Changes in Spirituality Among Ayahuasca Ceremony Novice Participants

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CHAPTER I: INTRODUCTION:

Context of the Problem

Psychiatry and clinical psychology have developed with the aim of relieving maladaptive psychological symptoms, partially through the use of medical technology. Presently, the field encourages the use of anti-depressants, anti-anxiety agents, and anti-psychotics to relieve symptoms from which patients suffer. Despite continuous breakthroughs in psychiatric medicine, many writers feel that this approach is questionable. For example, there are many other psychoactive compounds that could be used in taking a different approach to relieving patients' mental anguish. This approach would be to give the individual new tools and a new perspective, as opposed to providing temporary chemical relief.

One group of compounds, often called entheogens, from the Latin, meaning "god within," may harness the power of increasing spirituality, and strengthening an individual. These compounds are more typically referred to as psychedelics or hallucinogens. Some of these, in particular ayahuasca, have been used in sacred healing rituals in shamanic cultures for centuries. Ayahuasca's historical use in a wide variety of communities of spirit is evident in the literature (Luna, 2000; Wilcox, 2003). Shanon (2002), in his research conclusions, describes the spiritual power of ayahuasca:

> Personally, if I were to pick one single effect of Ayahuasca that had the most important impact on my life…I would say that before my encounter with the brew I was an atheist…and when I returned back home after my long journey to South America, I no longer was one. Likewise, a significant number of informants I have interviewed indicated that the main lesson they received from Ayahuasca was religious or spiritual. (p.260)

Problem Statement

The general mental health community is unable to utilize certain substances as potential resources to help the clients it serves because, arguably, the healing power of these substances is often ignored and restricted by government agencies. The war on drugs, as manifested through both Federal Drug Administration's (FDA) and Drug Enforcement Agency's (DEA) tight control over psychedelic substances in clinical research, prevents researchers and clinicians from utilizing potentially therapeutic tools in the evolution of both psychiatry and clinical psychology. As a result, limited amounts of research can be done looking at the effects of these substances on the human psyche.

Often the exploration of the effects of psychedelics on spiritual experience is done through individual case studies. Many of these studies are not controlled and have flawed designs. In addition, most of the literature on ayahuasca and spirituality is taken from an anthropological and/or philosophical perspective (Andritzky, 1989; Krippner, 2000; Metzner, 1998). It is my contention that an overwhelming amount of anecdotal evidence suggests that the ingestion of psychedelics in certain circumstances will increase spirituality and well-being. Therefore, I believe it is necessary that more empirical research be done, exploring ayahuasca's potential for increasing an individual's spiritual growth.

Purpose Statement

This study aims to challenge previous conceptions about psychedelics from the perspective of conservative politics. By exploring the potential benefits of spiritual well-being that ayahuasca participants may receive, this research will help pave the way for new opportunities to study the medicinal uses of ayahuasca and other psychedelics in

mental health research and clinical practice. The purpose of this study was to ask the question: Does participating in an ayahuasca ceremony change participants' subjective experiences of spirituality, and if so, how? For the purposes of this study, spirituality was defined as one's focus on, and/or reverence for, openness and connectedness to, something of significance believed to be beyond one's full understanding and/or individual existence. This may include one's relationship with God or what one understands to be their own spiritual being or process. It is hypothesized that participating in an ayahuasca ceremony will change the spiritual experience of ceremony participants in a positive direction, leading to a greater sense of spiritual well-being.

Significance Statement

It was anticipated that findings from this study would create new insights into potential therapies in the field of psychology and psychiatry. First, I surmised that the research may shed light on spiritual experience in people's lives. Questions have been raised in the field about the importance of spirituality and the contributions it has to make to one's life perspective. This research hoped to answer some of these questions while providing new understanding of how spirituality contributes to one's outlook on life.

The study also explored the impact on spirituality of participating in an ayahuasca ceremony and raised new questions concerning the value of ceremony participation. There is a growing movement in the Western world to incorporate various indigenous healing ceremonies into one's spirituality. This research examined one aspect of this phenomenon and reported on whether or not participating in ayahuasca ceremonies affected one's spirituality. In addition, I felt that the results of the study may show how

an experience with an psychedelic can produce significant changes in an individual's spiritual life.

Finally, I hoped that this study would lay the groundwork for further research in psychedelics studies, the connection between psychedelics and spirituality, and the value of spirituality in psychotherapy and in engendering personal growth. Examining spirituality is a challenge for research psychologists. I hoped that this research would be a contribution to the growing literature on how best to approach the question of spirituality, from a psychedelic perspective, in doing clinical research.

CHAPTER II: SURVEY OF THE LITERATURE

Introduction

This literature review presents the research context for the use of ayahuasca and other psychedelics (also known as hallucinogens or entheogens) as spiritual tools. First, there is a description of what constitutes spiritual and/or mystical experiences. Second, the value of spirituality in psychotherapy is reviewed. This is followed by looking at the research literature that addresses how psychedelics as agents can affect such spiritual and mystical experiences, and their use as spiritual tools is surveyed, including historical, philosophical, psychological, and clinical perspectives. Next, the clinical application of spiritual tools, such as ayahuasca and other psychedelics, is discussed, looking at clinical use in the field of psychology. Finally, studies are described that explore what ayahuasca is, its use in traditional cultures and its special psychedelic qualities that make it an effective spiritual-psychotherapeutic tool.

Spirituality and Mystical Experience

Before considering the spiritual dimensions of psychotherapy, some definitions of spiritual and mystical experiences need to be examined. James' (1902) statement that "our normal consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different" (pp. 305-306) helps us understand the kind of spiritual and mystical experiences we are studying.

There is a dimension of human experience that includes certain values, attitudes, perspectives, beliefs, and emotions, all of which can be described as spiritual. The term spirituality, which comes from the Latin, *spiritus*, meaning "breath of life," is a human

phenomenon and exists at least potentially in all persons (Stace, 1960). Spirituality is not the same as religiosity, if religiosity is defined to mean participation in the particular beliefs, rituals, and activities of a traditional religion. Therefore, it is possible to be spiritual without being religious. Grof, in a perceptive essay (Roberts, 2001) stated that "spirituality is based on direct experiences of non-ordinary aspects and dimensions of reality. It does not require a special place or an officially appointed person mediating contact with the divine. The mystics do not need churches or temples" (p. 43). Vaughan, in the same collection of essays (Roberts, 2001), wrote that the differences between spirituality and religion are very important. She stated that spirituality is "a subjective experience of the sacred, whereas religion usually refers to an organized institution that provides a creed, a code of ethics, and community of rituals for believers. Religion may or may not provide a supportive structure for a person's spiritual life" (p. 193).

Like spirituality, mystical experience is considerably different than religious experience. The main difference between the terms "spiritual" and "mystical" is that spiritual refers to one's relationship with the sacred, non-ordinary aspects of life while mystical refers to the conscious recognition of and union with ultimate reality or God. Therefore one would expect all mystical experiences to be spiritual, but not all spiritual experiences would be mystical. Underhill (1993) stated

> that mysticism, in its pure form, is the science of ultimates, the science of union with the Absolute, and nothing else, and that the mystic is the person who attains to this union, not the person who talks about it. Not to know about, but to Be, is the mark of the true initiate. (p. 72)

Later, she stated that there are three rules that may be applied as tests for mystical experience. These are: "1. True mysticism is active and practical, not passive and theoretical…2. This One is, for the mystic, not merely the Reality of all that is, but also a

living and personal Object of Love; never an object of exploration…3. Living union with this One – which is the term of his adventure- is a definite state or form of enhanced life" (p.81).

Stace (1960) said that "mystical consciousness is entirely unlike our everyday consciousness and is wholly incommensurable with it" (p. 12). It is beyond the sensory and intellectual that we experience in the everyday. Huxley (1945) quoted the mystic Lankavatara Sutra: "with the lamp of word and discrimination one must go beyond word and discrimination and enter upon the path of realization" (p. 133). Otto (1977) stated that "[The mystical experience is] inexpressible, ineffable...." (p.5), and the mystics agree. Furthermore, James (1902) stated that

> for the moment nothing but an ineffable joy and exaltation remained. It is impossible fully to describe the experience. It was like the effect of some great orchestra, when all the separate notes have melted into one swelling harmony, that leaves the listener conscious of nothing save that his soul is being wafted upwards and almost bursting with emotion. (p. 66)

Thoughts are not part of the mystical experience, they are only used to describe it despite the impossibility of doing so accurately. Huxley (1945) also quoted the Sufi mystic-poet Jalal-uddin Rumi: "Sell your cleverness and buy bewilderment; cleverness is mere opinion, bewilderment is intuition" (p. 141), which is another example of the mystical, beyond our everyday consciousness. Otto (1977) remarked that the mystical experience:

> [it] grips or stirs the human mind….The feeling of it may at times come sweeping like a gentle tide, pervading the mind with a tranquil mood of deepest worship. It may pass over into a more set and lasting attitude of the soul, continuing, as it were, thrillingly vibrant and resonant, until at last it dies away and the soul resumes its "profane," non-religious mood of everyday experience. It may burst in sudden eruption up from the depths of the soul with spasms and convulsions, or lead to the strongest excitements, to intoxicated frenzy, to transport, and to ecstasy. It has its

> wild and demonic forms and can sink to an almost grisly horror and shuddering. (pp.12-13)

Underhill (1993) explained that "mystics find the basis of their method not in logic but in life: in the existence of a discoverable 'real,' a spark of true being" (p. 24). Stace (1960) stated that mystical experience is a core beyond time and culture and is "an ultimate nonsensuous unity in all things, a oneness or a One to which neither the senses nor the reason can penetrate" (p.15). Stace described two types of mystical experience: extravertive, which "looks outward and through the physical senses into the external world and finds the One there," and, in contrast, "the introvertive way [which] turns inward, introspectively, and finds the One at the bottom of the Self" (p.15).

Stace (1960) reminded us that the great Roman Catholic mystic Meister Eckhart wrote,

> Here all blades of grass, wood and stone, all things are one…when is a man in mere understanding? When he sees one thing separated from another. And when is he above mere understanding? When he sees all in all, then a man stands above mere understanding. (p. 18)

The Manukya Upanishad noted that the introvertive mystical consciousness is beyond the senses, beyond the understanding, beyond all expression…it is the pure unitary consciousness wherein awareness of the world and of multiplicity is completely obliterated. It is ineffable peace, it is the Supreme Good. It is One without a second. It is the Self. (in Stace, 1960, pp. 20-21)

Stace (1960) stated that mysticism and religious experience are not the same thing. He did mention that there is an important connection between the two, but it is not as direct as many people think. The major difference is that the mystical involves "the apprehension of an ultimate nonsensuous unity in all things, a oneness or a One to which

neither the senses nor the reason can penetrate. In other words, it entirely transcends our sensory-intellectual consciousness" (pp.14-15). It transcends the dogma, the ritual, and the words that make up religions that point towards the mystical.

Throughout the literature review we see that it is difficult to pinpoint (at least in words) the ineffable characteristics of spiritual and mystical experience. For the purposes of this research, "spiritual" is being defined as: "one's focus on, and/or reverence, openness, and connectedness to something of significance believed to be beyond one's full understanding and/or individual existence" (Krippner, 2000). The current study attempted to determine whether or not the experience in an ayahuasca ceremony has profound effects on one's personal perceived relationship with God, or other higher, extraordinary forces or presences.

Value of Spirituality in Psychotherapy

There is a growing recognition amongst members of the mental health community that spirituality is an important part of people's lives. The transpersonal psychology movement is part of this recognition. Approximately a third of the general population in the United States considers religion to be the most important dimension of their lives (Gallup & Lindsay, 1999). Because of the pivotal nature of spirituality in people's lives, many individuals desire to have their spiritual beliefs and values integrated into counseling settings (Privette, Quackenbos, & Bundrick, 1994). Currently, there is considerable interest in examining the impact of the spiritual dimension on the psychological, social, and somatic dimensions of life. Considerable research has been conducted on the health effects of religious and spiritual behaviors on physical health and psychological and relational well-being. Based on numerous studies, it appears that

higher levels of spirituality are related to lower risk for disease, fewer medical and psychiatric problems, and higher levels of psychosocial functioning (Ellison & Levin, 1998; Gartner, 1996; George, Larson, Koenig & McCullough, 2000; Koenig, McCullough & Larson, 2001; Larson, et al., 1992; Pargament, 1997; Ventis, 1995). Sperry (2001) found that research into the relationship between spirituality and psychology revealed that individuals with higher levels of spiritual and religious commitment, as measured in their attitude and beliefs towards the Divine as well as their spiritual behaviors, tend to report higher levels of well-being and life satisfaction on psychological measures. They experience less anxiety, including less fear of death, and less worry and neurotic guilt. They have less depression and substance abuse and dependence, and report fewer suicidal impulses and less likelihood of committing suicide. Finally, they tend to show more empathy and altruism (Sperry, 2001). Interestingly, this finding seems to hold regardless of gender, ethnicity, the severity of type of disease, how the concept of spirituality is measured or defined, or with regard to the type of research design used (Levin, 1994).

Karasu (1999) describes a form of spiritual psychotherapy characterized by transformation, self-transcendence, and expanded consciousness in which treatment is targeted primarily on the spiritual dimension. It is based on a model of normative health, rather on than pathology, and eliminates and transcends formal diagnosis. The goal of this form of spiritual psychotherapy is salvation and healing, rather than cure. In short, the therapist assists the client in seeking "the self beyond itself…self-transcendence" (pp.160-161).

Many people have noted the breakdown of a spiritual perspective in Western culture. Carl Jung (1964) stated, "We have stripped all things of their mystery and numinosity; nothing is holy any longer" (p. 84). Existential psychologists have emphasized that spiritual conflict and distress are at the root of many clinical pathologies of today. Thus, psychiatry and clinical psychology cannot afford to ignore the spiritual dimension. If the existentialists are correct and the loss of a spiritual perspective produces psychological problems, then the recovery of a spiritual perspective would seem to be the most obvious treatment. In addition, the creation of a spiritual life may also be a healing agent. Jung (1933) recognized this and said that he was able to treat only those midlife patients who recovered a spiritual orientation to life. Wilber (1980, 1984) and other transpersonalists have been attempting to call attention to this neglected area of psychology more recently. Maslow (1962) said that "the human being needs a framework of values, a philosophy of life, a religion or religion surrogate to live by and understand by in about the same sense he needs sunlight, calcium and love" (Elkins, 1988, p. 206).

Previous Clinical Research with Psychedelics

Psychiatric Disorders and Psychedelics

The use of psychedelics in psychiatric research was a regular occurrence before many of these substances were made illegal in the late 1960's by the Drug Enforcement Agency. Despite the current government limitations on research, there continue to be only a handful of studies that have investigated the potential medicinal and psychotherapeutic uses of psychedelics.

There have been many proposed clinical uses for hallucinogens. One of the more interesting and well documented uses, particularly of LSD, has been in the treatment of

terminally ill patients. In their early studies Kast and Collins (1964) reported that LSD had a pain-relieving effect that had a greater duration than the immediate psychological effects. Their initial observation showed that patients for whom this effect occurred seemed to have changed their attitudes toward death. Later studies conducted by Kast (1966; 1970) concluded that LSD treatment resulted in improvements in psychological adjustment in terminally ill patients, increased their responsiveness to their families and environments, and improved their ability to enjoy everyday life (Nichols, 2004).

Studies conducted at the Spring Grove State Hospital in Maryland, showed improvement in about two-thirds of terminally ill cancer patients who had received LSD. Such improvements included elevated mood, reduced anxiety and fear of death, and reduction in the amount of pain-relieving medication required (Grof, 1975; Kurland, 1985; Pahnke et al., 1969). The researchers found that half of these patients had made significant improvement, and those patients who had the most profound experiences had the greatest overall benefits (Pahnke et al., 1970).

As a result of increased media attention and recreational use in the late 1960's and 1970's, significant restrictions were put into affect limiting access to these drugs. In recent years, efforts have begun to re-examine the potentially important medical benefits of hallucinogens (Nichols, 2004).

Treatment of alcoholism was one of the most deeply explored therapeutic uses of psychedelics, with the first alcoholic patients being treated in Canada in 1953 (Hoffer, 1967; Kurland et al., 1967). A group at the Maryland State Hospital also used the hallucinogen *N,N*-dipropyltryptamine (DPT), as supplement for therapy to treat alcoholism (Grof, 1975). The huge problem of alcoholism and the poor prognosis in

previous treatment modalities led researchers to look into the use of hallucinogens in the treatment of alcoholism (Nichols, 2004).

