2=.33, \beta=.40$.

Profundity

A multivariate regression analysis was conducted to determine who was having a profound experience during the ayahuasca ceremonies and it was found that Will to Meaning in

the *pre* measures was a predictor for a profound experience with $R^2=.75$, $F(2, 21)=30.66$, $p=.000$, $\beta=.34$. This means that those who were more meaning seeking oriented were more likely to have a profound experience during the ayahuasca ceremonies.

Interview Data

Qualitative data were gathered by asking participants to describe their experiences of the ayahuasca ceremony in an interview format. Since participants participated in at least four ceremonies during their stay at *Nihue Rao*, they had the option of describing as many ceremonies as they wished but for at least one. 42 interviews were gathered and the principle investigator later transcribed the information. The following themes were revealed:

1. *Purging*. Nearly all participants reported having purged in one way or another. The most commonly reported form of purging was vomiting. Other forms of purging included crying, yawning, laughing, shaking, and going to the toilet.
2. *Abstract visions*. Most participants reported seeing a variety of shapes, figures, and colours at some point during the ceremony but most often at the beginning of the ceremony. Examples include “chequered board snakes”; “geometric shapes”; “intense colour and shapes and formations blended into each other”; “beautiful green light felt like it was coming from my higher self”.
3. *Symbolism*. Many of the visions participants reported were symbolic to signify a deeper meaning. For example, one participant reported thinking she threw up a red and white ball, which signified a release to find her own voice and speak her truth. Another participant reported seeing a granite wall that walled off his feelings towards his mother.

4. *Recalled memories.* There were several reports of recalling forgotten memories, especially from childhood. For example, one participant reported “I went back to my inner child, me as a little girl, I was wringing out the stuff from childhood”.
5. *Death and Rebirth.* Death and birth was a common theme amongst the reports of the participants. For example, one participant reported that he had faced death and won his fear, which lead to freedom from being human. Another participant explained that he felt that he gave birth to a baby eagle, which was actually a new version of himself. Another participant explained: “I was having trouble breathing, I felt I died. I was strangely okay with it because I just wanted the misery to stop and the second after I fell asleep I woke up and I was a baby, but I didn't look like a child, my body was still like a human being but I was in this alternate dimension.”
6. *Variety of emotions.* Nearly all of the participants reported experiencing a variety of emotions during the ceremony. Some examples include: Paranoia, sense of calm, feeling grounded, victorious, joy, gratitude, grief, mourning, guilt, shame.
7. *Insight.* Many of the participants reported experiencing insight on some level. Some examples include: “knowing I'm much bigger than who I think I am”; “the importance of discipline and family”; “I feel more lucid, it's clear how I want to treat people in my life, things I want to say to people, before I didn't feel brave or clear enough to find the words”; “what we see is an illusion, reality is actually behind our eyes”.

Discussion

Sample Profile

The psychological well-being mean scores in the sample of this study were lower than the mean scores of the published norms. This suggests that the group of people who participated in this study were less psychologically fit than the norm of the American population. These findings are not surprising, given that many of the participants in this study claimed to have sought the ayahuasca experience to heal mental and emotional issues including depression, anxiety, addiction, and trauma.

The reported motivations and expectations suggest that the participants in this sample sought the ayahuasca experience not only to heal a variety of physical, mental, and emotional ailments but also to seek forms of existential meaning. For example, the desire for guidance to seek meaning, to seek purpose, and to fulfil personal development signifies a yearning for a meaningful life. The desire to understand oneself and the world better signifies a motivation to answer existential questions related to one's existence. Lastly, the desire to connect with nature and with others signifies the yearning for self-transcendence to achieve a deeper significance in life.

Change in Existential Meaning

The results revealed that the ayahuasca experience at *Nihue Rao Centro Espiritual* does indeed help people fulfil existential meaning, as most participants who attended the centre demonstrated an overall increase in existential meaning. There was especially a significant increase for life purpose, indicating that there was something about the ayahuasca experience that helped participants obtain a deeper understanding on what their purpose in life is. This

increase in life purpose is likely related to the common theme of insight that was found in the interview data. Increase in life purpose is an important aspect of existential meaning because according to Viktor Frankl (1969), finding and fulfilling one's life purpose is one of the most significant ways to carry out a meaningful life.

There was also a significant increase for life control, suggesting that the ayahuasca experience helped participants feel as though they are in control of their own lives. Life control is a key ingredient for psychological well-being because perceived life control acts as a protector against helplessness in stressful life situations (Fiori, Hay, Meador, 2004). Finally, there was a significant increase for future meaning to fulfil, indicating that the ayahuasca experience helped participants look forward to the future. This is an important finding for mental health implications, as Frankl (1969) noted that having a future meaning to fulfil acts as a protector against hopelessness by providing motivation to fulfil a future goal.

Alterations of Consciousness

Based on the self-transcendent theory of logotherapy, it was hypothesized that the alterations of consciousness induced by ayahuasca would help people increase in existential meaning. Although it was found that the altered experience that people were having during the ayahuasca ceremonies was both mystical and profound, this altered experience alone did not predict for change in meaning. None of the other PCI variables predicted for change in overall meaning either. However, some PCI variables did predict for specific categories of existential meaning.

First, it was found that volitional control was a predictor for life purpose in that the less one would try to control the ayahuasca experience the more one would increase in life purpose.