Researchers were originally motivated to use hallucinogens to treat alcoholism because of speculation that the effects of LSD might be similar to delirium tremens. It was hoped that these negative consequences might help to deter alcohol use. Unfortunately, the question of whether LSD treatment is effective for alcoholism was never convincingly answered. The results of a wide array of studies looking into this treatment modality are inconclusive because of differences in treatment procedures, theoretical backgrounds, biases and beliefs, and definitions of terms that existed among the various research teams that conducted research. Nichols (2004) stated that this situation was not unique to hallucinogen studies. He commented that "uncontrolled studies and post hoc definitions of success were commonplace in psychiatric research in the 1950s" (p.89)

> Based on an exhaustive review of the literature, Mangini (1998) concluded: Despite the confusion about the efficacy of LSD treatment occasioned by the limitations of previous studies, the possibility that LSD could be useful in the treatment of alcoholism remains engaging. Many possible constructions of the findings of historic LSD research have been left unexplored, and many aspects of the data remain unevaluated. (p.417)

A comprehensive look at these studies, including Mangini's analysis, points towards the idea that a re-evaluation of the use of hallucinogens as components of a comprehensive program to treat alcoholism and substance abuse may be worthwhile.

Similar early studies, looking at the possibility that hallucinogens might be useful treatments for dependence on heroin or other addicting drugs, show similar findings. The presence of poor designs, lack of controls, etc., failed to resolve the question of whether or not therapy with hallucinogens might lead to long-term abstinence (Nichols, 2004).

There are hints in the data that hallucinogens appeared to possess some utility (Halpern, 1996). More recently, Halpern (2003) has described two case studies that he has come across in his practice in which two patients successfully used hallucinogens to control addiction to heroin and sedative-hypnotics. Based on his review of the literature, Halpern concluded that hallucinogens should be looked at further and that "there may be a modern role for these compounds in treating drug dependence" (p. 352). This discussion of heroin addiction and alcoholism is very fair, and should serve as a model for other discussions.

The potential clinical uses of hallucinogens go beyond treating substance abuse disorders. Psilocybin has been shown to improve symptoms of body dysmorphic disorder significantly on several occasions when the patient had ingested the fungi (Hanes, 1996). Obsessive-compulsive disorder (OCD) is a debilitating anxiety disorder. Savage, in his 1962 study, showed the potential use for a hallucinogen in the treatment of OCD. The results indicated that after two doses of LSD, a patient, who suffered from depression and violent obsessive sexual thoughts, experienced dramatic and long-term improvement. A later case report appeared where a patient had suffered from severe obsessive thoughts and fear of contamination. The patient's symptoms began to resolve after treatment with LSD on a weekly basis for 15 months without any additional psychotherapy.

Additionally, three years after the treatment the patient was completely symptom free and functioning at a high level, both professionally and personally (Brandrup & Vanggaard 1977). Leonard and Rapoport (1987) published the case of an adolescent with OCD, who had taken LSD more than 100 times, and during the experience his "obsessive thoughts would be worse for an hour, followed by total remission for four to five hours" (p.1240). Psilocybin mushrooms or mescaline had the same effect. Additional recent

anecdotal studies have provided further evidence that use of hallucinogens may alleviate symptoms of OCD (Delgado & Moreno, 1998).

Psychiatry, Entheogens and Spirituality

There is virtually no empirical research on the affects of ayahuasca on subjective spiritual experience. Most of the research on other entheogens was done decades ago before research restrictions were made and laws were passed limiting human subject research on the affects of compounds, such as psilocybin, LSD, and mescaline.

There is some research concerning experiments with psychedelic drugs that show great similarity between drug-induced and spontaneous mystical experiences. Grof (1975) states that

> Religious and mystical experiences represent the most interesting and challenging category of LSD phenomena. This seems to be directly related to the dosage and number of previous sessions of the subject. They can also be facilitated by the special preparation, set, and setting of the psychedelic treatment technique. The experience of death and rebirth, union with the universe or God, encounters with demonic appearances, or the reliving of past incarnations observed in LSD sessions appears to be phenomenologically indistinguishable from similar descriptions in the sacred scriptures of the great religions of the world and secret mystical texts of ancient civilizations. (pp. 13-14)

Grof (1975) further points out that "the ancient theme of an encounter and interaction with spirit guides, teachers, and protectors is one of the most valuable and rewarding…experiences in LSD sessions" (p.196). He goes on to discuss how these messages usually come through "various extrasensory channels" and are not usually communicated through verbal or visual form, except in rare occasions (p.196). In these rare occasions, the "spirit guides" may take the form of either historical or mythological entities. Spirit guides often come to those participating in LSD sessions seemingly

providing protection, giving specific directives or suggestions on the participant's current life direction, general course of life (Grof, 1975).

Walter Clark (1968) conducted an experiment in which he gave LSD to eight subjects. Nine to eleven months later, he asked them to rate the intensity of their experience. The most common single rating was five – "beyond anything ever experienced or even imagined" (p. 148) – on measures such as timelessness, spacelessness, paradoxicity, presence of God, ultimate reality, blessedness and peace, mystery and rebirth. This data points toward the significant impact of this LSD experience on the subject's spirituality over time. However, the data analysis is questionable in these studies, with no explanation of tests performed on the data, or the level of significance attained.

In a well known empirical study, Pahnke (1966) systematically investigated the similarities and differences between experiences described by people identified as "mystics" and those described by ordinary subjects under the influence of psychedelic drugs. First, a phenomenological typology of the "mystical state of consciousness" was carefully defined, after a study of the writings of the mystics themselves and of scholars who have tried to characterize mystical experience. Then, some drug experiences were empirically studied, not by collecting such experiences wherever an interesting or striking one might have been found and analyzed after the fact, but by conducting a double-blind, controlled experiment with subjects whose religious background and experience had been measured *before* their drug experiences. The preparation of the subjects, the setting under which the drug was administered, and the collection of data about the experience, were made as uniform as possible. The experimenter himself devised the experiment, collected

the data, and evaluated the results without ever having had a personal experience with any of these drugs (Pahnke, 1966).

A nine-category typology of the previously-defined mystical state of consciousness was used as a basis for measurement of the phenomena of the psychedelic drug experiences. Whether or not the mystical experience is "religious" depends upon one's definition of religion and was not the problem investigated. The typology defined the apparently universal phenomena of the mystical experience, whether considered "religious" or not. The nine categories of phenomenological typology may be summarized as follows: unity, transcendence of time and space, deeply felt positive mood, sense of sacredness, the noetic quality, paradoxicality, alleged ineffability, transciency, and persisting positive changes in attitudes and behaviors (Pahnke, 1966). He found evidence indicating that the experimental group, to a statistically significant degree, achieved a higher score in each of the nine categories than the controls did. This study is one of the most compelling studies to date. In the data in Pahnke's research, there is strong evidence of the effect of the psychedelics on the subjects' mystical experience.

Downing and Wygant (1964), in their study on the effects of entheogens on attitudes towards life and self-concept, found that no new concepts in the underlying beliefs of their subjects were created in the LSD-25 induced psychedelic experiences. However new attitudes, new understandings, or new aspects of old concepts were elaborated upon. On the basis of the descriptions given, the increased ability on the part of the subjects to accept something greater than themselves seemed to be based on trust. The results showed that subjects who ingested LSD had an increase in positive religious

concepts. They also found that the subjects that received LSD only, had positive religious concepts that were reinforced during the psychedelic experience. Downing and Wygant went further to speculate that the drug effect adds nothing new to the individual conscious. The research indicated that there was only an elaboration of previously held ideas. They stated that whatever is experienced is already present, but not in conscious awareness. This study's minimal explanation and interpretation of the data given in the report is its greatest limitation.

These studies are the very few performed that have attempted to connect psychedelic experiences with spiritual and psychological experiences. The evidence is promising, but further research needs to be done.

Hallucinogens, Entheogens and Ayahuasca

The hallucinogens discussed previously are psychoactive substances capable of inducing shifts in perception, thought, and feeling without a concomitant lapse of memory or loss of consciousness. Ruck and his colleagues (1979) began using the term "entheogens," literally meaning "becoming the god that is within," for these substances. Historically, many of these substances have been used in formal religious contexts. Studies of both the historical and contemporary use of hallucinogens have suggested that the states they induce can have profoundly positive, even life-changing, effects upon individuals, often because they provide insights into meaning and psychological dilemmas (Metzner, 1999).

Ayahuasca is a psychoactive brew consumed throughout the Amazon Basin region of South America. The ayahuasca drink is made by boiling the stems of the Banisteriopsis caapi vine together with the leaves of the Psychotria viridis plant. Other

admixture plants are often included. The Banisteriopsis stems contain the Beta-carbolines harmine, harmaline, and tetrahydroharmine while the Psychotira contains N,N-dimethyltraptamine or DMT, which is a potent hallucinogen enhancing the activation of the neurotransmitter serotonin. The Beta-carbolines serve to inhibit the production of the gastric enzyme monoamine oxidase, which is normally able to break down and inactivate the tryptamines (such as DMT) while still in the gut. In this way, DMT is able to enter the circulatory system and penetrate the blood-brain barrier, thereby producing the vision-inducing effects (Strassman, 2001).

Since prehistoric times, ayahuasca has been used in South America as a healing tool and to purportedly communicate with plant and animal spirits. The term ayahuasca is a Quechua compound word meaning "vine of the (dead) spirits" (Metzner, 1999, p.1) Depending on the region and context of its use, there are a variety of other names for the brew, most notably yage, Daime, hoasca, and vegetal. Widely used in the Amazon, the use of ayahuasca was taken up by mestizos living near tribal people. This has resulted in a number of different movements that have incorporated ayahuasca into their doctrines and activities. Today there are several ayahuasca churches in South America that combine indigenous traditional elements with Christian and Afro-Brazilian elements in their patterns of use (Metzner, 1999).

The Church of Santo Daime was founded in the 1930's in Brazil. In its rituals, *Daime*, their name for ayahuasca, is consumed as a sacrament. The *Daime* is regarded as a divine being, or even as the Divine itself, and is believed to be the source of life, vitality, and health, on the one hand, and all knowledge and supreme wisdom, on the other. Another of these churches, the Brazilian Uniao do Vegetal (UDV), a religious sect

that uses ayahuasca as a sacrament, was founded in 1961. Today, the UDV numbers more than 7,000 members in 60 nucleos or churches. Members care for the Church's sick and elderly, provide food and shelter for women and children and are actively involved in many ecological projects. Both of these traditions use ayahuasca once a month in ceremonial use (Metzner, 1999).

Ayahuasca has also been adapted into contexts that are not affiliated with any particular religion. In addition to these religious organizations, ayahuasca is still used in indigenous and mestizo communities in healing ritual. In these traditions, the *curandero* (healer) conducts ceremonies on fixed nights of the week for the community using ayahuasca, shamanic techniques, and *icaros*, or "power songs". Another example of secular use of ayahuasca comes from Takiwasi, a therapeutic community in Tarapoto, Peru. Here, a group of French and Peruvian psychiatrists, psychologists, and anthropologists use ayahuasca to treat drug addicts, particularly those addicted to cocaine paste.

Finally, there is another type of setting that extends from South America to Europe and North America. These independent settings vary in form and in the manner in which they are conducted. Ceremonial leaders use techniques borrowed from more traditional settings and also from contemporary ones. These ceremonies often take place in South America and cater to tourists. In addition, and of particular importance to this research, there is an increase in frequency of the occurrence of these ceremonies in North America, led by shaman or by local experienced guides (Metzner, 1999).

Typically, ayahuasca induces powerful visions as well as hallucinations (see definitions of key terms). Significant non-perceptual cognitive effects are also

experienced. These include personal insights, intellectual ideations, affective reactions and profound spiritual and mystical experiences. Those who drink the brew may feel that they are gaining access to new sources of knowledge and that the mysteries and ultimate truths of the universe are being revealed to them. This is often in addition to a drinker's experience, or encounter with the Divine (Shanon, 2002). The visions encountered with ayahuasca are often reminiscent of ones reported in the mystical traditions of different cultures throughout the ages. It is not for nothing that psychoactive plants have been called "plants of the gods" (Shultes and Hofmann, 1979).

In a study examining Westerners who seek traditional use of ayahuasca, Winkelman (2005) found that the motivations for attending these ceremonies were primarily focused upon "issues of spiritual relations and development" (p. 214). He found participants expressed that their experiences resulted in an "increased and enhanced awareness of their own self, having obtained insight into deeper levels of their being" (p. 214). "The ideas of contact with a sacred nature, God, spirits and plant and natural energies were expressed by many participants; others emphasized the importance of their personal spiritual development being promoted by the plant experiences" (p 214).

According to Shanon (2002), with ayahuasca, the patterns of both the introvertive and extravertive, types of mysticism, as reported by Stace (1960), can be encountered. Stace's (1960) first characteristic of the mystical experience is the "unity" that the mystic directly feels that, behind the multiplicity in the world, there is oneness that is apprehended as unitary consciousness devoid of sensual form and conceptual content. This also applies to when the mystic feels that the boundaries of the self dissipate and that he or she becomes one with an existence larger than him- or herself, which is a common

experience of the ayahuasca drinker as well. Stace's second characteristic is when the mystic, and often the ayahuasca drinker, feels that time and space are no longer relevant. The third characteristic, noesis, is when the mystic regards what he or she experiences as illumination or true knowledge, which is also a common theme for ayahuasca drinkers. The fourth similar characteristic, describes how ayahuasca leads to positive feelings of blessedness, joy, peace, and happiness. The fifth characteristic manifests through a general atmosphere that ayahuasca induces – a sense of sacredness. The sixth characteristic, paradoxically, comes about through the philosophical characteristics of the ayahuasca experience, which are of a mystical character. The final shared characteristic, ineffability, involves both the mystical and ayahuasca experience, and is beyond any verbal description (Shanon, 2002).

The reported content of the visions that occur during an ayahuasca ceremony experience is of importance in looking at the spiritual affects of participation. One type of divine vision includes celestial and/or heavenly scenes. In these, the heavens part and the ayahuasca drinker witnesses Biblical scenes in which the drinker may encounter realms full of light that emanate great bounty and bliss. There are visions of angels, of the gates of heaven, and scenes of paradise. These scenes are typically described as serene and blissful, in which the supreme Good reigns. There are also typical visions of seeing God, encountering the Divine, and of being in the presence of God. This theme can be divided into two categories: one of the Divine's relationship with nature and one of the Divine's relationship with humanity (Shanon, 2002).

Another spiritual experience reported from ayahuasca sessions is that of powerful visions that Shanon (2002) calls by the Hebrew term *Hallelujah* (literally, let us praise

the Lord). “In these the entire cosmos is seen as one great symphony of praise and glory” (p. 155). These visions typically reflect the sacred dimension of being. Finally, there are also majestic visions of light (Shanon, 2002).

Although it is common that visions that have the theme of the divine have great spiritual impact, there are also spiritually uplifting and mystical experiences that occur based in visions that are more mundane. Scenes of nature, history and human predicament may have spiritual impact. It may even be that powerful spiritual and mystical experiences may be felt without any visual or hallucinatory effects at all (Shanon, 2002).

The thoughts and reflections that come from experiencing the Divine while participating in an ayahuasca ceremony are common. Shanon (2002) singles out three ideas pertaining to God encountered from the data in his study. The first two ideas have to do with the nature of God. The first regards God as beyond good or evil and encompassing them both. The second is that God has a sense of humor. The third idea is about the meaning of life, or more specifically, the reason why we human beings are here on this planet.

In a recent study, Riba (2001) examined the subjective effects of ayahuasca in healthy volunteers. By using various psychological assessment instruments, the researchers found that participants had significant dose-dependent increases on these measures. The researchers also investigated some somatic effects. They found that “modified physical sensations and nausea” (p. 90) were those most dysphoric results. Five of the six participants reported having a “pleasant and satisfactory” experience. The researchers found that the ayahuasca induced changes in the “perceptual, affective,

cognitive and somatic spheres, with a combination of stimulatory and visual psychoactive effects" (p. 94).

In the first report to focus on cognition of long-term ayahuasca-using adolescents, Doering-Silveira (2005) conducted a study of those who use ayahuasca in a religious context. The study examined adolescents who attended UDV churches in Brazil, comparing their results on various neurological tests to those in the control group consisting of adolescents who had never drank ayahuasca. The researchers found that overall there were no significant differences in performance between the ayahuasca users and the matched control group on the various neuropsychological measures. Despite finding no overall differences, the data indicated that there may be differences in subtle cognitive abilities, such as learning and encoding. The authors suggested further examination of this population for more conclusive results. Finally, the authors concluded they have found no evidence that ayahuasca has injurious effects on adolescents who participated with their families in ceremonial rituals using psychoactive substances. Furthermore, stating "we have been allowed access to study the effects and have found, at least in this pilot preliminary investigation, that ayahuasca did not have a toxic or deleterious effect on adolescent neurocognitive functioning" (p. 127).

Looking further into the psychological effects of ayahuasca, Silverira (2005) compared ayahuasca-drinking adolescents to those in a control group for psychological symptomatology. Screening tests for major DSM-IV diagnoses were used to assess the participants. The researchers found that adolescents who drink ayahuasca are comparable in a psychopathological profile to those in a control group. Despite finding similar results, the study did show slight differences. Results showed that the ayahuasca group

had less anxiety, less body image dysmorphia, and fewer attention deficit disorders. In addition, the study found that "ayahuasca using subjects were considered to be more confident, optimistic, outgoing energetic, persistent, reflective, and scored higher than control measures of social desirability and emotional maturity" (p.132). The researchers acknowledged that "It is still unclear if the reported changes can be attributed to the effect of the substance itself or to the religious affiliating process" (p. 132).

Another study on adolescents and ayahuasca has been conducted by Dobkin de Rios (2005) examining differences between users and controls on qualitative measures. Although there were no significant differences between the ayahuasca drinking adolescents and the control group, the researchers found that the ayahuasca drinking group seemed "to be more responsible, respectful, and concerned about the welfare of others….the teens appear to be healthy, thoughtful, considerate, and bonded to their families and religious peers" (p. 139).

Barbosa (2005) described psychological assessments of the first time ritual use of ayahuasca in the religious groups Uniao do Vegetal and Santo Daime. The experiences were evaluated through semi-structured interviews of the participants. The researchers found that the participants generally had positive expectancies concerning the experiences. "Visual phenomena, numinousness, peacefulness, insights and distressing reaction" were the most salient experiences while being altered by the ayahuasca (p. 197).

One of the clinical psychology studies on ayahuasca psychiatric diagnostic assessments revealed that, although an appreciable percentage of the long-term ayahuasca-using subjects had had alcohol, depressive, or anxiety disorders prior to their

initiation into the ayahuasca church, “all disorders had remitted without recurrence after entry into the Uniao do Vegetal” (Grob 1996, p. 93). The researchers found that this change was particularly evident in the area of excessive alcohol consumption, where, in addition to the five subjects who had diagnoses of prior alcohol abuse disorders, six additional subjects reported moderate patterns of alcohol consumption that fell short of achieving actual psychiatric diagnostic status on a formal structured interview. After affiliating with the ayahuasca church, all 11 of these subjects with prior involvement with alcohol achieved complete abstinence. The study also found that subjects reported that they had undergone radical transformations of their behavior, attitudes toward others, and outlook on life beyond their decrease in alcohol use. Subjects were convinced that they had been able to “eliminate their chronic anger, resentment, aggression, and alienation, as well as acquire greater self-control, responsibility to family and community, and personal fulfillment through their participation in the ayahuasca ceremonies of the UDV” (p. 94). Grob concluded:

> Although the salutary effects of a strong group support system and religious affiliation cannot be minimized, it is not inconceivable that the long-term use of the ayahuasca itself may have had a direct positive and therapeutic effect on the subjects' psychiatric and functional status. (p. 94)

Research conducted by Riba (2003) examined both subjective effects and several physiological effects. The study consisted of an experimental group that received the ayahuasca and a control group that received a placebo. The researchers chose to use measures used in previous psychedelic research. The subjective effects were measured by the Visual Analog Scale (the VAS) and self report questionnaires. The VAS consisted of the participants labeling their experience along the lines of “any effect,” “good effects,” “liking,” “drunken,” “stimulated,” “visions,” and “high” (pg. 75). Participants

showed statistically significant changes in all of the subscales and significant drug-time interactions. The Self-report questionnaires including the Hallucinogen Rating Scale (HRS) and the Addiction Research Center Inventory (ARCI) were also administered. Through administration of these questionnaires, the study found significant effects in all subcategories.

The researchers had also measured various somatic effects of the ayahuasca on the participants (Riba, 2003). They found that only diastolic blood pressure of the participants reached a statistically significant level. Neither systolic blood pressure nor heart rate was statistically different than the control group. The researchers also examined the plasma concentration of DMT. They found that the level of DMT in the blood corresponded greatly to the timeline of subjective reports given by the participants.

In the first published EEG study on the effects of ayahuasca, Don (1998) found an increase of high frequency beta ('40Hz') waves amongst those participating in a ritualized ayahuasca experience. This study investigated the change in EEG patterns after one dose of ayahuasca. Furthermore, that research showed no significant change of alpha and theta activity in the EEG following the ingestion of ayahuasca.

Hoffman (2001) conducted a study looking at the effects of ayahuasca consumption on participants' EEG results. The research "found large and statistically significant increases of both EEG alpha and theta mean amplitudes" following three doses of ayahuasca in a ceremony setting. This was a significant finding considering Don (1998) only found significantly higher beta frequency levels. Hoffman (2001) pointed out that the Don (1998) study comparatively looked at EEG levels following one dose, which may have affected the findings. Hoffman states in his findings "Ayahuasca seems to

induce and expand the hypnagogic or twilight state (correlated with an increase of theta) and at the same time keeps the individual awake and conscious (correlated with an increase of alpha)" (p. 28). He went on to consider that "in some respects the ayahuasca-altered state is comparable to meditation and it is quite conceivable that ayahuasca facilitates meditation" (p. 28). Hoffman concluded, "ayahuasca opens up people to their unconscious feelings and memories and gives them an opportunity to explore new psychological insights" (p. 29).

Biological Component

From previous research there seems to be a strong correlation between certain brain states and spiritual experience. This has been examined in various neurological studies examining not only entheogens, but other forms of altered consciousness, such as sleep and meditative states.

Budzynki (1986) stated

> In contrast to the waking or deep sleep states, there is a very special state of light sleep. Identified by an EEG pattern of theta frequencies, this transitory condition has been referred to as the reverie state, the firing of consciousness, the pre-consciousness, and the twilight state…During this rather brief period…people often experience emergent, hallucinatory, dreamlike experiences that are more disjointed and brief than those dreams associated with rapid eye movement (REM) sleep…A number of illustrious individuals from the fields of science, music, literature and art have credited the imagery produced during the twilight state for creative solutions or inspiring thoughts (pp. 429-430).

A concept proposed by Laughlin, McManus, and d'Aquili (1992), called the "Absolute Unity of Being" (AUB), refers to a psychological state during which all perception of the multiplicity of being is eradicated. Reality is perceived directly as one. This is accompanied by a profound and intrinsic sense of underlying unity, beauty, and goodness. Such states are often achieved under the effects of hallucinogens. The person

subsequently reflecting on this state does not perceive it as an illusion, hallucination, or delusion, but rather as a fundamental reality that underlies all other reality. The universe is perceived as a whole, with a sense of wholeness, goodness, and purpose to it. After the experience, this state is most often interpreted as God or union with God. The authors suggest that in these experiences of absolute transcendence, the right hemisphere of the brain produces a rush of emotion and communicates a powerful sense of the validity of pattern perception without being broken through a left-hemispheric analytic process that typically distorts the original message. The spiritual experience, as provoked by ayahuasca, and other entheogens easily fits into this framework (Newberg, 2001).

Legality

In the countries in the Amazon (Brazil, Peru, and Ecuador), the use of ayahuasca, whether in the indigenous context or in the religious contexts described earlier, is legal. In the Western world, the situation is not clear. DMT, in itself is a Schedule I substance in the United States, which makes it illegal for administration and consumption. However, it is not clear whether this makes the consumption of the ayahuasca brew illegal. Similar questions of legality exist in Canada. Recently, the Church of Santo Daime in the Netherlands, following a lawsuit, achieved legalization of ayahuasca in religious rituals (Shanon, 2002). On February 21, 2006 the United States Supreme Court ruled unanimously in favor of a small congregation that is part of the Unao do Vegetal (UDV), stating that they may use ayahuasca in their religious ceremonies. The Supreme Court pointed to the Religious Freedom Restoration Act (RFRA) in its ruling, and stated that the RFRA protected the UDV from the prohibitions of the Controlled Substances Act (CSA), which makes DMT illegal in the United States. The Court ruled that the burden of

proof was on the government to show that the use of ayahuasca would not "substantially burden a sincere exercise of religion by the UDV" (Supreme Court, 2006). Furthermore, the Court pointed to legislation showing exception to CSA in the Native American Church's sacramental use of peyote, a hallucinogenic plant. This research can barely begin to imagine the implications of this ruling on the legality of ceremonial ayahuasca use in the United States; however, certain outcomes are likely. It is predicted that ayahuasca will be obtaining more public recognition for its use in religious ceremonies, there will be more people openly using ayahuasca for religious purposes, and that the legal battle is probably far from over.

Implications of Entheogens in Therapy

There seems to be great promise for the use of entheogens in psychotherapy. It should be noted that these substances are not panaceas, but require work on the part of the user. The value of having entheogens as part of psychotherapy is that the work gets done on a different level. Alan Watts (1962) stated that entheogens "are useful to the extent that the individual can integrate what they reveal into the whole pattern of his behavior and the whole system of his knowledge" (p.16).

Chilean psychiatrist Claudio Naranjo (1979) has used ayahuasca and harmaline in analytic psychotherapy, which showed 10 out of 30 psychoneurotic patients exhibited positive changes that would otherwise be expected only after intensive psychotherapy.

Jung (1964) called the basic and transculturally symbolic patterns that are aspects of the self "archetypes" of the collective unconscious. He stated that they form the prima materia of myths, gods, and religions. The ayahuasca mythology is one example of these relatively uniform archetypical structures. Their evocation in the collective ayahuasca

sessions corresponds to the terminal phase of psychoanalysis, according to the Jungian process of individuation, in which these archetypes can emerge after the biographical contents of the unconscious have been processed and resolved. Jung considered religious rituals and symbols to be the main cultural medium to drain the psychic energy of the archetypes that otherwise would poison human beings. The manipulation of images would allow the archetypes to be clearly exhibited as something distinct from human beings. This concept of the religious cults as institutionalized psychotherapy explains the great spiritual effectiveness that has been experienced by previous ayahuasca users (Shanon, 2002).

Alan Watts (1962) stated, "the experience [on entheogens] corresponds almost exactly to the theological concept of a sacrament or means of grace – an unmerited gift of spiritual power whose lasting effects depend upon the use made of it in subsequent action" (p. 18). The value of these spiritual experiences lies beyond the time in which the person is on the substance, but the true value comes from the integration of the experiences into the individual's life. Roberts (2001) explains that

> a genuine encounter with the Ultimate does not guarantee a genuine spirituality. The experience may be authentic, but how authentic their spirituality was depends on what those who had the experience do with it…Not a few men and women who have risen to this task bear witness that entheogens first helped them open their eyes to that light. (p. xii)

KEY TERMS

Entheogen –a plant or chemical substance that awakens or generates mystical experiences (Ruck 1979). It is used to distinguish the spiritual nature of these substances and the experiences they evoke from their effects in other contexts, for which there are other terms, e.g., psychedelic or hallucinogen (Forte 1997).

Hallucination - Perception of visual, auditory, tactile, olfactory, or gustatory experiences without an external stimulus and with a compelling sense of their reality, usually resulting from a mental disorder or as a response to a drug (American Heritage Dictionary 1993).

Hallucinogen - A substance that induces hallucinations (American Heritage Dictionary 1993).

Mysticism - Immediate consciousness of the transcendent or ultimate reality or God. The term often denotes the experience of such communion as described by mystics. It also can refer to a belief in the existence of realities beyond perceptual or intellectual apprehension that are central to one's being and directly accessible by subjective experience (American Heritage Dictionary 1993).

Psychedelic - Of, characterized by, or generating vivid mental imagery, dramatic shifts in perception, altered states of awareness, and occasionally states resembling psychosis. (American Heritage Dictionary 1993).

Religion –A personal or institutionalized system grounded in belief in and reverence for a supernatural power or powers regarded as creator and governor of the universe (American Heritage Dictionary 1993).

Shaman - A member of certain tribal societies who acts as a conduit between the visible world and a purported invisible spirit world and who employs spiritual practices for purposes of healing, divination, and control over natural events (American Heritage Dictionary 1993).

Spirituality- one's focus on, and/or reverence, openness, and connectedness to something of significance believed to be beyond one's full understanding and/or individual existence. This may include one's relationship with God or what one understands to be their spiritual being (Krippner, 2000).

CHAPTER III: METHODOLOGY

Research Purpose

The purpose of this study was to inquire if participating in an ayahuasca ceremony had an effect on subjective spiritual experience. It was hypothesized that participating in an ayahuasca ceremony would effect the general subjective spiritual experience of ceremony participants in a positive direction, marked by an increase in one's focus on, and/or reverence, openness, and connectedness to something of significance believed to be beyond one's full understanding and/or individual existence. This may include one's relationship with God or what one understands to be one's spiritual being, sense of God, or one's own defined sense of powerful, extraordinary forces that one sees as spiritual.

This was measured through quantitative assessment measures and qualitative assessment measures, including written accounts, as well as interviews of the participants before and after participation in an ayahuasca ceremony.

Participants and Location

A total of 54 participants took part in the research study. Five participants served as a control group, who were administered interviews and other instruments, but did not take part in an ayahuasca ceremony. Forty-nine 49 participants served as the experimental group. These 49 were self-assigned to four different ayahuasca ceremony groups through coordination with the ceremony leaders. Upon the onset of the study, it was assumed that the participants in the different groups were not significantly different from each other. Codes were given to each of the subjects to ensure confidentiality of the materials if lost or taken during transport. The groups were formed independently by

ceremony leaders, and contained people not participating in the study. Those not taking part in the study, but attending the ayahuasca ceremony had participated in past ceremonies and therefore did not meet the inclusion criteria for this research. Through contacting the ceremony leaders, the researcher arranged for there to be four ceremony groups; one with 20 participants, one with 15 participants, one with 10 participants and one with 4 participants for a total of 49. All 49 participants in the experimental group participated in an evening-long ayahuasca ceremony. None of the 5 people in the control group participated in a ceremony. All participants in the study consisted of volunteers who were first-time ayahuasca ceremony participants, who had already planned on attending the ayahuasca ceremony in which the researcher was present. The participants' primary and first language was English (Americans and Canadians). Inclusion criteria were that participants must never have taken ayahuasca, nor ayahuasca analogues (any combination of N,N dimethyltriptamine and an monoamine oxidase inhibitor) in any setting prior to the study and needed to pass the Mini Mental Status Exam given prior to starting the study.

This study took place in a location in the San Francisco Bay Area of California and in British Columbia, Canada. Two ceremonies were conducted in each location in order to have all 49 participants take part in the ceremony. The ceremonies in California were conducted by a different ceremony leader than those in Canada. Both ayahuasca ceremony leaders were natives of Peru. The ceremonies in which the research was conducted were chosen because of a previous relationship between the researcher and the ceremony leaders. The ceremony leaders agreed to help the researcher solicit participants already planning on attending the ceremonies.

Since ayahuasca is a powerful hallucinogen that potentially increases emotional sensitivity and increases access to unconscious material (Hoffmann, Keppel-Hesselink, & da Silveira Barbosa, 2001), the researcher conducted interviews and survey instruments in a sensitive manner. Subjects could have potentially found some of the topics in the interviews uncomfortable and/or upsetting due to previous life experiences that might have been triggered during the research and possibly heightened due to the ingestion of ayahuasca. Careful consideration was made with regard to the protection of the welfare of the human subjects involved. Informed consent forms were given to participants to be signed prior to beginning the study. In addition, a Mini Mental Status Exam was given to each participant, assessing for the possible presence of psychological disorder. Participants who showed the presence of psychological disorder as a result of the exam were deemed not suitable for the study. If subjects became upset during interviews or during the completion of surveys, the procedures were ceased immediately and an hour of supportive counseling was given by the interviewer. If distress was to persist, a referral system was set up so that referrals could be made to a previously arranged licensed mental health professional. Additionally, mental health professionals in participants' home towns were contacted ahead of time and arrangements were made to assist participants if stress were to occur in the weeks or months following participation in the ceremony. An attempt was made to find licensed psychologists to be at the ayahuasca ceremonies, to have additional professional resources at the site of the research. Attempts were made to have licensed psychologists present; however, only unlicensed therapists were able to be present during the ceremonies. The therapists never needed to be utilized during the study.