This finding suggests the importance of having a passive attitude during the ayahuasca experience to increase the chances of having insight into one's life purpose. It is worth asking whether the theme of insight reported in the interview data acts as a mediator between volitional control and life purpose, thereby suggesting that low volitional control does not necessarily influence life purpose directly, but rather that it influences overall insight, including insight on life purpose. Future research should investigate the relationship between volitional control and insight during an ayahuasca ceremony.

The results also revealed that memory was a predictor for future meaning to fulfil in that the more one was able to remember the ayahuasca experience, the more likely one would be to have a future meaning to fulfil. This finding points to the importance of reflecting on one's ayahuasca experience in order to integrate it into one's life. Researchers at Harvard University have found that reflecting on experience builds one's confidence to achieve a future goal (i.e. self-efficacy) (Stefano et al., 2014), which explains why remembering the ayahuasca experience can be a predictor for future meaning to fulfil.

Lastly, it was found that less internal dialogue during the ayahuasca experience predicted for more death acceptance in that one would be less concerned about death and dying if one was able to quiet the mind. This finding is explained by the notion that quieting the mind can help with detaching from contents that are normally associated with the ego (Mikulas, 2010). This in turn enables the individual to move into a non-judgmental witnessing level where one becomes an objective observer of reality. It was found that those who are going through shamanic training have less internal dialogue during the ayahuasca ceremonies compared to those who attended the centre for a short while only. This finding is not surprising given that the average person is constantly getting pulled into the contents of the mind, whereas the process of delving deeper

into a spiritual practice requires a disidentification with the contents of the mind so that one may move into a deeper domain of consciousness (Mikulas, 2010, p. 4).

Seeking Meaning

The hypothesis that people who have a higher tendency to seek meaning are more likely to find existential meaning in the ayahuasca experience compared to those who have lower tendency was not supported by the results. It is important to keep in mind that these results could be attributed to the ceiling effect and autocorrelations due to the limitations of the instrument that measured this hypothesis. In other words, it is possible that those who initially scored higher in existential meaning did not demonstrate an improvement because the scores on the instrument did not go high enough to indicate a difference. However, it can also be argued that the highest detected score on the *post* LAP test was 80 points below the maximum score, which means that participants still had a lot of room for improvement. Testing this hypothesis revealed quite contrary results to what was hypothesized, as those who initially scored lower on goal seeking (i.e. less likely to seek out goals) and lower on life control (i.e. less likely to feel in control of one's life) were more likely to have a change in existential meaning. These findings can be explained by Frankl's idea of hyper intention and dereflection.

Hyper intention is the self-defeating result of excessive intention: the more one seeks out a goal, the less likely it will be achieved (Frankl, 1992). This is because hyper intention produces anticipatory anxiety. Hyper intention is most evident in the form of sexual neurosis, as the more one strives for orgasm as the end goal of sex, the more difficult it will be for orgasm to be achieved (Frankl, 1992). The antidote is dereflection by turning one's attention away from the end goal of the task to the meaning of the task. For example, orgasm is more likely to be

achieved if one's attention is directed towards the significance of sexual intercourse in the moment rather than on the end goal of orgasm. Frankl (1966) claims that pleasure should never be the end goal, for the aim of the task will be missed. Rather, one should allow pleasure to arise spontaneously as a by-product of a fulfilled meaning. Frankl (1966) explains that the pursuit of happiness is a contradiction because if happiness is the focus of attention, one fails to see the reason for being happy.

Participants who scored low on goal seeking likely had a more dereflective attitude in that their attention is focused more on the meanings of life and less on the end goals of life. These participants likely had less anticipatory anxiety going into the ayahuasca experience, which resulted in a greater opportunity to have increase in meaning, especially if existential meaning was not the end goal of the ayahuasca experience. The hyper intention principle could explain why this hypothesis was not supported by the data, as the more one seeks existential meaning as the end goal of the ayahuasca experience, the less likely it will be achieved.

The finding that low life control predicts for change in existential meaning is also somewhat paradoxical, as it is often assumed that internal, personal control (i.e. my life is in my own hands) is viewed as healthy, whereas external control (i.e. my life is in the hands of fate) is maladaptive (Fiori et al, 2004). However, low life control may not necessarily imply that one feels helpless in life, but rather it may imply that one is able to let go of controlling one's life because trust is placed in a higher power (i.e. fate, God) (Fiori et al, 2004). This paradox of control is called "spiritual surrender" and it is achieved through one's relationship with a higher power. Spiritual surrender is most useful when an individual finds oneself in a difficult situation in which personal control is no longer possible, so instead of resisting or trying to control the situation any further, the individual surrenders to a higher power (Fiori et al, 2004). This in turn

enables the individual to rid oneself of the worry while still remaining an active participant in finding a solution. The result is a greater sense of control and positive psychological outcomes because the individual is able to trust that the situation will be resolved with the help of a higher power. It is possible that low on life control implies spiritual surrender, which enabled these participants to go into the ayahuasca experience with a more open and trusting attitude, thereby creating a greater opportunity for change in meaning.

Gender Differences

The results revealed that the women in this study were more likely to have a mystical experience and were more likely to find themselves in an extraordinarily unusual state of awareness during the ayahuasca ceremonies, but it is not clear why there were such differences. These findings are perhaps related to the fact that women were less rational and more passive during the ayahuasca experience. Although it was found that the women in this sample were participating in religious practices more frequently than men, frequency of religious practice did not predict for having a mystical experience or having an unusual state of awareness during the ceremony.

It is possible that these differences are due to a cultural gender differences, such as that Western society discourages men to express vulnerability, which results in men having a harder time to surrender the ayahuasca experience compared to women (Fox, 2008). It is also worth noting that ayahuasca is considered to be a feminine spirit for most people (Labate & Cavnar, 2014), which may or may not have something to do with these results. Future research should investigate why women are more likely than men to have a mystical experience to understand these differences.

Surrender as a Predictor for Change in Existential Meaning

The findings from this study suggest a similar pattern, which point to the common theme of surrender. Surrender has several definitions including, “to give the control or use of (something) to someone else”, “to let go of” and “stop resisting” (Merriam Webster Dictionary, n.d.). These definitions relate to the predictors for change in existential meaning that were found in this study: low volitional control implies stopping resistance; low internal dialogue implies letting go [of thoughts]; low goal seeking implies letting go [of goals]; and low life control implies giving the control or use of (something) to someone else. This suggests that the main predictor for change in existential meaning is having a surrendering attitude throughout the ayahuasca experience.

To understand how surrendering could predict for change in existential meaning, it is important to understand the surrendering process beyond surface level definitions. Wolff (1976) proposed that surrendering is a state of total involvement and acceptance without imposing preconceived ideas on the experience. He compares the act of surrendering to that of being in love: a deep involvement in the other dissipates the distinction between subject and object, but there is also the risk of getting hurt for surrendering requires vulnerability. When the individual surrenders one's identity and loses oneself in the other, she is able to perceive the world through the eyes of a universality (i.e. the transcendent) rather than particularities (i.e. the ego), as “the world becomes experience in its infinity” (p.23). In this place of totality, preconceived ideas and beliefs that have been gathered over the course of one's life are suspended and put into question. The ideas and beliefs that remain intact after the surrendering experience reveal one's unique values and potentialities, which may point to the authentic purpose and meaning of one's life (Wolff, 1976).

It is perhaps the case that participants who were able to surrender to the ayahuasca experience were more likely to be temporarily liberated from preconceived notions about reality, which allowed them to see their authentic values and purpose more clearly. If this were the case, it would suggest that Frankl's idea of self-transcendence does not necessarily imply transcendence of the self through ego dissolution but rather transcendence of the self by surrendering to an ego dissolving experience. Although a mystical experience reduces ego consciousness, one's preconceived ideas about reality may remain intact if one does not fully surrender to the experience. Wolff (1976) speaks of surrendering as a process of dying and becoming, which is likely related to the theme of death and rebirth that was detected in the interview data.

Surrender has been described throughout history in religious texts, in philosophy, and in poetry as a state of conversion, transformation, metamorphosis, enchantment, inspiration, mystical union, and ecstasy (Wolff, 1976). However, there is very limited literature on the subject in academic and clinical contexts. At best, one author explored the possibility of its potential as an existential therapy,

The implications of the concept of surrender within the field of psychotherapy are significant. While perhaps not common in many therapeutic settings, the surrender experience is most likely to find its way into the therapeutic milieu where therapy and spirituality most clearly interweave: depth psychotherapy. In such a setting fundamental ontological questions and meanings of one's existence are being explored. Psychological and spiritual considerations may become indistinguishable. The act of surrender, therefore, can be seen as an existential reality which has broad-based implications for the psychotherapeutic process. With the spiritual quest and long-term psychotherapy at the deepest levels sharing similar goals, an examination of the surrender process can be approached usefully from both a psychological and spiritual base. (Hildas, 1981, p. 28)

If surrendering is the key to existential meaning, then ayahuasca shamanism is perhaps the ideal therapy for treating the existential vacuum as it teaches people how to surrender to a higher power and let go of preconceived ideas about reality.

Limitations

The finding that participating in ayahuasca ceremonies helps people increase in existential meaning should be interpreted with caution and not be generalized to all ayahuasca shamanism, since the conditions of this study were unique and there were many potentially relevant variables that could account for change in meaning. For example, participants in this study were required to travel to the Amazon jungle where the climate and environment is unique. Upon arrival, participants were assigned to drink a specific plant medicine depending on their intentions for the ayahuasca therapy. Additionally, the setting is communal and supportive, which creates an opportunity for participants to bond with others. The sample size for this study was relatively small with only 29 participants. All of the participants were all ethnically white, which is not exactly representative of the Western population. All of these factors and countless others made the conditions of this study unique. Replicated studies should be conducted with an appropriate comparison group to determine the extent that these findings can be generalized to ayahuasca shamanism as an existential therapy. For instance, future studies could have a control group go through the entire experience without actually drinking ayahuasca during the ceremonies.

It is also important to keep in mind that the findings on Carol Ryff's Scales of Psychological Well-Being could be erroneous due to an instrument error. Carol Ryff has warned

researchers not to use the ultra-short-form version because the assessment has psychometric problems and does not do a good job of covering the six well-being constructs.

Practical Implications and Future Direction

The results from this study revealed that there is a basic formula to approach the ayahuasca experience before, during, and after to maximize the chances of having an increase in existential meaning. Before participating in the ayahuasca ceremonies, it is recommended that participants go into the experience with low or no expectations and become detached from any potential outcomes. One's attention should be focused on the meaning of the experience rather than on the end goal of the experience to reduce hyper intention. Surrendering cannot be guided by effort, for this contradicts the surrendering experience, but it can be guided by concentration, devotion, and attention (Wolff, 1976). It is also recommended to go into the experience with an open and accepting attitude, letting go of control, and trusting in a higher power. The data suggests that if one's intention is to achieve a mystical experience rather than existential meaning, then it would be recommended to go into the ayahuasca experience with the goal of having a mystical experience. If the goal is to attain a profound experience instead of existential meaning, it would likewise be recommended to approach the experience with the goal of seeking meaning.