The confidentiality of the participants of the study was of utmost importance in light of ethical and legal considerations. Upon collection of the data, transcripts and surveys were kept in a locked file system only accessible to the experimenter and the Chairperson of the Clinical Research Project (dissertation) committee. Prior to traveling with the data, all identifiable information was coded so that all tapes, questionnaires, and transcripts would remain confidential if materials were to be lost or taken at the border. In addition, all original tapes and transcripts will be destroyed within one year of the completion of the research (no later than June, 2007).

Data Gathering Modalities

This was a mixed design study. The study compared changes in spirituality between first-time users participating in an ayahuasca ceremony and a control group who had never participated in one. In addition a comparison of changes within participants in their spirituality before and after the ceremony was done. A demographic profile was created for each participant. The demographic data collected included, name, age, and ethnicity. In addition to the instruments discussed below, a Mini Mental Status exam was conducted with all participants prior to interviews and other instruments to test for inclusion criteria.

Researcher's Observations

The observation portion of the study consisted of the researcher sitting in the ayahuasca ceremonies while not ingesting the ayahuasca brew. The researcher therefore was able to observe the interactions of the shamans and the participants throughout the ceremony. The day following the ceremonies the researcher wrote down his observations with the goal of detail and accuracy. A written account of the researcher's observations

can be found in the results chapter which can help the reader get a sense of the particular events of these specific ayahuasca ceremonies.

Quantitative Portion

The quantitative portion of this study was performed through the use of scaled surveys on spiritual experience (See Appendices D through F). Six hours after the ceremony had concluded, the quantitative instruments were group-administered by the researcher to all participants participating in the previous night's ceremony.

Many instruments make use of terms involving religion and religiosity, most notably from a monotheistic Judeo-Christian perspective (e.g., belief in, or experience of, God). Therefore, researchers must be skeptical of the construct validity of most of the tests designed to access spiritual/transpersonal constructs. The subject population being tested may demonstrate various empirical sensitivities to certain measures due to the differences in belief systems.

The instruments chosen for this study, 1) seem to embody spiritual/transpersonal constructs in a manner which minimize or eliminate religious concepts; 2) appear to be assessing unique constructs relative to the measures; 3) appear to have satisfactory validity and reliability; and/or 4) have been used effectively in previous research (McDonald, 1995).

The Peak Experience Profile is a 184-question survey looking specifically at the experience of the participant's altered state of consciousness during the ceremony. The Spiritual Well-Being Scale and Hood's M-Scale were used to assess the general spirituality and mystical experiences of the participants. These latter instruments were to seek more stable spiritual measures. As with the more qualitative interview instruments,

these more quantitative instruments were also given to participants prior to the ayahuasca ceremony, six hours after the ceremony, one-week, and in one- and three-month follow-ups.

There were seven categories measured in the Peak Experience Profile (PEP): Nadir experience, unity, sense sacred, objectivity and reality, transcendence of time and space, deeply felt positive mood, and ineffability. The maximum score for each scale is: 110, 30, 35, 20, 40, 35, and 25, respectively. Two total scores were compiled, one including the Nadir experience and one without. The total possible score of PEP is 295; the total possible score of excluding the Nadir experience is 185.

The Spiritual Well-Being (SWB) scale "provides an overall measure of spiritual quality of life" as well as "a self assessment of one's relationship with God, and one's sense of life purpose and life satisfaction" (Ellison, 1983, p.332). The SWB is a holistic measure, with constituent scales of religious well-being (RWB) and existential well-being. SWB is the sum total score of the RWB and the EWB together. RWB and EWB scales each can range from 10 to 60; SWB total can range from 20 to 120, with a higher score representing more well-being.

The Mysticism Scale (M Scale) is an instrument intended to assess an individual's intense experiences, characterized by a sense of unity with the outside world and/or with "nothingness," which may or may not be religiously interpreted. It was created explicitly to operationalize eight of Stace's (1960) nine phenomenological criteria for mystical experience (Hill, 1999). The scores can range from a low of 32 to a high of 160.

Qualitative Portion

The qualitative portion of the study was performed using half-hour semi-structured interviews given by the researcher that were conducted within 24 to 72 hours prior to the ceremony, within 12 hours after the ceremony, and in one-week, and then in one-, and three-month, follow-up interviews. All interviews were taped and transcribed by the researcher. The interviews were designed to explore the participants' sense of spirituality in their present life. Specific questions that were used in the interview can be found in Appendix G. It was the researcher's hope to gain the trust of each of the members of the four groups prior to the interviews by working alongside the ceremony leaders and having them introduce the research to the ceremony participants prior to the ceremony through phone contact. Following the consent to take part in the research, the researcher contacted the participants directly by phone.

While in-person interviews and administration of instruments with participants was the preferred methodology, if necessary, phone interviews were conducted and administration of instruments was done through the postal service or over email.

Additionally, the researcher solicited a written subjective account of the participants' experience of the ayahuasca ceremony that was completed within 12 hours of the conclusion of the ceremony. Data for the qualitative written and interview portions of the research were compiled, analyzed and used to highlight the quantitative findings.

Procedure

1. Researcher contacted known ayahuasca ceremony leaders in California and British Columbia via letter requesting participation in current study.

2. Researcher collected phone and email contact information for all interested participants in each ceremony from ceremony leader two weeks prior to each study.

3. Researcher made contact with all participants within one week prior to each ceremony.

4. Between 24 and 72 hours prior to each ceremony, the researcher explained the details of the research, had participants sign the consent form, and conducted a Mini Mental Status exam (MMS).

5. Upon satisfactory completion of the MMS, recorded interviews were conducted and participants completed instruments prior to the first ceremony.

6. The ceremony leader performed the ayahuasca ceremony.

7. Researcher was present at ceremony, observing and building trust of participants, but did not take ayahuasca.

8. The day after the ceremony the researcher recorded his observations from the ceremony.

9. Six hours after the completion of the ceremony, group administration of qualitative instruments was given.

10. Within 12 hours after the conclusion of the ceremony, follow-up interviews and written accounts of the ceremony were conducted and collected.

11. One week after conclusion of ceremony, follow-up interviews and instruments were administered.

12. One month after conclusion of ceremony, follow-up interviews and instruments were administered.

13. Three months after conclusion of ceremony, follow-up interviews and instruments were administered.

14. The procedure above was repeated for all 54 participants. The control group of 5 participants did not take part in the ayahuasca ceremony.
15. Following the completion of data collection, data were analyzed and findings reported.

Data Analysis

Researcher's Observations

The observations of the ayahuasca ceremonies were not analyzed; however, selected items are presented in the body of this text verbatim and reflected upon in the discussion with regards to the other results.

Quantitative Data

Data for the quantitative portion of the research was analyzed through ANOVA, Regression and the Nonparametric Kruskal-Wallis test, looking at various data from the administered questionnaires from the experimental and control groups. Data from each of the measures was analyzed within the experimental groups themselves as well as between the experimental groups and the control group. Findings from statistical analyses were considered statistically significant at p values of 0.05 or more.

Regressions for Mysticism Scale and Spiritual Well Being scores were conducted to assess effects of age, gender, ayahuasca session leader/group, and relationship to the previous score.

There was a need to deal both with missing data and the large inequality in comparison sample size (see limitations below). The solution was to use nonparametric statistics. There were several methods that could be used to deal with missing data. One option was to take the first and last session scores (baseline and fifth session) as the

comparison. The researcher did notice a number of cases, especially early on in the study, where the last two or three sessions did not have M or Sp scores, so this proved to be difficult. Those analysis would have lost those people who did not make it to session 5; however, this would have been a potentially strong test of the hypotheses concerning increases in the spirituality and mysticism scores post-ayahuasca.

Another option was to select the last session in which each subject participated. This would have taken some human decision-making and time, but would have yielded some comparative data.. Averaging seemed not to be a good idea but not impossible either, the difficulty being that each subject would not have been averaging the same number of post-baseline sessions. The challenge would have been that each would have had to be done by hand. In the end, averaging all post-baseline sessions would have lost any chance of establishing changes over time, and it would have merely allowed one to tell whether the scores were higher after the ayahuasca ceremonies. The researcher decided to use a combination of the scores at time 2 and scores at time 3 (see Appendix J.)

Qualitative Data

Information collected through the written subjective experiences of the participants in the ayahuasca ceremonies was examined through content analysis. Each written account was examined for various themes as described in the literature. This study collected information on the various themes and compiled frequency data on accounts while providing examples of written statements. The themes that were examined were 1) sense of honor, respect, gratitude, and/or awe, 2) sense of connection, 3) death/near death experiences, 4) light/geometric patterns, 5) supernatural experiences, 6) self reflection,

insights on personal life, 7) sense of peace and/or calm, 8) healing, 9) spiritual experiences, and 10) desolation.

In addition to the written accounts, through information collected during multiple stage interviews, participants in the study were able to reflect upon their spirituality, the ceremonies, and the effects of participating. The transcripts of these interviews were examined by the researcher, looking for material that highlighted data from the quantitative portion of the analysis. Sections of the transcripts were chosen to display the various perspectives of the participants in the study.

Limitations and Delimitations

The researcher is aware of several limitations of this study. 1) The generalizability of the study was limited due to the self selection of the participants in the study. Often those seeking to participate in ayahuasca ceremony are expecting to have a spiritual experience. Therefore, there was uncertainty whether results of this study would determine whether participants were predisposed to having the changes hypothesized. 2) The context of the ceremony was highly spiritual in nature, being conducted by a shaman who works with the ayahuasca spiritually. Not all ayahuasca ceremonies are based in a spiritual tradition. 3) Like all experiential reports, subjects were vulnerable to faulty memory, distortion, or blatant fabrication. In addition, the pre-ceremony data collection may have influenced the effects of the ceremony on the participants. Therefore, the results would attain more validity if this procedure is replicated using the same instruments. 4) The researcher knew several of the participants in the study as they live in or are associated with the same community. This may have led to biased data as participants may have wanted to produce the results the researcher desired.

In addition to the structural limitations of the study, there were limitations as a result of the data collection. Missing data proved to be problematic. Missing data was the result of participant attrition and/or lack of response in follow-up data collection by study participants. Missing data was predominantly within the group of Canadian ayahuasca participants. Approximately half of the Canadian participants did not complete instruments starting either at the one week follow-up or the one month follow-up time. As a result, hypotheses relating to the session needed to be reworked, otherwise they would have to be excluded from the overall analyses. Because of participant attrition and not completing questionnaires at all time intervals it became very difficult if not impossible to test hypotheses relating to overall changes in effects over time. If one selected out only the participants with a full set of five session scores, this might well be roughly matched with the five controls. In several cases, there are no M or Sp scores for the last three sessions. It is hypothesized that the majority of the attrition occurred because of the long distance nature of the study and the lack of incentive for participants to continue participation. The participants in Canada were difficult to reach for follow-up interviews and administration of the instruments because contact was primarily being made by phone and over email. The researcher found that the majority of those participants who lived in Canada did not participate in the follow-up sessions beyond the one-week mark (which were all done in person). In contrast, those participants who lived near the researcher in the United States consistently participated in the follow-up sessions. All of these sessions were done in person. This phenomenon clearly needs to be taken into consideration when interpreting the results.

Another limitation to the study was that the groups participating in the study were assumed to be not statistically different from each other prior to the study. Although the results have shown that ethnicity and age were not significantly different between the groups, there are other potential differences that were not measured. Religious background, educational background, psychological history, etc could have played a part in the differences found in the data, however, these demographic differences were not examined.

There were other major hurdles in analyzing the data, one of the largest being the fact that the control group is far smaller than the experimental subjects group. It was difficult for the researcher to recruit control subjects for the study because of the lack of incentive to participate. An additional limitation of the study is that the control scores for each session were identical. This proved not to be a data entry error. One possible cause of this was that control participants were administered the questionnaires over email. It is hypothesized that because they knew they were in the control group, they responded similarly every time, possibly by submitting saved results.

CHAPTER IV: RESULTS

The results chapter of this research is divided into three main sections investigating if participating in an ayahuasca ceremony changes participants' subjective experiences of spirituality, and if so, how? The first section, researcher's observations, is the researcher's account taken of the specific ayahuasca ceremonies in which the research hypothesis was investigated. The second section, quantitative data, examines data collected through the administration of several instruments utilized in this study examining the initial hypothesis via several specific sub-hypotheses. The final section, qualitative data, examines participants' written accounts as well as a longitudinal interviews looking further into the original hypothesis.

Researcher's Observations

The California group - The California group's ceremonies took place in an old church near San Francisco. Participants were told to arrive at approximately 7 P.M so that they could begin the ceremony at 8 P.M. The logistical communications and financial matters for the ceremony were handled by a local Californian who coordinated the ceremonies. As participants arrived at the church, they found a space for their sleeping bags, pillows, and other belongings on the carpeted floor where the old pews had once been. The local coordinator greeted everyone as they entered and helped people settle in. By 7:30 P.M. all thirty people who were attending the ceremony had arrived and arranged themselves and their belongings in a circle on the floor. Some were talking to their neighbors, some stretching, some writing in notepads and others sitting in silent meditation. Meanwhile, the Peruvian shaman sat where the pulpit once did, with his own belongings – a blanket, several instruments, plastic liter bottles of ayahuasca, tobacco,

and other miscellaneous items. The shaman spoke almost no English; however, he smiled and shook hands with everyone, greeting them into the room.

As 8 P.M. approached, the ceremony coordinator went around and collected final payments from those participating in the ceremony. Upon completing financial matters, he sat down next to the shaman and called everyone's attention to the front. Participants grew silent and focused on the front of the church. The coordinator spoke of logistical information, telling people not to leave the church, pointing out where the bathrooms were, and introducing four helpers who would not be drinking ayahuasca and were there to help people if they needed assistance in any way. The shaman addressed the group, which was translated by an attendee of the ceremony who was not participating in the research. The shaman spoke of the power of the ayahuasca, calling it both "medicine" and a "teacher." He talked about how he was going to sing songs called *icaros,* which summoned the spirits into the room to help people in the healing process they were going through. He spoke of the powerful purgative effects of the "medicine" which can cause vomiting, sweating, crying, urinating, and diarrhea. He told the participants that it was best not to talk during the ceremony and to avoid making unecessary noise, as these activities could disturb the rest of the people in the group. He told participants that they should sit up during the ceremony because it helped the medicine's energy flow through their bodies more easily. Upon concluding his five-minute talk, the shaman asked if there were any questions. There were none.

The lights were turned off and a candle in front of the shaman was the only light in the room. The shaman began to whistle a song into the ayahuasca bottle. He also began smoking a cigarette. He blew the cigarette smoke into the bottle while continuing to

whistle a song to the ayahuasca. The shaman stood up in the center of the circle and ceremonially blew smoke in the four directions. He returned to his seat and called the first participant to approach him. Calling up participants from around the circle, one at a time, the shaman poured about four ounces of ayahuasca into a glass. Each participant sat or kneeled in front of him, some bowing their heads and closing their eyes, and drank the brew. Most participants winced and grimaced at the taste, returning to their seats. The shaman was the last to drink the ayahuasca, raising his glass, toasting *salud*. The shaman blew out the candle and everyone settled into the quiet, pitch black room.

In the quiet, dark room, participants occasionally broke the silence as they shuffled around under blankets or cleared their throats for approximately half an hour. Occasionally, a participant would get up and go to the bathroom outside the sanctuary. After about half an hour, the shaman began to sing, filling the room with his voice. Soon thereafter, some participants began to vomit into their buckets that they kept by their sides. Helpers silently and gracefully placed themselves around the room to help those who asked for assistance, giving them tissues, emptying their buckets and walking them to the bathrooms. The shaman continued to sing *icaros,* sometimes playing an instrument as well for about an hour as some participants continue to purge. At some point, one of the non-research participant attendees sang a song, while the shaman went around to each participant and blew tobacco smoke ceremonially on their heads, hands, hearts and back. The shaman settled back into his space in the circle and asked if anyone wanted a second cup of ayahuasca.