To maximize the chances of attaining insight into one's life purpose, it is recommended that the individual remain passive during the ayahuasca ceremony and not try to assert control over one's experience. To reduce anxiety about death and dying, it is recommended that participants quiet the mind or at least reduce internal dialogue as much as possible during the ayahuasca ceremony. Since death was a common theme found in the interview data (i.e.

participants felt as though they died at some point during the experience), it would be wise to prepare for and be comfortable with the idea of dying to reduce any anxiety that might arise should one's ayahuasca experience call for a symbolic death. There are various techniques and tools that can be practised beforehand to quiet the mind, such as yoga and meditation.

To maximize the chances of having a future meaning to fulfil, it is recommended that participants record the memory of the ayahuasca experience immediately after the ceremony. Since memory decays and is more prone to error as time passes, it is recommended to write down or create an audio recording of one's experience as soon as the ayahuasca ceremony is over, just as one would write about a dream immediately after waking up. Another way to retain the memory of the experience, although not as substantial, would be to speak about it with others the night of or the day after the ayahuasca ceremony.

It is worth investigating whether the increase in existential meaning that participants achieved from the ayahuasca experience is persistent after returning home or if this increase in meaning quickly subsided after leaving *Nihue Rao Centro Espiritual*. Future longitudinal studies should investigate how long the changes persist, since the whole point of attaining existential meaning is to live out a meaningful life in one's ordinary day-to-day affairs.

This study adds value to the literature of existential psychology for it hints at surrender as a potentially useful logotherapeutic intervention. Although the results are not clear-cut, they may signal the start towards deeper understandings of self-transcendence. It would be worth investigating whether Frankl's idea of self-transcendence implies surrendering of the self. Furthermore, due to the lack of academic literature on the subject, further investigations should

look into the nature of surrender, what it entails, and what its potential implications are as an existential therapy.

The opposite is also worth investigating: if surrendering is the precursor for existential meaning, could it be that a lack of surrendering leads to the existential vacuum? The irony of surrender is that it opposes Western values such as mastery, control, and efficiency (Wolff, 1976). With such values, people are propelled by goal-setting and goal-seeking, which may result in a life lived for the end goal of activities rather than for the meanings of activities. Frustration could arise not only from the hyper intention principle, but also because the meanings and aims of tasks are missed. Additionally, frustration may arise if personal control exceeds a certain threshold in challenging situations. Further investigations should investigate these possibilities.

Conclusions

The findings from this study suggest that ayahuasca shamanism can serve as a potentially useful existential therapy since most of the participants in this study demonstrated an increase in existential meaning after participating in the ayahuasca ceremonies. Although it was initially rationalized that the change in meaning would be attributed to the mystical states of consciousness that are commonly reported with ayahuasca, the results indicated that this was not the case. Patterns of the data signalled towards a surrendering attitude as the greatest predictor for change in existential meaning. The implications suggest that if one seeks the ayahuasca experience as an existential treatment, one should surrender to the experience as much as possible. However, surrender cannot be forced for that defeats the purpose of surrender. Instead, one should focus on the meaning of the experience rather than on the end goal of the experience

to create a greater opportunity for existential meaning to emerge spontaneously. This study urges researchers to further investigate the concept of surrender to understand how it relates to existential meaning and how it could be applied as an existential therapy.

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Appendix A

Letter of Invitation

Dear Nihue Rao attendee,

You are invited to participate in a research study that intends to understand the psychological events that occur during and after an ayahuasca ceremony. Anyone who will be attending the Nihue Rao centre during the time frame of December 5th-20th is welcome to join the study. This study will be conducted and administered by Paula Rayo, a psychology student from King's University College at Western University in London, Ontario, Canada. Nihue Rao is collaborating with Paula Rayo to make this study possible because the team at Nihue Rao is constantly looking for ways to monitor the work that is done at the centre. We would deeply appreciate your support by participating in this study.

Benefits of participating in this research:

- The tasks assigned in this study may help you reflect, understand and bring insight to your ayahuasca ceremony experiences.
- You will be contributing to the understanding of psychological and spiritual outcomes of ayahuasca experiences.
- You will be contributing to the movement towards integrating traditional indigenous healing methods with modern psychotherapy.

Risks:

- There are no known physical and/or psychological risks associated with the study, other than the possible mild discomfort of remembering difficult and/or personal experiences during the ayahuasca ceremony. However, you will be free to leave out any questions that you do not feel comfortable answering. Participation is completely voluntary and you will be free to withdraw from the study at any time and for any reason without penalty.

Procedure:

Upon arriving at Nihue Rao centre, you will be asked to complete three different questionnaires before you partake in any ayahuasca ceremonies. This will take approximately 20 minutes to complete. The day after any given ceremony, you will be asked to complete a second set of questionnaires and you will be asked to describe your ayahuasca experience orally or in a written format (the choice is yours). This will take approximately 20 minutes to complete. On the last day of your stay at Nihue Rao, you will be asked to complete one final questionnaire, which will take about 5 minutes to complete. All of the data provided to the researcher will remain confidential and will not be released to any third parties, including Nihue Rao. The data collected will be kept safely locked in luggage while at Nihue Rao and will be transported to Canada in carry on luggage. You will receive written feedback at the end of the study. You may receive a summary of research findings by providing your email address on the consent form.

Please consider this invitation to participate in this study. Should there be any questions about the study at this time, you may email the researcher at mrayogo@uwo.ca or you can ask her in person at the Nihue Rao centre. If you think you could be interested in participating in the study, please let Martina Drassl know at nihuerao@hotmail.com as soon as possible.

If you have any ethical concerns regarding this project, you may contact the Associate Academic Dean of my university, Dr. Renée Soulodre-La France at Renee.Soulodre-LaFrance@kings.uwo.ca.

Paula Rayo, Honours Psychology Student

King's University College at Western University

London, Canada

Appendix B

Consent Form

The purpose of this study is to investigate psychological changes that may occur during and after participating in an ayahuasca ceremony. Participation in this study will include the following:

1. You will be asked to read and sign this consent form and complete the first set of questionnaires prior to partaking in any ayahuasca ceremonies. You will be invited to complete a questionnaire that asks for some general demographic information and two other questionnaires that seek to create a psychological profile. This session should take approximately 20 minutes to complete.
2. While at the Nihue Rao retreat centre, you will be asked to complete a second set of questionnaires at least one morning after participating in an ayahuasca ceremony to measure the state of being that you were in during the ceremony, as well as to measure whether you found your experience to be mystical and profound. At this time, you will have the opportunity describe your ayahuasca experience orally as a recorded interview or written as an open-ended questionnaire. This will take approximately 20 minutes to complete. You may choose to participate in this session after more than just one ceremony.
3. On the last day of your stay at Nihue Rao, you will be asked to complete one last questionnaire, which will take approximately 5 minutes to complete. Upon completion, you will receive a debriefing form that explains the whole study.

Benefits of participating in this research:

- The questions asked in this study may help you reflect, understand and bring insight to your Ayahuasca experiences.
- You will be contributing to the scientific understanding of psychological and spiritual outcomes of Ayahuasca experiences. You will be contributing to the movement of integrating traditional indigenous healing techniques to modern psychotherapy.

Risks:

- There are no known physical and/or psychological risks associated with the study, other than the possible mild discomfort of remembering difficult and personal experiences during the Ayahuasca ceremony. Participation is voluntary. All participants are free to withdraw from the study at any time and for any reason without penalty. Participants are also free to leave out any questions or items that they do not feel comfortable answering.

To participate in this study, you will be required to disclose your name for identification purposes in order to keep track of your progress at Nihue Rao. However, your name will not be

disclosed to any third parties, and any data collected during the research will be used for research purposes only. All personal information collected will remain confidential.

Should there be any questions about the study at any time, the investigator would be glad to answer them. You will receive written feedback at the end of the study. You may receive a summary of research findings by providing your email address on this form.

If you have any ethical concerns regarding this project, you may contact the Associate Academic Dean of my university, Dr. Renée Soulodre-La France at Renee.Soulodre-LaFrance@kings.uwo.ca.

I, _____, have read the above statements and agree to participate in the
(Printed Name)

research as it has been described to me.

Signature

Date

Email Address (Optional)

Researcher: Paula Rayo (mrayogo@uwo.ca)

Supervisor: Professor Imants Baruss (baruss@uwo.ca)

King's University College at Western University

London, Canada

Appendix C

Debriefing Form

Thank you for participating in this study. The purpose of this study was to investigate the role of existential meaning in ayahuasca ceremony experiences. Logotherapy is a theory that claims that a lack of existential meaning in one's life can lead to psychological distress and unease, such as depression, anxiety, and suicidal ideation. Since many people have been traveling to South America to participate in ayahuasca ceremonies to alleviate psychological and spiritual ailments, we wanted to see if these ceremonies can increase one's feelings of existential meaning. In particular, we had three hypotheses:

- 1) Participation in an ayahuasca ceremony increases existential meaning.
- 2) Depth of alterations of consciousness during ayahuasca ceremonies is a predictor for increased existential meaning.
- 3) People who have a higher tendency to seek existential meaning are more likely to feel enhanced meaning after an ayahuasca ceremony experience compared to people who have a lower tendency to seek meaning.

In this study, you were asked to complete various questionnaires three different times. The first three questionnaires were used to create a psychological profile so that later on we could compare your initial state of being with any changes that may have occurred after experiencing an ayahuasca ceremony. The second set of questionnaires assessed your state of consciousness during the ayahuasca ceremony to investigate the second hypothesis. The purpose of the interview was so that we could understand your experience better and contextualize the quantitative data. The final questionnaire that you completed was used to compare how you felt before participating in an ayahuasca ceremony to how you felt afterwards.

We are expecting to find that participation in an ayahuasca ceremony does increase existential meaning and that altered states of consciousness play an important role in this. We also expect to find that people who have a higher tendency to seek meaning will find more meaning after participating in an ayahuasca ceremony than people who have a lower tendency to seek meaning.

This research is important because it helps us understand the science and value of these traditional healing practices. If you would like to learn more about ayahuasca ceremonies or logotherapy, please refer to the following references:

Frankl, V. (2006). *Man's search for meaning*. Boston: Beacon Press.

Shanon, B. (2002). *The antipodes of the mind: Charting the phenomenology of the Ayahuasca experience*. Oxford: Oxford University Press.

If you have any concerns or questions about the project, please contact the principle researcher at mrayo@uwo.ca or the project supervisor, Imants BaruÓs, at baruss@uwo.ca.