About one quarter of the participants crawled up to the front to get more ayahuasca. The coordinator translated for the shaman as he inquired about how each

participant was feeling. When everyone returned to their space in the circle, the singing and instrument playing continued, ranging in diverse melodies, moods and tempos. The purging seemed to match the music. Occasional whimpering and crying could be heard in the room, especially when the tone of the *icaros* was sad. Some participants left the room longer than others when they went to the bathroom and congregated near the bathrooms and kitchen, sometimes engaging each other or the helpers in conversation. The helpers encouraged the few participants who had left the circle to return to the ceremony when they were ready, repeating the shaman's earlier words that the ayahuasca works best when not interacting, when in the dark, and when inside the circle. At the third hour, the shaman invited participants to share songs with the group. Some participants brought instruments with them, some decided to sing and others hummed along, changing the energy of the room to that of camaraderie.

The ceremony ended approximately four and a half hours later with the coordinator asking everyone on behalf of the shaman if they were alright with the ceremony ending. With everyone's assent, the shaman lit the candle, blew tobacco smoke in the four directions, and closed the circle. Some participants went to sleep where they were on the floor, some went up to the shaman and coordinator to discuss their experiences, others congregated in the kitchen and had something to eat.

The next morning at 10 A.M. the coordinator and shaman held a "sharing circle" in which they invited participants to talk about their experiences during the ceremony with the group. Almost all of the participants contributed, thanking the shaman, the coordinator, and the helpers, describing both positive and difficult experiences. Most participants reflected on their appreciation and beauty of the music of the night and about

their visions of spirits. Some discussed how they felt the ayahuasca healed them, while others talked about how connected they felt to the other members. The group concluded with the shaman and coordinator telling the participants the importance of keeping a special diet for as long as possible as the "medicine continues to work for days in your body" and certain substances can hinder the ayahuasca from working.

The *Canada group* – Before the Canada group ceremonies, a local Canadian who coordinates programs led by a shaman coming up from Peru organized a meeting for all ceremony participants to discuss how the ceremonies would work and answer any questions that attendees might have. The coordinator led the meeting, letting people know about the shaman, the schedule for the evening of the ceremony and some facts about ayahuasca. He spoke of the purgative effects, of the songs called *icaros,* and the visions that many people claim to see.

The ceremonies for the Canada group took place in a yurt located on remote forested private land in the Pacific Coast wilderness of British Columbia. Participants were asked to arrive before 7 P.M. so that they could settle in before beginning the ceremony at 8 P.M. Participants found their way down dirt roads to the site of the ceremony just before dark. They gathered in the yurt, each finding a space for themselves and their belongings in the circular structure along the wall. The shaman sat at his blanket, instruments, bottles of ayahuasca and tobacco in front of him, welcoming in English each participant as he or she arrived. Participants sat around talking, taking personal items out of their bags, and arranging their blankets and pillows.

At 8 P.M. all twenty-five attendees were called into the yurt by the coordinator as the ceremony was going to begin shortly. Everyone sat down in their space, with the

coordinator next to the shaman. Both the coordinator and the shaman welcomed everyone to the ceremony. The shaman addressed the group, describing how ayahuasca was a "medicine" that he used in these ceremonies for "healing." He described how he would be singing during the ceremony, which would call "spirits" who would do the healing. He said that if people wanted more ayahuasca during the ceremony, he would call them up once, but if they wanted more at any point, they should feel free to come up to him. He also described how he would do personal healings with tobacco and/or flower water on each of the participants. He described how people should not talk to each other during the ceremony, and how staying in the yurt, or at least close to the yurt, was important, both for experiencing the ceremony, but also so as not to get lost or hurt.

The shaman began whistling *icaros* and blowing tobacco smoke into the bottles of ayahuasca and the room grew silent. The shaman lit the candle in front of him and asked the coordinator to turn off the lights. The shaman called each one of the participants by name to come up to him in order to partake of the ayahuasca. Each participant sat or kneeled in front of the shaman, taking the 4 ounces of ayahuasca in a shot glass and drank the brew, wincing and grimacing at the taste. Some participants seemed to say a prayer upon drinking. The shaman was the last to drink and blew out the candles.

The shaman began to burn *palo santo*, an aromatic wood, which filled the room with pleasant-smelling smoke. After about twenty minutes, he began to sing *icaros* and smoke tobacco. A few participants left the yurt and went to the bathroom. Some participants began vomiting into their buckets that they kept by their sides. Others settled into sleeping bags and under blankets, lying down or sitting up straight.

The shaman sang *icaros* for about an hour before inviting anyone interested to come have a second cup of ayahuasca. Several participants partook in more brew and returned to their seats along the wall. The shaman continued to sing for the next three hours, occasionally playing some native Peruvian instruments. Throughout the ceremony the shaman would call up individual members by name to come to him so that he could conduct individual healings. This would consist of him focusing his singing on each individual participant, and blowing either tobacco smoke or flower water on him or her. He would also talk briefly with each participant, asking how he or she was feeling. Throughout the ceremony some people left the yurt to go use the bathroom or look at the natural forest surroundings. Many of the participants groaned, whimpered, cried, and purged throughout the ceremony.

Approximately four hours later, the shaman lit the candle in the middle of the room, concluding the ceremony. Participants gathered in small groups, went to sleep, or went outside to take in the natural surroundings. The next morning the shaman asked everyone to gather at 9 A.M. in the yurt to share some of their experiences from the ceremony. Participants shared feelings of awe, inspiration, thankfulness, and about beauty of their visions. The shaman concluded the group by discussing the value of the medicine in creating healing in participants' lives and reminded the group of the importance of keeping a special diet to increase the effectiveness of the medicine.

Quantitative Data

The initial hypothesis was broken down into five specific hypotheses in order to examine the quantitative data. It was hypothesized that:

1) Both the experimental groups (individually and as a whole) would show greater changes in both the SWB and M Scale scores in post ayahuasca ceremony sessions than the control group as compared to their baseline scores.

2) The SWB and M-Scale scores would increase from session one to two and then slowly decrease back towards the session 1 score.

3) The session 1 scores would be the lowest of all scores.

4) Higher Peak Experience scores would be correlated to greater differences in SWB and M-Scale scores over time for experimental group subjects.

5) Greater Peak Experience scores would lead to longer lasting changes in SWB and M-Scale scores.

Examining the sub-hypotheses proved to be difficult because of missing data for follow-up sessions. Particularly participant attrition and lack of completion of instruments in the Canada ayahuasca group, was detrimental in analyzing Spiritual Well Being and Mysticism Scale instruments, beginning at the one-week follow-up interval and worsened at the one-month and three-month intervals.

Demographic Analysis

The average age of the ayahuasca ceremony participants was 33 years. There were 23 males and 26 females. The average age of those in the control group who did not take part in the ayahuasca ceremony was 31 years. There were 3 females and one male in the control group. All participants in both the ayahuasca group and the control group identified as Caucasian. Regressions for the Mysticism Scale score and the Spiritual Well Being score were conducted to assess effects of age, gender, and ethnicity on the results. It was found that neither age, gender, nor ethnicity data was statistically significantly

different between the groups in predicting the scores on these two measures at a p value of 0.05.

Spiritual Well Being Scale

The ayahuasca ceremony group had a mean score of 83.32 on the Spiritual Well Being scale (SWB) at baseline. The control group's mean score was 73.20 at baseline (see Table 1.) Through the data analysis (Kruskal-Wallis non-parametric test), it was found that there was not a statistically significant difference in the scores between those taking part in the ayahuasca ceremony and those in the control group on the Spiritual Well Being scores at baseline. There was no difference between the two ayahuasca groups at baseline as well, with all of the analyses having p values far above 0.05.

The ayahuasca group's mean SWB score increased an average of 4.68 points where the control group increased an average of 0 points between baseline and the follow-up score. Participating in a specific ayahuasca group (the Canada group) had a stronger prediction on the SWB score than whether or not someone was in the ayahuasca ceremony group or the control group. That is, there was a significant difference between the two ayahuasca groups' SWB score at follow-up (the Canada group 79.57 compared to the California group 91.56) when the baselines scores were not significantly different (the Canada group 84.63 compared to the California group 80.21). Despite this finding, the Spiritual Well Being scores for the whole ayahuasca group were significantly different from the control group scores at p values of 0.05. (see Tables 2 and 3.)

TABLE 1. Spiritual Well Being Scale Scores

Group	Baseline Mean Score	Follow-up Mean Score	Difference of Means
Canada	84.63	91.56	6.93
California	80.21	79.57	-0.64
Combined	83.31	87.99	4.68
Control	73.20	73.20	0.00

Table 2. Group Statistics Spiritual Well Being Scale Within Aya Groups

	Participation in ayahuasca session	N	Mean	Std. Deviation	Std. Error Mean
sp total session 1	Ayahuasca sessions - leader 1	33	84.6364	14.5443	2.5318
	Ayahuasca sessions - leader 2	14	80.2143	11.4232	3.0530

Table 3. Group Statistics Spiritual Well Being Scale Between Groups

	Whether participant did or did not take part in ayahuasca ceremonies	N	Mean	Std. Deviation	Std. Error Mean
sp total session 1	Took part in ceremonies	47	83.3191	13.7190	2.0011
	Did not take part in ceremonies	5	73.2000	19.9048	8.9017

Through using paired sample t-tests it was found that there was not a significant difference in change in score between the baseline and time two SWB scores when comparing the whole ayahuasca group's change in SWB score of 4.68 with the controls group's change in SWB score of 0.00. However, there was a significant difference between the Canada ayahuasca group's change in score of 6.93 as compared to the California group's change in score of -0.64 and the controls. Despite there not being a significant difference in the change of the scores between the whole ayahuasca group and the control group at a p value of 0.05, there was a noticeable difference in change in score of 4.68 points between the two (See Table 4).

Table 4. Multiple Comparisons - Difference in SWB Baseline to Time 2

Dependent Variable	(I) Participation in ayahuasca session	(J) Participation in ayahuasca session	Mean Difference (I-J)	Std. Error	Sig.
Spiritual Well Being Difference	Ayahuasca session Canada	Ayahuasca session California	7.63	3.30	0.06
		No ayahuasca session	7.00	5.00	0.34
	Ayahuasca session California	Ayahuasca session Canada	-7.63	3.30	0.06
		No ayahuasca session	-0.64	5.37	0.99
	No ayahuasca sessions	Ayahuasca session Canada	-6.98	4.95	0.34
		Ayahuasca session California	0.64	5.37	0.99

Reflecting on the sub-hypotheses, and on hypothesis 1 specifically, the data showed the anticipated results are partially true. The Canada group showed greater changes in the SWB scores in post ayahuasca ceremony sessions than the control group as compared to their baseline scores. This was neither true of the California group, nor the ayahuasca group as a whole compared to the control group.

Sub-hypothesis 2 was only partially analyzed because of the missing data due to participant attrition after the second time interval. Despite this, the data did show that there was a significant overall increase in SWB scores in the combined ayahuasca group from previous to the ayahuasca ceremony and following the ceremony. However, the California group did not show this increase at p values of 0.05.

Sub-hypothesis 3, which predicted that the pre-ceremony scores would be the lowest of all scores, did not prove to be entirely true. The overall ayahuasca group did show an increase in SWB score of 4.68, as did the Canada group (6.93) from baseline to follow up score. However, the California group showed a slight decrease of 0.64 in score on the SWB.

Mysticism Scale

The ayahuasca ceremony group had a mean score of 133.40 on the Mysticism scale (M-scale) at baseline. The control group's mean score was 131.20 at baseline (see Table 5.) Through the data analysis (Kruskal-Wallis non-parametric test), it was found that there was not a statistically significant difference in scores between those taking part in the ayahuasca ceremony and those in the control group for the Mysticism Scale scores at baseline. There was no difference between the two ayahuasca groups at baseline as well with all of the analyses having p values far above 0.05.

The Mysticism Scale scores post-ceremony were best predicted by baseline scores, quite strongly in fact, and far more so than participating in one or the other of the ayahuasca ceremonies (Canada or US group). The M-Scale score seemed to be measuring something participants respond to similarly at different times and it might even be "trait-like."

TABLE 5. Mysticism Scale Scores

Group	Baseline Score	Follow-up Score	Difference of Means
Canada	135.45	140.51	7.65
California	128.57	133.64	5.07
Combined	133.40	138.48	6.77
Control	131.20	132.00	0.80

It appears that the strongest predictor of the mysticism score at Time 2 was the mysticism score at baseline. The second best predictor was the score of the ayahuasca group, with the Canada group having higher scores (140.51) than the California group (133.64), however this difference was not statistically significant according to the Kruskal-Wallis test. Participant gender and age had no predictive value, nor did

participating in an ayahuasca ceremony or not taking part. The average followup Mysticism score for the combined ayahuasca group was 138.48 which was not statistically significantly different from the control group follow-up score of 132.00. Therefore, there was a difference between the two ayahuasca groups, more so than being in an ayahuasca group versus not being in one (see Table 6 and 7), however, these differences were not statistically significant at a p value of 0.05 according to the Kruskal-Wallis test.

Table 6. Group Statistics Mysticism Scale Within Aya Groups

	Participation in ayahuasca session	N	Mean	Std. Deviation	Std. Error Mean
mysticism score session 1	Ayahuasca Group - Canada	33	135.4545	18.9985	3.3072
	Ayahuasca Group - California	14	128.5714	23.1341	6.1828

Table 7. Group Statistics Mysticism Scale Between Groups

	Whether participant did or did not take part in ayahuasca ceremonies	N	Mean	Std. Deviation	Std. Error Mean
mysticism score session 1	Took part in ceremonies	47	133.4043	20.3092	2.9624
	Did not take part in ceremonies	5	131.2000	17.4270	7.7936

Through using paired sample t-tests it was found that there was not a significant difference in change in the score between baseline and time two M-Scale scores when comparing the whole ayahuasca group's change of .677 in score with the controls change in score of 0.80 at a 0.05 p value. However, there was a significant difference between the Canada ayahuasca group's change in score of 7.65 as compared to the California group's change of 5.07 and the controls' changing 0.80. Despite there not being a

significant finding, there seemed to be a trend, with the whole ayahuasca group having a greater difference in the scores than that of the control group (see Table 8).

Table 8. Multiple Comparisons - Difference in Mysticism Scale Baseline to Time 2

Dependent Variable	(I) Participation in ayahuasca session	(J) Participation in ayahuasca session	Mean Difference (I-J)	Std. Error	Sig.
Mysticism Difference	Ayahuasca session Canada	Ayahuasca session California	2.58	3.43	0.734
		No ayahuasca session	6.85	5.17	0.388
	Ayahuasca session California	Ayahuasca session Canada	-0.58	3.43	0.734
		No ayahuasca session	4.27	5.61	0.728
	No ayahuasca sessions	Ayahuasca session Canada	-6.85	5.17	0.39
		Ayahuasca session California	-4.27	5.61	0.728

Examining the sub-hypotheses, and hypothesis 1 specifically, the data showed the prediction to be partially true. The Canada group showed greater changes in the M-Scale scores in post ayahuasca ceremony sessions than the control group as compared to their baseline scores. This was neither true of the California group, nor the ayahuasca group as a whole compared to the control group.

Sub-hypothesis 2 was only partially examined because of the missing data due to participant attrition after the second time interval. The hypothesis was not confirmed because the data showed that there was not a significant increase between pre-ceremony and post-ceremony M-Scale scores for the ayahuasca drinking groups. There was a trait-like quality to the M-Scale score.

Sub-hypothesis 3, which predicted that the pre-ceremony mysticism score would be the lowest of all the scores, did not prove to be entirely true. The whole ayahuasca

group did show an increase in the M-Scale score, as did each individual ayahuasca group, however, these increases were not statistically significant.

Peak Experience Profile

The Canada ayahuasca group had higher Peak Experience Profile (PEP) scores of 165.21 as compared to the California ayahuasca group, which had a score of 142.78. The control group was not administered the PEP. Total PEP scores didn't differ significantly between the two ayahuasca ceremony groups (p value of 0.05), but when the Nadir score was removed, the two groups did differ significantly (p value of 0.05), with the Canada ayahuasca group having a higher Total - Nadir score (130.5) than the California ayahuasca group's score (102.36).

TABLE 9. Peak Experience Profile Scores

Group	Total Score	Total Score Minus Nadir
Canada	165.21	130.5
California	142.78	102.36

This corresponds to the Canada ayahuasca group having both higher M-Scale and SWB follow-up scores. This suggests that the PEP scores can also be related to the subsequent scores and that something about the two groups differed to produce different PEP and subsequent scores, but that it didn't last over the whole time course, and that simply taking part in an ayahuasca ceremony did not have the hypothesized effects (see Table 10).