Thanks again for your participation,

Paula Rayo, Honors Psychology Student

King's University College at Western University

London, Canada

Appendix D Demographics

Name: _____

Age: _____

Gender: Female Male

Occupation: _____

Country of Residence: _____

Ethnicity: Native American Asian Hispanic/Latino Black or African American

Native Hawaiian or Other Pacific Islander White Other

Highest level of education:

High School Graduate College Graduate Post-graduate Degree None of these

Religious Affiliation: Buddhist Judaic Christian Muslim Own Beliefs None

Other (Please specify): _____

Frequency of religious practice: Daily Weekly Monthly Hardly Ever Never

Previous experience with ayahuasca ceremonies:

First experience 1-10 Experiences More than 10 experiences

Length of stay at Nihue Rao:

7-10 days 2-3 weeks Longer than 3 weeks

What day did you arrive? December _____

When is your last day at Nihue Rao? December _____

Attending Nihue Rao for the purposes of shamanic training: Yes No

Please explain your motivation for participating in Ayahuasca ceremonies:

Please indicate what you expect to get out of the Ayahuasca ceremonies:

Appendix E

Life Attitudes Profile (LAP)

For each of the following items, please circle the response that best reflects your present experience using the following categories:

1	2	3	4	5	6		7				
strongly disagree	disagree	Slightly	not sure	slightly agree	agree		strongly agree				
1. I feel that some element which I can't quite define is missing from my life.					1	2	3	4	5	6	7
2. I expect the future to hold more promise for me than the past has.					1	2	3	4	5	6	7
3. A period of personal hardship and suffering can help give a person a better understanding of the real meaning of life.					1	2	3	4	5	6	7
4. In my life I have very clear goals and aims.					1	2	3	4	5	6	7
5. Everyone is held accountable for their life.					1	2	3	4	5	6	7
6. I daydream of finding a new place for my life and a new identity.					1	2	3	4	5	6	7
7. I look forward to the future with great anticipation.					1	2	3	4	5	6	7
8. Every day is constantly new and different.					1	2	3	4	5	6	7
9. I think about the ultimate meaning of life.					1	2	3	4	5	6	7
10. I feel a need to develop clearer goals for my life.					1	2	3	4	5	6	7
11. My life is in my hands and I am in control of it.					1	2	3	4	5	6	7
12. Even though death is inevitable, I cannot help but be concerned about dying.					1	2	3	4	5	6	7
13. I have experienced the feeling that while I am destined to accomplish something important, I cannot put my finger on just what it is.					1	2	3	4	5	6	7
14. I think of achieving new goals in the future.					1	2	3	4	5	6	7
15. In achieving life's goals, I have felt completely fulfilled.					1	2	3	4	5	6	7
16. In thinking of my life I see a reason for my being here.					1	2	3	4	5	6	7
17. I am restless.					1	2	3	4	5	6	7
18. Concerning my freedom to make my own choices, I believe I am absolutely free to make all life choices.					1	2	3	4	5	6	7
19. I think I am generally much less concerned about death than those around me.					1	2	3	4	5	6	7
20. I feel the lack of and a need to find a real meaning and purpose in my life.					1	2	3	4	5	6	7
21. I hope for something exciting in the future.					1	2	3	4	5	6	7
22. I get a great thrill out of just being alive.					1	2	3	4	5	6	7
23. The meaning of life is evident in the world around us.					1	2	3	4	5	6	7

24. I try new activities or areas of interest and then these soon lose their attractiveness.	1	2	3	4	5	6	7
25. Death makes little difference to me one way or another.	1	2	3	4	5	6	7
26. I am seeking a meaning, purpose, or mission for my life.	1	2	3	4	5	6	7
27. I feel the need for adventure and "new worlds to conquer".	1	2	3	4	5	6	7
28. My life is running over with exciting good things.	1	2	3	4	5	6	7
29. I have discovered a satisfying life purpose.	1	2	3	4	5	6	7
30. I seem to change my main objectives in life.	1	2	3	4	5	6	7
31. It is possible for me to live my life in terms of what I want to do.	1	2	3	4	5	6	7
32. I would neither fear death nor welcome it.	1	2	3	4	5	6	7
33. Over my lifetime I have felt a strong urge to find myself.	1	2	3	4	5	6	7
34. I feel that the greatest fulfillment of my life lies yet in the future.	1	2	3	4	5	6	7
35. Life to me seems very exciting.	1	2	3	4	5	6	7
36. I've been aware of an all powerful and consuming purpose towards which my life has been directed.	1	2	3	4	5	6	7
37. Before I achieve one goal, I start out towards a different one.	1	2	3	4	5	6	7
38. I regard the opportunity to direct my life as very important.	1	2	3	4	5	6	7
39. New and different things appeal to me.	1	2	3	4	5	6	7
40. I am more afraid of death than old age.	1	2	3	4	5	6	7
41. I determine what happens in my life.	1	2	3	4	5	6	7
42. Basically, I am living the kind of life I want to live.	1	2	3	4	5	6	7
43. Some people are very frightened of death, but I am not.	1	2	3	4	5	6	7
44. My accomplishments in life are largely determined by my own efforts.	1	2	3	4	5	6	7

Appendix F

SCALES OF PSYCHOLOGICAL WELL-BEING © 2012 Carol Ryff

Circle the number that best describes your present agreement or disagreement with each statement.