Table 10. Peak Experience Profile ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Total PEP score	Between Groups	4984.751	1	4984.751	2.176	.147
	Within Groups	105380.916	46	2290.889		
	Total	110365.667	47			
Total PEP without nadir score	Between Groups	7854.202	1	7854.202	6.258	.016
	Within Groups	57733.214	46	1255.070		
	Total	65587.417	47			

Tables 11 and 12 show partial and full correlations of Mysticism Scale and Spiritual Well Being and the PEP scores.

Table 11. Peak Experience, Correlation with Mysticism Scale Score

		Total PEP score	Total PEP without nadir score	Participation in ayahuasca session	Mysticism score at Time 3 or 2
Total PEP score	Pearson Correlation	1.000	.934	-.213	.421
	Sig. (2-tailed)	.	.000	.147	.003
	N	48	48	48	48
Total PEP without nadir score	Pearson Correlation	.934	1.000	-.346	.508
	Sig. (2-tailed)	.000	.	.016	.000
	N	48	48	48	48
Participation in ayahuasca session	Pearson Correlation	-.213	-.346	1.000	-.317
	Sig. (2-tailed)	.147	.016	.	.019
	N	48	48	54	54
Mysticism score at Time 3 or 2	Pearson Correlation	.421	.508	-.317	1.000
	Sig. (2-tailed)	.003	.000	.019	.
	N	48	48	54	54

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 12. Peak Experience Profile Correlation with Spiritual Well Being Scale Score

		Total PEP score	Total PEP without nadir score	Participation in ayahuasca session	Total SWB score at Time 3 or 2
Total PEP score	Pearson Correlation	1.000	.934	-.213	.238
	Sig. (2-tailed)	.	.000	.147	.108
	N	48	48	48	47
Total PEP without nadir score	Pearson Correlation	.934	1.000	-.346	.383
	Sig. (2-tailed)	.000	.	.016	.008
	N	48	48	48	47
Participation in ayahuasca session	Pearson Correlation	-.213	-.346	1.000	-.462
	Sig. (2-tailed)	.147	.016	.	.001
	N	48	48	54	53
Total SWB score at Time 3 or 2	Pearson Correlation	.238	.383	-.462	1.000
	Sig. (2-tailed)	.108	.008	.001	.
	N	47	47	53	53

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

What the data in Tables 11 and 12 suggested was that both the mysticism and the spirituality scores are related to the PEP scores, but that the Mysticism Scale scores are more strongly related to the PEP scores (Sig. 0.003) than the Spiritual Well Being scores (Sig. 0.108). This may suggest that people's peak experiences were more strongly related to previously existing degrees of mystical experience than either to previous spirituality or, unfortunately, given previous regressions, to participation in an ayahuasca ceremony or not.

Examining the sub-hypotheses, the data showed that hypothesis 3 was verified. Higher Peak Experience scores were correlated to greater differences in SWB and M-Scale scores over time for experimental group subjects. This was most evident in the

higher PEP scores of the Canada group and the greater differences in scores between time one and time two for that group.

Unfortunately, sub-hypothesis five, examining if greater Peak Experience scores would lead to longer lasting changes in SWB and M-Scale scores, was unable to be analyzed due to the missing data for follow-up sessions beyond the day after the ceremony.

Qualitative Data

Written Accounts

At the completion of the ayahuasca ceremony, participants were asked to provide a written account of their experience. Out of the 49 participants who took part in the ayahuasca ceremony 45 stated that they had positive experiences. Two participants, both from the California group, stated that they had "no [drug] experience" from the ayahuasca during the experience, which they found frustrating. In addition, two participants from the California group, stated that they had "bad" and "unpleasant" experiences.

The powerful effects of the ceremonies could be seen in the immediate responses of participants in their written accounts within twelve hours of the ceremony. From what was written the researcher noticed several common themes that emerged during participants' ceremony experiences. The most popular themes discussed in the reports were recorded. These themes were 1) sense of honor, respect, gratitude and/or awe, 2) sense of connection, 3) death/near death experiences, 4) light/geometric patterns, 5) supernatural experiences 6) self reflection, insights on personal life, 7) sense of peace and/or calm, 8) healing, 9) spiritual experience and 10) desolation.

Approximately 55% of participants experienced a *sense of honor, respect, gratitude and/or awe*. The participants expressed these feelings in various ways. Some stated that they felt these feelings particular to the immediate situation of the ayahuasca ceremony. One Canada group participant reflected "deep thanks and respect for the profound gift that the shaman brought" to the group. Others expressed a sense of gratitude for "everyone present" at the ceremony. Others expressed a sense of awe and gratitude for the opportunity to participate in the ceremony. For example, one of the Canada group participants stated "I am overwhelmed with great honor for the blessing of this sacred ritual." Another way in which these feelings were expressed was through a general sense of awe for life in general. One participant reflected upon the ceremony, calling it "a profound sense of significance." Another participant stated "A sense of lingering awe and thankfulness continues." Finally one participant handed in her written account, still in tears, with "thank you, thank you" written on it.

Another common theme was a *sense of connection*, which over 50% of the participants reported in their written accounts. Some of them felt connection to personal relationships in people's lives (those present in the ceremony, family members, partners), while others felt connection with nature, god or the divine. One participant recollected having "a deep connectedness with those next to me." Another participant recalled "see[ing] the faces of my peers and felt grateful for my relationships with them" during the ceremony. Others recounted feeling connected to those most important in their lives. A participant stated that from the ceremony, "a reflective process ensued in which I affirmed my relationships with different people in my life and resolved to set up meaningful interactions with

many of them." The morning following the ceremony, a California group participant wrote:

> Ayahuasca taught me, or is just beginning to teach me, my most important role in the world: being a teacher and a student. Only through humility can you learn, and be open to the wisdom of others. And with what wisdom you acquire comes responsibility to use those gifts, and the talents of clarity in expression, understanding of others, and knowledge of context to pass along to others these things I have received. In this way I felt a deep and personal connection with everyone, and wanted to be caring toward all the beings of the world. I have not had as deeply spiritual of an experience before.

Finally, others expressed a strong connection with god-like forces. One reflected that they "never before felt something so close to being one with the divine." Another stated "I felt like I was one with the universe, connected to everything, everywhere."

A third theme that came out of the written accounts was that of *death or near death experience*. Approximately 10% of participants in the ceremonies reported having some experience around death. These experiences varied from feeling that one died during the experience to realizations about what death means. One Canada participant stated, "I thought of death as I never had before. Not as the end or something to fear, but instead as a re-unification with the love, beauty and truth that was manifesting around, above and through me." One California ceremony participant said that during his visions he realized that he "had to become weak and die before I got healed."

The fourth theme that emerged was the presence of light and geometric patterns in the visions of the participants. Almost 60% of those who took part in the ceremony wrote about such experiences in their written accounts. One California participant observed "many colors and beautiful shapes that looked like Meso-American architecture." Another participant in the Canada group reflected that she observed "the woman on my

other side was glowing with geometric patterns." Still another Canada group participant saw "tiny neon geometric squiggles or fractals in space" during the ceremony. One participant described her visions as "Colors fluorescent and iridescent around things – delicate four dimensional images – fine exquisite design and art work – patterns moving. Escher-ish."

Supernatural experience was the fifth theme that was frequently observed by the participants. This theme includes becoming invisible, astral projecting, interacting with spirit creatures, spirit guides, or spirit animals. Here, too, over 40% of the participants had this experience. One from the Canada group stated "at one point it felt as if I was being ushered into the world of the spirits." Another reflected "I felt communication with spirits…then I felt and saw wrathful deities." Another said that she "felt the presence of dancing snakes [and] jaguars peering in through the darkness guiding" her. Further, one of the participants from the California group stated that he felt very "aware of the great plant spirit."

Approximately 50% of the participants shared the sixth common theme of *personal reflections and insights.* These types of experiences included participants examination of personal interactions from their past and reflections on attitudes and beliefs. One Canada group participant stated that as a result of the ayahuasca ceremony he had a new "understanding of past traumas." Another stated she was able to "transcend the limits and anxieties of [her] body." One Californian participant stated he "got a reaffirmation of [his] purpose and feel[s] more committed to it." Another explained in his written account "I gained huge insights into my physical and emotional challenges." Furthermore, another stated that she experienced "a sense of insight into some of my

relationships past and present and recommended I let go of some painful energy." A Canada group participant was able to gain insight through experiencing "feelings and thoughts about how I am not fulfilling my potential." Yet another had the opportunity to reflect through the "sense of reliving of places from my youth." A Canada group participant shared "I felt that the overall experience has somehow dissolved much of the pain and anxiety I have been immersed in over the past year and my sense of spiritual identity has been remembered or reawakened."

A *sense of peace and calm* was a theme written in approximately 40% of the accounts. Many of the participants, even those who had challenging experiences during the ceremony felt a strong sense of calm. Most of the reflections on this state of being seemed cosmic in nature, rather than merely describing one's current state of mind. A participant from the Canada group stated that he felt "a great sense of love, compassion, peace and joyful calm." Another remarked that she " arrived at a place where everything felt calm, where I felt in the center of all."

The eighth common theme was that of *healing*. About 40% of accounts written by participants discussed healing on a personal level or global level. One Canada group participant wrote that she experienced "truly feeling the acceptance of healing through the sacredness and intention of the ritual experience." Another participant felt that the ceremony was "deep and profoundly healing."

The ninth common theme was that of the sacred, a higher power or of god. Nearly half of the participants in their ayahuasca visions during the ceremony mentioned the presence of "god," "the divine," or some intangible, difficult to describe force that exists outside of everything else. One California group participant wrote, "My sense of

spiritual identity has been `remembered' and reawakened." One participant called the ceremony "a sacred experience." Another reflected "Everything is vibration. Color and light. I remember."

The final common theme was that of desolation. Approximately 10% of those who participated in the ayahuasca ceremony during some part of their experience, felt an overwhelming unpleasant feeling. Some of the participants re-experienced traumas from earlier times in their lives, while others went to demonic spaces. One California group participant recounted "a sense of restless energy overcame me, wrought with fear and concern." Another recalled "I kept feeling awful…I couldn't find peace."

Interviews

Through information collected during multiple-stage interviews, participants in the study were able to reflect upon their spirituality, the ceremonies, and the effects of participating.

Definition of Spirituality – Participants were asked if the ayahuasca experience had affected their definition of spirituality and how? Over 90% of participants did not change their definition of spirituality after participating in the ayahuasca ceremony. In general, participants continued to hold their pre-ceremony ideas on what spirituality is and how it plays a part in their lives. From the morning following the ceremony through the three-month follow-up interview this held true. For example, at the one-week follow-up after the ceremony, a Canada group participant expressed "I don't think [my definition] has changed that much."

Spiritual Beliefs – Prior to the ceremony, participants were asked their definition of spirituality. One Canada group participant stated that spirituality "is the connection through everything seen and unseen. It is feeling connection with nature, inanimate

objects and people…What we see right here and right now isn't everything that is going on." Another Canadian group participant shared that spirituality is the "communion with spirit…It is something sacred. It is something intangible. It is at times an abstraction and specific at other times. It is dual nature. It has many aspects and facets to it." One California group participant stated that "spirituality is that which allows you to connect not just to a higher being, but to all beings throughout the universe." One other California participant stated that "spirituality is about seeing the perfectness in everything…there is a sense of being…a recognition...a sense of inner peace."

Participants were asked if participation in the ceremony changed their beliefs about spirituality. Despite participants' definitions of spirituality not being affected by participation in the ceremony, more than 75% of participants did find that there was an impact on their spiritual beliefs. Although a majority of participants did have novel experiences during the ceremony, they did not consider them to lead to new spiritual beliefs. Most of the participants felt that they did not gain new spiritual beliefs, but were reminded of old ones, or that their prior beliefs were strengthened and reconfirmed because of the ayahuasca ceremony. Immediately following the ceremony, a Canada group participant explained how "It has deepened and reaffirmed my definition of spirituality. It is a crystallization of the actual power of healing. More than just an idea or vague concept." Other participants expressed similar views of how the ceremony didn't bring new ideas or beliefs. A participant in the Canada group participant one week after the ceremony stated that the ceremony "reaffirmed some of my spiritual emotions. It has not changed any of my beliefs. It has brought attention to certain aspects of myself such as opening creativity."

A Canada group participant one month following the ceremony stated that his spiritual beliefs were "not different, but the actualization of my beliefs is taking shape. It has been within the scope of my rational mind that all things are united and nothing can be considered…separate from the All of existence, but now I feel as though I am living that awareness more than just holding the thought of it."

Others were more ambivalent about the experience's affect on their spirituality. A Canada group participant one month later stated,

> I hold the beliefs differently, in some ways, though I am still very programmed not to believe. My spiritual awakening continues to explore this tension between knowing belief is reality and also doubting so much. I guess I am talking about my faith, my faith has been affirmed and strengthened even though I still retain my doubt: but none of the core beliefs have changed, only in how I relate.

A California group participant three months after the ceremony still felt some of the effects, holding the "knowledge that there is something there to be opened to." A Canada group participant, three months later continued to believe that her spiritual beliefs had "strengthened." She went on to say that they were now "tangible. [I] feel it rather than know it in my head. More confirmed things I've thought about in the past and shown me new aspects."

One Canada group participant stated at the three-month follow-up that the effect "fades a lot." She continued: "sometimes I can call up the feelings check in sessions help articulate and look at how things change for me."

Importance of Spirituality – Participants were asked if spirituality was more, less or equally important to them after the ceremony. Immediately following the ceremony about 50% reported that it was more important and about 50% reported that it was

equally important to them. No participants reported that their spirituality was less important to them. This continued to be the trend throughout the follow-up interviews.

One week following the ceremony a Canada group participant reflected on how the importance of spirituality in his life wasn't something new. "It is always important to me, but I always seem to forget. Taking the ayahuasca helped me remember who I am and who we are." One month following the ceremony another participant in the California group continued to feel the effects of the ceremony on his spirituality stating, "My spirituality seems more personal and present on a moment to moment basis. I feel myself dealing with things in new ways. I feel more in synch with other people and energies. Spirituality is more important to me. I see it playing a role in different situations more. I'm looking towards it more and looking to draw on it more in times in need and even in good times. I'm experiencing myself differently in my personal relationships."

Change in experience of God/Higher Power – Participants were asked if they "experienced change in [their] belief in God or a higher power?" Less than 5% of participants stated that they experienced a change in their concept of God or a Higher Power at any point during the study.

Participation in Spiritual Practices – During the interview, participants were asked if their experience changed their ideas about participating in or engaging in any practices that may be described as spiritual. As time passed and interviews were conducted, many participants continued to reflect upon the ceremony and notice the effects it had on their spirituality. Over 75% grew interested in participating in new spiritual practices, such as yoga, meditation, further ayahuasca ceremonies, etc. However, with time, over half of the participants expressed sentiments recognizing that the

emotional effects of the ceremony were not as strong, new spiritual practices became less important, and “the business of everyday life pushes it to the back of my mind”.

Despite some setbacks in participants initial plans to take up new spiritual practices, over half of those who discussed making changes immediately following the ceremony, as time progressed, noticed the introduction of a spiritual component to more day-to-day aspects in their lives. One month after the ceremony, a California group participant recognized some changes in his life. He stated “I am trying to focus more on the everyday events in my life- looking at each moment with an open heart, trying to let go of judgment and fear, and focusing on the collective consciousness than envelops my own. I am choosing to make goals based on my bodhisattvic vows.”

One California group participant, three months following the ceremony reflected feelings that were similar to those of many others. She stated that she was “more focused on larger questions about myself, my spirituality, my view of what reality is and what my path might be. And less focused on other elements in my environment. Going more into a meditative state.“

After three months, a Canada group participant stated “I would say that the ceremony leaves me with an intention to dive deeper into the realms of spirit, to utilize this short lifetime to explore as much as can be explored within the mystery of physical existence and beyond.” Finally, three months after the ceremony, a Canada group participant continued to believe that “spirituality is now in the forefront of what I do.”

CHAPTER V: DISCUSSION

An overwhelming amount of anecdotal evidence suggests that the ingestion of entheogens in certain circumstances will increase spirituality and well-being. Current research is just beginning to investigate the psychological effects of ayahuasca on research participants. This study, the first of its kind, investigated if participating in an ayahuasca ceremony would change and/or effect participants' subjective experiences of spirituality, and if so, how? A mixed design study was conducted to analyze the data, investigating differences between a group of ayahuasca ceremony participants and a control group. In addition to examining the ayahuasca and the control groups, the two ayahuasca groups (one taking place in Canada and one taking place in California) were examined separately.