	strongly disagree	disagree somewhat	disagree slightly	agree slightly	agree somewhat	strongly agree
1. I have not experienced many warm and trusting relationships with others.	1	2	3	4	5	6
2. I think it is important to have new experiences that challenge how you think about yourself and the world.	1	2	3	4	5	6
3. I tend to be influenced by people with strong opinions.	1	2	3	4	5	6
4. In many ways, I feel disappointed about my achievements in life.	1	2	3	4	5	6
5. In general, I feel that I am in charge of the situation in which I live.	1	2	3	4	5	6
6. I like most aspects of my personality.	1	2	3	4	5	6
7. For me, life has been a continuous process of learning, changing, and growth.	1	2	3	4	5	6
8. I judge myself by what I think is important, not by the values of what others think is important.	1	2	3	4	5	6
9. I am quite good at managing the many responsibilities of my daily life.	1	2	3	4	5	6
10. People would describe me as a giving person, willing to share my time with others.	1	2	3	4	5	6

11. I gave up trying to make big improvements or changes in my life a long time ago.	1	2	3	4	5	6
12. I live life one day at a time and don't really think about the future.	1	2	3	4	5	6
13. The demands of everyday life often get me down.	1	2	3	4	5	6
14. I sometimes feel as if I've done all there is to do in life.	1	2	3	4	5	6
15. When I look at the story of my life, I am pleased with how things have turned out.	1	2	3	4	5	6
16. Some people wander aimlessly through life, but I am not one of them.	1	2	3	4	5	6
17. I have confidence in my opinions, even if they are contrary to the general consensus.	1	2	3	4	5	6
18. Maintaining close relationships has been difficult and frustrating for me.	1	2	3	4	5	6

Appendix G

Interview

Name: _____

Please briefly describe your ayahuasca experience from last night and what was most memorable about it:

Appendix H**PHENOMENOLOGY OF CONSCIOUSNESS INVENTORY****INSTRUCTIONS**

Please read each statement slowly and carefully and answer as accurately as you can by circling a number between 0 and 6 that best corresponds to your subjective experience during the ayahuasca ceremony. Do this for each statement.

- | | | |
|---|---------------|---|
| 1. I was forever distracted and unable to concentrate on anything. | 0 1 2 3 4 5 6 | I was able to concentrate quite well and was not distracted. |
| 2. My thinking was clear and understandable. | 0 1 2 3 4 5 6 | My thinking was unclear and not easy to understand. |
| 3. The thoughts and images I had were under my control; I decided what I thought or imagined. | 0 1 2 3 4 5 6 | Images and thoughts popped into my mind without my control. |
| 4. I had an experience which I would label as very religious, spiritual, or transcendental. | 0 1 2 3 4 5 6 | I did not have any experience which I would label as religious, spiritual, or transcendental. |
| 5. I became aware of very intense sexual feelings. | 0 1 2 3 4 5 6 | I experienced no sexual feelings. |
| 6. I was silently talking to myself a great deal. | 0 1 2 3 4 5 6 | I did not engage in any silent talking to myself. |
| 7. I felt very, very sad. | 0 1 2 3 4 5 6 | I felt no feelings of sadness whatsoever. |
| 8. My attention was completely directed toward my own internal subjective experience. | 0 1 2 3 4 5 6 | My attention was completely directed toward the world around me. |
| 9. I felt ecstatic and joyful. | 0 1 2 3 4 5 6 | I felt no feelings of being ecstatic or joyful. |
| 10. I cannot remember what I | 0 1 2 3 4 5 6 | I can remember just about everything |

experienced.

that I experienced.

- | | | |
|--|---------------|--|
| 11. My body ended at the boundary between my skin and the world. | 0 1 2 3 4 5 6 | I felt my body greatly expanded beyond the boundaries of my skin. |
| 12. I experienced a great deal of visual imagery. | 0 1 2 3 4 5 6 | I experienced no visual imagery at all. |
| 13. I was not aware of being aware of myself at all; I had no self-awareness. | 0 1 2 3 4 5 6 | I was very aware of being aware of myself; my self-awareness was intense. |
| 14. I felt no emotions of rage whatsoever. | 0 1 2 3 4 5 6 | I felt enraged. |
| 15. My perception of the flow of time changed drastically. | 0 1 2 3 4 5 6 | I noticed no changes in my perception of the flow of time. |
| 16. I felt very frightened. | 0 1 2 3 4 5 6 | I felt no emotions of being frightened. |
| 17. My perception of the world changed drastically. | 0 1 2 3 4 5 6 | I noticed no changes in my perception of the world. |
| 18. My visual imagery was so vivid and three-dimensional, it seemed real. | 0 1 2 3 4 5 6 | My visual imagery was so vague and diffuse, it was hard to get an image of anything. |
| 19. The muscles of my body felt very tense and tight. | 0 1 2 3 4 5 6 | The muscles of my body felt very loose and relaxed. |
| 20. I experienced no feelings of love. | 0 1 2 3 4 5 6 | I experienced very strong feelings of love. |
| 21. My state of consciousness was not any different from or more unusual than what it ordinarily is. | 0 1 2 3 4 5 6 | I felt in an extremely different and unusual state of consciousness. |
| 22. I can recall nothing that happened to me. | 0 1 2 3 4 5 6 | I can recall everything that happened to me. |