Below, the results of the research are discussed, reflecting both quantitative and qualitative findings. The first of these sections examines the ayahuasca ceremony peak experience. In this section, the researcher discusses the Peak Experience Profile and the participants' accounts of their peak experience during the ceremony. In addition, the relationships between the two types of data are discussed. Following this, both the qualitative and quantitative data is discussed, first examining spiritual well being and second mysticism. The discussion continues, looking at the differences between the groups involved in the study. First, the whole ayahuasca group and the control group are examined. Then the California and Canada groups are compared. The third topic of discussion looks at the dilemma of the missing data and how this affected the results of the study. Finally, concluding comments are made regarding the study as a whole.

The Ayahuasca Ceremony Peak Experience

The ayahuasca group reported feeling a variety of peak experiences during the ceremonies. These experiences were similar to those reported in the previous literature (Shanon, 2002). Participants reported having a variety of positive experiences ranging from connection with the divine and spirit world to healing relationships with nature and people in their lives. Most participants reported being very moved by the experience and grateful that they were able to take part in such a profound, awe-inspiriting ceremony. These reports given by the participants correspond to the high scores on the Peak Experience Profile (PEP.)

The total PEP scores did not differ between the two ayahuasca ceremony groups, but when the Nadir score was removed, the two groups did differ, with the Canada ayahuasca group having a higher total Peak Experience minus Nadir score than the California ayahuasca group. The data points to the Canada group having a more positive peak experience than the California group, despite both groups having equally significant total peak experiences. This corresponds to the differences reported in the two groups' written accounts. A greater number of the California participants reported having difficult experiences during the ceremony, some even describing the experience as "negative." The differences in data between the two ayahuasca groups raises concerns about whether or not the ayahuasca ceremonies were doing the same thing to the participants. This will be discussed further in upcoming sections.

It was found that both the Spiritual Well Being and the Mysticism Scale scores are correlated to the Peak Experience Profile scores. The difference between the two ayahuasca groups in the Total minus Nadir may have led to more changes in the Spiritual

Well Being score, but not in the Mysticism Scale score (which did not differ significantly between the groups.) This is evident in the Canada ayahuasca group having a greater change in the SWB post ceremony score than the California group. It may be the case that positive PEP scores (Total minus Nadir) lead to greater incorporation of the peak experiences into one's ongoing spiritual well being. In contrast, perhaps the higher nadir scores of the California group prevented this ayahuasca group's participants from experiencing greater spiritual well being after the ceremony. This may be due to participants having difficulty incorporating challenging experiences in the short time period (one week) after the ceremony into their spiritual well being.

Spiritual Well Being

Ayahuasca group participants generally (approximately half) expressed that their spirituality had become more important in their lives after the ceremonies. They reported that their spiritual beliefs had "deepened" and become more a "part of their everyday lives." These beliefs included connection to nature, deep love for living things, belief in a higher power and belief in a peaceful existence of service to living things. Immediately following the ceremonies, participants expressed the desire to engage in more regular spiritual practices. In later follow-up sessions, sometimes participants sometimes acknowledged that, although they were not participating in daily yoga or meditation to the degree that they originally anticipated, an overwhelming majority of those who took part in the ceremonies said that there was a new sense of spirituality in their daily tasks.

The Spiritual Well Being (SWB) instrument "provides an overall measure of spiritual quality of life" as well as "a self assessment of one's relationship with God, and one's sense of life purpose and life satisfaction" (Ellison, 1983, p.332). This current study

found that the SWB scores post-session were not predicted by baseline spirituality scores. This means that the spirituality scores change over time in relationship to other variables. Furthermore, the SWB score is predicted to some degree by taking part in an ayahuasca session versus being in the control group. Moreover, the spirituality scores were more strongly predicted by specific ayahuasca group than by simply taking part in a ceremony or not doing so. This was evident in the Canada ayahuasca group's scores being significantly greater than both the California and control group scores. The Canada ayahuasca group had the highest total spirituality score, followed by the California ayahuasca group, and lastly followed by the controls.

Not only was there not a significant difference in the scores between the ayahuasca group and the control group, but in the change of the scores over time as well. Similarly, the Canada group demonstrated a significantly different in its increase in the SWB score as compared to both the California group and the control group. The California ayahuasca group's change in score was nearly the same as that of the control group (almost no change). This is probably why, when comparing just taking part in a ceremony versus not, the results are not significant – the California ayahuasca group scores are closer to those of the controls, and they pull down the mean for the total ayahuasca group that took part in the ceremony. This difference in the scores between the Canada ayahuasca group and the California ayahuasca group can be examined by investigating the participants' ceremony experiences. The data points towards there being a difference in the groups' peak experiences, which may have caused this difference in the SWB scores. Other factors that may have contributed to the difference in change in the scores may have to do with the characteristics of the two different ayahuasca

ceremonies having to do with differences in substance, set and setting of the two groups. These difference will be discussed further in a later section.

The question of what the SWB is measuring is an important one in this study. The data yielded from the analysis showed results dissimilar to what was found in the interviews with participants. This study found that equal portions of participants in both ayahuasca groups reflected a deepening of spiritual experience and incorporation of spiritual ideas in their lives. Perhaps that deepening and importance of spirituality in the Canada ayahuasca group has a higher correlation with the SWB scale's connection with God, purpose, and life satisfaction. In contrast, perhaps the California groups' spiritual beliefs fall outside the measures of the SWB scale, yet are equally moved by participation in the ayahuasca ceremony.

Mystical Experience

The Mysticism Scale (M Scale) is an instrument intended to assess an individual's intense experiences, characterized by a sense of unity with the outside world and/or with "nothingness," which may or may not be religiously interpreted. It was created explicitly to operationalize eight of Stace's (1960) nine phenomenological criteria for mystical experience (Hill, 1999).

In contrast to the Spiritual Well Being score, the best predictor of the Mysticism Scale score post-ayahuasca is the baseline mysticism score. That is to say, the M-Scale scores were more closely related to the baseline scores than any other variable. From the results, it seems like mysticism is either less likely to change or even trait-like as compared to the spirituality score.

The above finding may be related to many of the participants reporting mystical experiences before the ayahuasca ceremony. Participants' definition of spirituality and spiritual beliefs often included aspects of Stace's (1960) description of mystical experience. Many of the participants at baseline told stories of having mystical experiences in which they still hold those beliefs to be true. They described feelings of unity, sacredness of life, feelings of peace and joy, understanding of a paradoxical quality and other characteristics of the mystical experience. Many of the participants told of stories using psychedelics, such as LSD, psilocybin, and mescaline in order to gain these insights earlier in their lives. Therefore, it seems that the M-Scale was not accurately measuring new mystical experience, but whether or not one has ever had a mystical experience in one's life. The data from the current study does not show that there was a significant difference between the whole ayahuasca group and the control group in the change in the M-Scale score from the baseline to the post score. However, there was a trend in this direction. Perhaps many of the participants in the study had previous mystical experiences in their lives; however, there is some suggestion that some of the ayahuasca group participants had new mystical experiences.

Ayahuasca Group vs. Control Group

One of the greatest limitations of the current study is that there were so few participants. An even greater deficit was that there was such a large difference between the number of participants in the ayahuasca group and the control group. Not only is this a limitation of the generalizability of the study, but it also affects the statistical analysis of the data of the quantitative portion.

One fortunate aspect of the current study is that it appears from the data that the controls did not differ significantly from the ayahuasca participants prior to the ayahuasca ceremonies. This is important, even if there are only five controls, because one of the biggest concerns of the present study was that participants who took part in the ayahuasca sessions were more spiritual or mystical beforehand than the people who did not take part. However, that does not seem to be the case.

Comparing the Ayahuasca Groups

This study can only begin to speculate what the differences between the two ceremony groups were that caused a significant difference in the quantitative results. First and foremost was the difference in the number of participants in the two groups. This difference affects the statistical analysis. However, several differences based on the researcher's observations of the ceremonies are worth noting here, despite not knowing specifically how they affected the outcome of the present study. First, the location of the ayahuasca ceremonies was different. The California group's ceremonies were held in an old church in an urban center. This is compared to the Canada group's ceremonies being held in a rural location in the forest. Perhaps the more natural environment of the Canada location was more conducive to having a stronger peak experience and greater effect on spiritual well being. This phenomenon is similar to "setting" in the "set and setting" concept that Leary (1964) introduced regarding psychedelic experiences. He wrote

> Of course, the drug dose does not produce the transcendent experience. It merely acts as a chemical key - it opens the mind, frees the nervous system of its ordinary patterns and structures. The nature of the experience depends almost entirely on set and setting. Set denotes the preparation of the individual, including his personality structure and his mood at the time. Setting is physical - the weather, the room's atmosphere; social - feelings of persons present towards one another; and cultural - prevailing views as to what is real. (p. 11)

This research leads to further interest in Leary's (1964) beliefs that setting plays a role in the psychedelic experience. Setting appears to be one of several factors that may have caused differences in experience between the Canada and the California groups. In his explanation of the importance of setting, Leary states

> The first and most important thing to remember, in the preparation for a psychedelic session, is to provide a setting which is removed from one's usual social and interpersonal games and which is as free as possible from unforeseen distractions and intrusion. (p. 106)

Perhaps this played a role in the differences in results between the Canada group that traveled to a remote natural setting, and the California group that stayed in an urban setting.

In addition to difference in locations of the ceremonies, different Peruvian shamans led the ceremonies in Canada and California. Although it is difficult to pinpoint what the differences between the shamans were, undoubtedly they each had different personalities, different ways of connecting with the participants, and different musical styles when singing the *icaros*. Perhaps one of the shamans was more skilled at connecting with the participants in the ceremony or perhaps more adept at calling the spirits into the room during the ceremony. One of the major noticeable differences between the shaman was that the one for the Canada group spent more time talking to the participants both before and after the ceremony. In addition, the intimate nature of the Canada group's shaman calling each participant up to him for a personal healing may have affected the participant's experience. Further research is suggested examining the participant rating of the shaman's rapport, charisma and interactions to shed more light on these variables.

A third difference was that the ayahuasca brews were different. Each brew was created by the shaman back in Peru and brought to its respective location. Therefore different plants, types of plants, ratios of plants and preparation styles may have affected the strength and other qualities of the ayahuasca in the two different groups for the ceremonies. Perhaps the contents of the Canada groups' brew produced visions and experiences that led to more positive peak experience during the ceremony and greater positive changes in spiritual well being.

A final difference between the groups may have been that the participants were different in a way not assessed in the current study. Perhaps personality differences existed in the groups and therefore may have affected the results. The participants in the two groups were residents of the areas in which the ceremonies took place. Perhaps the cultures of the Bay Area in California and of British Columbia, Canada, differed in how the participants responded to the ceremonies. Perhaps these group personality differences affect how each group incorporate entheogenic experiences or interpret mystical experiences. One such example may be that the Canadian culture, and therefore the participants in the Canadian group, is generally thought of as more welcoming and less guarded. Perhaps this led the Canadian group to be more open to more profound spiritual experiences.

Dilemma of Missing Data

An initial set of sub-hypotheses was formulated in relation to the quantitative data. However, challenges in the data collection created the need for alternative methods of statistical analysis to be used. Approximately half of the Canada group participants did not complete the study, not turning in their Spiritual Well Being or Mysticism Scale

results either at the one week, one month and/or three month follow-up sessions. Many of the participants were not able to be contacted by phone or email at any of these intervals. This proved to make the initial research questions difficult to investigate. Based on necessity, due to the missing data, it was concluded that selecting a time interval that most participants had completed the Spiritual Well Being and Mysticism Scale instruments was the best solution. The researcher chose to replace a missing value with the value next closest to it, using these values in the data analysis. As a result, complete investigation of the different time intervals was not completed.

Reflections on the Research

This study is one of the few studies on ayahuasca that looks at the subjective spiritual effects of ayahuasca on novice users. This study has had its challenges, but has paved a path for future research in this area. One of the greatest challenges of the study was participant attrition. This resulted in incomplete data that made interpretation of the results very difficult. As a result of the missing data, the full longitudinal aspect of the study could not be completed. One of the greatest reasons for the participant attrition is speculated to be that a portion of the follow-up part of the study was conducted over distance. The researcher had difficulty reaching the Canada group participants to conduct interviews and complete the study's instruments. Future research will create better opportunity for communication with research participants for their follow-up sessions by creating incentives as well as having participants and the research team placed in the same geographic area.

It should be noted that the researcher's role in the study is likely to have played a part in the results. Throughout the study, participants were asked to reflect upon their

spirituality and spiritual themes, both before the ceremonies and in the follow-up sessions. In essence, the research might have framed the whole experience as a spiritual experience for the participants more so than if the shaman alone framed it as such. Several participants remarked during the follow-up sessions that they were always appreciative of the follow-up sessions because it gave them an opportunity to reflect upon the ayahuasca ceremony experience, recall some of the aspects of it, and incorporate some of the lessons into their lives. One could speculate that if the follow-up sessions did not exist, that many of the participants would feel less impacted by the spiritual effects over time.

Although this research may have an effect on the longevity of spiritual impact on the participants' lives, this may fit into a model in which ayahuasca ceremony can be a beneficial tool. Such strong spiritual experiences such as those of the ayahuasca ceremony perhaps should have a system of follow-up meetings so that people can continue to take the information they received during the ceremony into their lives. Follow-up sessions also create an opportunity for participants to process difficult material that may have arisen during the ayahuasca ceremony so that they can create something positive out of it by processing it with others. It may be possible that if participants were to take part in multiple ayahuasca ceremonies, this would amplify the affects and/or increase the longevity of the spiritual and mystical affects of ayahuasca on participants. Further examination of this potential is necessary.

One of the greatest challenges that faces the continued study of the spiritual effects of ayahuasca on people is that of creating a protocol. With a protocol, studies can be reproducible and standardized. Some of the many unknown variables that may have

led to the differences between the Canada and the California ayahuasca groups could be prevented. A standardized pharmaceutical grade brew could be created. A specific setting, specific training for the leader of the ceremony, and a specific format for the ceremony itself could all be chosen. This would eliminate many of the confounding variables that have influenced the results of this study. Riba (2005) reported that, in Spain, such protocols are being developed and research has begun testing the effects of ayahuasca on people in a clinical setting.

Despite the positive aspects to creating a clinical protocol for the testing of ayahuasca on human subjects, there are many limitations. One of the greatest challenges is to reproduce an authentic spiritual setting in which the ceremonies usually take place, whether in an indigenous setting or in a church. Additionally, training ayahuasca healers seems to be outside the bounds of Western scientific study and therefore would make it difficult to have standardized leaders of the ceremonies. A final challenge is that the ayahuasca, although able to be analyzed and consistent in chemical and plant make-up, as a brew has a lot of psychological effects when prepared by a shaman and taken in drink form, rather than in pill form.

A final reflection on this study calls for further research to look at differences among ayahuasca ceremony participants. This study concentrated on examining the differences between different ayahuasca ceremony participants and a control group. As a result, the study was unable to focus on some of the differences that manifested within the ayahuasca group. Further research should be conducted to examine why certain participants are having greater peak experiences or longer lasting effects on their spiritual

well being. Such research would likely include examination of personality characteristics, belief inventories, and use of other psychological instruments.

CHAPTER VI: CONCLUSIONS

Since this research, a plethora of clinical research has begun on the effects of various entheogens on human subjects. Mithoefer (2005) is currently conducting a study examining MDMA-assisted psychotherapy in the treatment of posttraumatic stress disorders in which he reports some success during the beginning stages of the research. Grob (2005) has nearly completed his research looking into the effects of psilocybin on advanced-stage cancer patients, which also has promising results. The Multidisciplinary Association for Psychedelic Studies (MAPS) has been at the forefront of assisting researchers in getting government approval for clinical research using psychedelics on human subjects. With other studies already in the works, the near future holds many more opportunities for the examination of entheogens as beneficial for human consumption.

While some of the current research is being pushed forward on the clinical spectrum, other research is continuing to grow examining the spiritual effects of entheogens on human subjects. However, this area of study is so far poorly investigated. The present study is one of the first bodies of research to examine the spiritual effects of ayahuacsac through a mixed design. Several other researchers have begun investigating the use of entheogens in a spiritual setting (Grob, 1996). If opportunities continue to exist for this type of research, further exploration in this area is necessary.