23. I had an experience of awe and reverence toward the world.	0 1 2 3 4 5 6	I had no experience of awe and reverence toward the world.
24. Conceptually, my thinking was clear and distinct.	0 1 2 3 4 5 6	Conceptually, my thinking was confused and muddled.
25. I had complete control over what I was paying attention to.	0 1 2 3 4 5 6	I had no control over what I was paying attention to.
26. My bodily feelings seemed to expand into the world around me.	0 1 2 3 4 5 6	My bodily feelings were confined to the area within my skin.
27. I was continually conscious and well aware of myself.	0 1 2 3 4 5 6	I lost consciousness of myself.
28. My attention was totally directed toward the environment around me.	0 1 2 3 4 5 6	My attention was totally directed toward my own internal, subjective experience.
29. The world around me became extremely different in colour or form.	0 1 2 3 4 5 6	I noticed no changes in the colour or form of the world around me.
30. Time seemed to greatly speed up or slow down.	0 1 2 3 4 5 6	Time was experienced with no changes in its rate of passage.
31. I felt no feelings of unhappiness or dejection.	0 1 2 3 4 5 6	I felt unhappy and dejected.
32. I experienced no profound insights besides my usual cognitive understanding of things.	0 1 2 3 4 5 6	I experienced very profound and enlightening insights about certain ideas or issues.
33. I felt very angry and upset.	0 1 2 3 4 5 6	I felt no feelings of being angry or upset.
34. I was not distracted, but was able to be completely absorbed in what I was experiencing.	0 1 2 3 4 5 6	I was continually distracted by extraneous impressions or events.

35. I was not aware of any sexual feelings.	0 1 2 3 4 5 6	I experienced very strong sexual feelings.
36. My thought processes were nonrational and very hard to comprehend.	0 1 2 3 4 5 6	My thought processes were rational and easy to comprehend.
37. I felt no feelings of tension or tightness at all.	0 1 2 3 4 5 6	I felt tense and tight.
38. My memory of the events I experienced is extremely clear and vivid.	0 1 2 3 4 5 6	My memory of the events I experienced is extremely blurred and hazy.
39. I noticed no changes in the size, shape, or perspective of the objects in the world around me.	0 1 2 3 4 5 6	Objects in the world around me changed in size, shape, or perspective.
40. My state of awareness was very different from what I usually experience.	0 1 2 3 4 5 6	My state of awareness was no different than usual.
41. I relinquished control and became receptive and passive to what I was experiencing.	0 1 2 3 4 5 6	I was willfully controlling what I was experiencing.
42. I felt no feelings of being scared or afraid.	0 1 2 3 4 5 6	I felt very scared and afraid.
43. I felt no sense of timelessness; time flowed as I usually experienced it.	0 1 2 3 4 5 6	Time stood still; there was no movement of time at all.
44. I experienced very few images.	0 1 2 3 4 5 6	My experience was made up almost completely of images.
45. I did not engage in any silent talking to myself.	0 1 2 3 4 5 6	I was silently talking to myself a great deal.
46. I experienced no feelings of ecstasy or extreme happiness	0 1 2 3 4 5 6	I felt feelings of ecstasy and extreme happiness.

beyond my usual feelings.

- | | | |
|--|---------------|---|
| 47. I experienced no sense of sacredness or deep meaning in existence beyond my usual feelings. | 0 1 2 3 4 5 6 | Existence became deeply sacred or meaningful. |
| 48. My imagery was very vague and dim. | 0 1 2 3 4 5 6 | My imagery was as clear and vivid as objects in the real world. |
| 49. I felt intense feelings of loving-kindness. | 0 1 2 3 4 5 6 | I felt no feelings of loving-kindness. |
| 50. I maintained a very strong sense of self-awareness the whole time. | 0 1 2 3 4 5 6 | I did not maintain a very strong sense of self-awareness at all. |
| 51. I continually maintained a very strong sense of separation between myself and the environment. | 0 1 2 3 4 5 6 | I experienced intense unity with the world; the boundaries between me and the environment dissolved away. |
| 52. My attention was completely inner-directed. | 0 1 2 3 4 5 6 | My attention was completely outer-directed. |
| 53. My state of awareness was not unusual or different from what it ordinarily is. | 0 1 2 3 4 5 6 | I felt in an extraordinarily unusual and nonordinary state of awareness. |

Appendix I
Hood's Mysticism Scale

Circle the number that best describes your present agreement or disagreement with each statement.

	strongly disagree	disagree somewhat	disagree slightly	agree slightly	agree somewhat	strongly agree
1. I had an experience in which I realized the unity of all things.	0	1	2	3	4	5
2. I had an experience which left me with a feeling of awe.	0	1	2	3	4	5
3. I had an experience in which a new view of reality was revealed to me.	0	1	2	3	4	5
4. I had an experience which seemed holy to me.	0	1	2	3	4	5
5. I had an experience in which I felt all things were alive.	0	1	2	3	4	5
6. I experienced a perfectly peaceful state.	0	1	2	3	4	5
7. I had an experience in which something greater than myself seemed to absorb me.	0	1	2	3	4	5
8. I had an experience incapable of being expressed in words.	0	1	2	3	4	5
9. I had an experience both timeless and spaceless.	0	1	2	3	4	5

Appendix J**PROFUNDITY SCALE:**

Please respond to the following statements with regard to the experience that you have just described above using the attached scale:

1	2	3	4	5	6	7					
strongly disagree	disagree	slightly	not sure	slightly agree	agree	strongly agree					
1. This experience was profound.					1	2	3	4	5	6	7
2. During this experience, I felt that my existence became more meaningful.					1	2	3	4	5	6	7
3. During this experience, I had a sense of the sacred.					1	2	3	4	5	6	7
4. During this experience, I was in an altered state of consciousness.					1	2	3	4	5	6	7
5. What I experienced was spiritual in nature.					1	2	3	4	5	6	7
6. The word "transcendent" could be used to describe this experience.					1	2	3	4	5	6	7
7. This experience brought me closer to the truth.					1	2	3	4	5	6	7