In February 2006, in a case before the United States Supreme Court, the Court unanimously agreed to allow a congregation of one-hundred and thirty members of the Uniao do Vegetal to use ayahuasca as a religious sacrament. The Court argued that the government did not present a case of why ayahuasca should be treated differently then peyote as an exemption to the laws prohibiting Schedule I drugs use (Supreme Court of

the United States, 2006). This leads the present researcher to believe there may be a movement towards acceptance of diversity of spiritual practices as healing tools in this country.

As spirituality becomes more recognized as a valuable tool in people's lives, changes may occur both in the clinical and political atmosphere that permit greater opportunities for personal spiritual growth. These opportunities will likely take on many forms, with the use of entheogens being one of them. Over recent years, ayahuasca has been shown to help people who use it in a spiritual setting to lead happier and healthier lives (Silverira, 2005). This current study shows that those who drink ayahuasca only one time tend to have positive, spiritual experiences during ceremonies and afterwards, and take these positive experiences and integrate them into their daily lives for some time. These ayahuasca ceremony participants tend to feel more connected to people, nature and god, feel more healed and peaceful, and carry a sense of peace with them deeper than prior to their ayahuasca ceremony experience.

POEM

I am the dust in the sunlight

I am the dust in the sunlight, I am the ball of the sun . . .

I am the mist of morning, the breath of evening . . . .
I am the spark in the stone, the gleam of gold in the metal . . . .
The rose and the nightingale drunk with its fragrance.

I am the chain of being, the circle of the spheres,
The scale of creation, the rise and the fall.
I am what is and is not . . .

I am the soul in all.

-Rumi

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APPENDIX A

Argosy University Psychology
Human Research Review Committee Application

Principal Investigator: Stephen Trichter
Telephone: 415.254.6041
Email: Stephen@explorespirit.org
Signature of Principal Investigator: _____ Date: _____
Address: 43 Norfolk Street, San Francisco, CA 94103

Faculty Sponsor: Jon Klimo
Telephone:
Email: jklimo@argosyu.edu
Signature of Faculty Sponsor: _____ Date:_____

Your signature as a faculty sponsor indicates that you accept responsibility for the research described, and that you are fully aware of all procedures to be followed, will monitor the research, and will insure that the HRRC is notified of any significant problems or changes.

Title of Protocol: Changes in Spirituality Among Ayahuasca Ceremony Novice Participants

Review Category: Expedited

1.Study aim, background and design.

This study will explore the spirituality of novice participants of an ayahuasca ceremony. Psychiatry has developed with a principal aim of relieving maladaptive psychological symptoms through the use of medical technology. Presently, the field encourages the use of anti-depressants, anti-anxiety agents, and anti-psychotics to relieve symptoms from which patients suffer. Despite continuous breakthroughs in psychiatric medicine, the approach is questionable. There are many psychoactive compounds that could be used to take a different approach to relieving patients' mental anguish. The use of these psychoactive compounds would give the individual new tools and a new perspective, as opposed to provide temporary chemical relief. One group of compounds, called entheogens (or more commonly hallucinogens), may harness the power of increasing spirituality, and strengthening the self. These entheogens, and in particular, ayahuasca, have been used in sacred healing rituals in shamanic cultures for centuries. By ignoring

the power of these substances, the mental health community limits the resources available to the clients it serves.

The proposed study were of mixed design. The qualitative portion of the study were performed through extensive, open-ended interviews conducted by the researcher and written statements of the participants. The quantitative part of this study will use instruments measuring spiritual experience. Content analysis of the transcribed interviews were used to analyze the qualitative data. Multiple regression were used to analyze the quantitative data.

2.Participant Population: inclusion and exclusion criteria, use of special subject groups, and methods of access.
The subjects of the study will consist of volunteers who are first-time ayahuasca users who have already planned on attending the ayahuasca ceremony in which the research were conducted. All participants in the ceremony that have self-reported taking some form of ayahuasca (combination of N,N-DMT and an MAOI) were excluded from the study. Subject's primary and first language were English. Subjects were assessed and included/excluded based on results of a Mini Mental Status Exam given by the researcher at the beginning of interview.

3.Briefly, describe research methods or procedures to be done for the purposes of the study.
The study weregin in November 2004 and be carried out until June 2005. Participants in the research will take part in an evening-long ayahuasca ceremony. Others will take part in two evening-long ayahuasca ceremonies. This study will take place both in the San Francisco Bay Area in California and in Vancouver, British Columbia, Canada, under the guidance of experienced ayahuasca ceremony leaders. Participating in ayahuasca ceremony has limited legal context in the United States. However, in Canada, although legal issues are still present for the ceremony leader, laws are more permissible and law enforcement is less strict.

This study were a mixed design study. The qualitative portion of the study were performed through extensive, open-ended interviews given by the researcher that will take place prior to the ceremony, within 24 hours post ceremony and in one week, and one- and three-month follow-up sessions. All interviews were taped, transcribed and coded by the researcher with copies mailed to the dissertation committee Chairperson in United States immediately for safe-keeping. In addition, a written account of the participant's experience of the ceremony were collected. Codes were given to each of the subjects to ensure confidentiality of the materials if seized at the border or intercepted in the mail. Participants names will not be used in any of the interviews, transcripts, or questionnaires. Duplicate copies of the coded material were made and held by the researcher upon returning to the United States. The interview were aimed at exploring the subjects' sense of spirituality in their present life. The researcher hopes to gain the trust

of the group prior to the interviews by working alongside the ceremony leader and having them introduce the research to the group.

The quantitative approach to this study were performed through the use of instruments assessing spiritual experience. Names of the participants will appear nowhere on the instruments, only codes. Twelve hours after the ceremony has concluded, the Peak Experience Profile were given to the participants. This is a 184 question survey looking specifically at the experience of the participant's altered state of consciousness during the ceremony. The Index of Core Spiritual Experiences, the Hood Mysticism Scale and the Spiritual Well-Being Scale were used to assess the general spiritual outlook of the participants. This will measure more stable spiritual measures. The instruments were conducted prior to the ayahuasca ceremony, the following day of the ceremony, and in one-week, and one- and three-month follow-up assessments.

Data for the qualitative portion of the research were compiled and searched for common themes and trends. Through a series of longitudinal interviews, a comparison were created across time for each individual. Additionally, differences in themes and trends were recorded and reported through the different interviews.

Data for the quantitative portion of the research were analyzed through multiple rmANOVA, looking at differences in spirituality across time and between subjects, prior use of psychedelics, post ceremony use of psychedelics.

4.Potential risks/discomforts to subjects and methods of minimizing these risks.
Since ayahuasca is a powerful hallucinogen that potentially increases emotional sensitivity and increases access to unconscious material, the researcher will have to conduct interviews and survey instruments in a sensitive manner. Subjects may find some of the topics in the interviews uncomfortable and/or upsetting due to previous life experiences that may be triggered during the research and possibly heightened due to the ingestion of ayahuasca. Careful consideration were taken into account because of the use of human subjects in this research. Informed consent forms were given to participants to be signed prior to any interviewing. In addition, a Mini Mental Status Exam were given to each subject assessing for psychological disorder. Subjects not deemed suitable for the study will not be given the full interview. If subjects become upset during interviews or during the completion of surveys, the procedures will cease immediately and an hour of supportive counseling were given by the interviewer. If distress persists, referrals were made to a previously arranged connections to mental health professional in the nearest town. Additionally, mental health professionals in participants' home towns were arranged to assist participants if stress occurs in the weeks or months following participation in the research.

The confidentiality of the participants of the study is of utmost importance in light of ethical and legal considerations. Upon collection of the data, transcripts and surveys were kept in a locked file system only accessible to the experimenter and the Clinical Research Project Chairperson. Prior to collecting data, each participant were given a code that will appear on all tapes, transcripts, written accounts and assessment instruments. This

ensures safe transportation of the data without risking confidentiality of the participants by eliminating all identifiable information in the event of materials getting lost or taken during travel. In addition, all original tapes and transcripts were destroyed no later than June 2006, one year after the completion of the research.

5.Benefits: potential direct benefits to subjects and general benefits to subject groups, academic or professional discipline and/or society.

Filling out the questionnaires, and participating in the interview process will give participants the opportunity to reflect on their subjective spiritual experiences. This opportunity will create a forum in which they can compare their own feelings on spirituality prior to and following the ayahuasca ceremony. In addition, it will create a unique opportunity for the subjects to formally discuss in depth their subjective spiritual experience. Participants may enjoy this opportunity to express these feelings, as there would not necessarily be a setting to discuss these ideas otherwise.

Participating in the research may also lead subjects to integrate more of the material from their ayahuasca ceremony experience into their life. Participants may find new insights into their unconscious material as it is discussed in the interviews or brought up by the questionnaires that may lead to a better, stronger sense of self and well being.

Findings from this study may also have more general benefits in the field of psychology and psychiatry. First, the results of this study may point to the need for increased funding and permission from government agencies to explore mental health through spirituality using ayahuasca and other entheogens. In addition, the results of the study may show how one spiritual event can produce significant changes in one's spiritual life and mental health.

6.Consent process and documentation
Potential subjects will receive a consent form, in which their rights, potential benefits and potential risks were enumerated and protections were spelled out. Subjects were asked to sign and return the consent form. This consent form were separated from the coded assessment instruments, written accounts and interview tapes and were stored separately in a locked cabinet.

7.Number of participants to be enrolled per year. Total for study.
The intention of the researcher is to have 55 participants in the research study with the hope that at least 30 complete the whole research process. In addition there were 10 controls.

8.Is the Human Subjects Bill of Rights Applicable to your study?
Yes

9.Will the study be funded?
TBD

10.Is this study being conducted at or under the supervision of another institution?
No
Principal Investigator's Signature: _____

APPENDIX B

Cover Letter from the Researcher for Participation in Research on The Affects of Participating in Ayahuasca Ceremony on Novice User's Spirituality

Dear Participant,

Thank you for your decision to participate in this study. The researcher greatly appreciates your time and efforts. Your decision to participate in this research is allowing the researcher to do the following: phenomenologically explore the changes in spirituality before and after participating in an ayahuasca ceremony; conduct an evaluative analysis of participant accounts to determine constituent themes underlying the spiritual experience of participating in an ayahuasca ceremony; and, collect data analyzing spiritual experience through written instruments.

The topic of this research study is important to explore for two reasons. Findings from this study will produce benefits in the field of psychology and psychiatry. The results of this study may point to the need for increased funding and permission from government agencies to explore spirituality through the participation in ayahuasca ceremony and other entheogens. In addition, the results of the study may show how one enthogenically influenced event can produce significant changes in one's spiritual life.

Your willingness to participate and share personal information will result in a document that has important empirical data that may aid in the development of new understanding the relationship between entheogen use and spirituality.

Best,

Stephen Trichter, Doctoral Candidate

APPENDIX C

Consent Form

Stephen Trichter, a doctoral candidate at the San Francisco Bay Area campus of Argosy University, is conducting a study of the effects of participating in an ayahuasca ceremony on novice users' spirituality.

Participation in the study involves being interviewed, giving a written account of your experience and filling out multiple assessment instruments in which you were asked about your thoughts, feelings, and experiences regarding your spirituality and your psychedelic drug experiences.

Reflecting on spiritual and/or psychedelic experiences may be upsetting for some people. You were free to refuse to answer any of the questions, and you may discontinue your participation at any time. The researcher, Stephen Trichter, were available to discuss any concerns you may have, and to facilitate referrals to supervisors, consultants, or therapists if such need should arise. He can be contacted at 415.254.6041.

Participants in the research should recognize that the use of ayahuasca is not being suggested, promoted, sold, or administered by the researcher. The decision to participate in the ayahuasca ceremony is an independent choice from choosing to participate in the research. Participants should discuss with ceremony leaders the medical and legal risks involved in ayahuasca ceremony.

All information you contribute were held in strict confidence within the limits of the law. This includes the possibility of the researcher being forced to reveal sensitive, collected information following a subpoena. The researcher is taking the following precautions to maximize participant confidentiality: The questionnaires, written statements and interview tapes were kept in a locked cabinet to which only Stephen Trichter and the Clinical Research Project (dissertation) Chairperson have access. Consent forms were stored separately from the written materials and tapes. A coding system were created so that at no time will your name be linked to your responses. In addition, the names of the subjects were nowhere in the printed study. Furthermore, the transcripts and tapes used in this study were destroyed no later than June 2006, one year after the study is completed.

No direct benefit, either monetary or resulting from the experience itself, is offered or guaranteed. You may find it interesting, helpful, and/or thought provoking to reflect on your experiences. In addition, the information generated by this study werenefit the field of psychology, by adding to our store of knowledge regarding ayahuasca, spirituality, and mental health.

If you have any questions or concerns regarding your rights as a participant in this research, you may call confidentially the Chair of the Human Research Review Committee, Dr. Carl Word, at the SF Bay Area campus of Argosy University. He can be reached at 510.215.0277 or by email: cword@argosyu.edu.

Signature _____
Date _____

APPENDIX D

Peak Experience Questionairre

Looking back on you drug session or altered state of consciousness experience(s), please rate the degree to which at any time during that session or ASC experience(s), you encountered the following phenomena. In making each of your ratings, use the following scale:

0 = none; not at all
1 = so slight I cannot decide
2 = slight
3 = moderate
4 = strong and more than any previous experiences
5 = extreme, more than imagined to be humanly possible

If you previously have had other intense experiences of altered states of consciousness that occurred spontaneously or that were facilitated by drugs or other means, consider a rating of 4 to mean "strong", but not necessarily "more than any preivous experience", and a rating of 5 to mean "extreme". Please feel free to write informative or clarifying notes after any of the items in this questionnaire (use the back of the page if necessary). If part of an item applies more to your experience than another part, please underline the part that applies.

1. Visions of abstract geometric patterns of colored lines.

1 2 3 4 5

2. Loss of your usual sense time.

1 2 3 4 5

3. Feeling that the consciousness experienced during part of the session was more real than your normal awareness of everyday reality.

1 2 3 4 5

4. Experience of rage, anger or aggression.

1 2 3 4 5

5. Experience of amazement.

1 2 3 4 5

6. Sense that the experience cannot be described adequately in words.

1 2 3 4 5

7. Sense of passing through stages in evolution.

1 2 3 4 5

8. Sense of the limitations and smallness of your everyday personality in contrast to the Infinite.

1 2 3 4 5

9. Gain of insightful knowledge experienced at an intuitive level.

1 2 3 4 5

10. Experience of overflowing energy.

1 2 3 4 5

11. Experience of unbearable tortures that will never end.

1 2 3 4 5

12. Feeling that you experienced eternity or infinity.

1 2 3 4 5

13. Emotional and/or physical suffering.

1 2 3 4 5

14. Experience of oneness or unity with objects and/or persons perceived in your surroundings.

1 2 3 4 5

15. Loss of your usual sense of space.

1 2 3 4 5

16. Feelings of despair.

1 2 3 4 5

17. With eyes closed, having visions of art objects (e.g. mosaics, statues, jewelry, buildings) that reflect expert craftsmanship.

1 2 3 4 5

18. Feelings of tenderness and gentleness.

1 2 3 4 5

19. Experience of a paradoxical awareness that two apparently opposite principles or situations are both true.

1 2 3 4 5

20. Sense of decreasing in body size to infancy or early childhood.

1 2 3 4 5

21. Experience of confusion, disorientation and chaos.

1 2 3 4 5

22. Certainty of encounter with ultimate reality (in the sense of being able to "know" and "see" what is really real).

1 2 3 4 5

23. Feeling that you could not do justice to your experience by describing it in words.

1 2 3 4 5

24. Feelings of being important and having a very important task to accomplish.

1 2 3 4 5

25. Experience of radiant, golden light.

1 2 3 4 5

26. Loss of your usual identity.

1 2 3 4 5

27. With eyes open, seeing something in your surroundings more and more intensely and then feeling as though you and it became One.

1 2 3 4 5

28. Feeling trapped and helpless in a confining space, and/or in a "no exit" situation.

1 2 3 4 5

29. Loss of usual awareness of where you were.

1 2 3 4 5

30. Feelings of peace and tranquility.

1 2 3 4 5

31. Sense of profound humility before the majesty of what was felt to be sacred or holy.

1 2 3 4 5

32. Being able to think with an unusually high degree of sharpness and clarity.

1 2 3 4 5

33. Convincing feeling that you relived experiences that you had as an infant.

1 2 3 4 5

34. Sense of being "outside of" time, beyond past and future.

1 2 3 4 5

35. Freedom from the limitation of your personal self and feeling a unity or bond with what was felt to be greater than your personal self.

1 2 3 4 5

36. Sense of being at a spiritual height.

1 2 3 4 5

37. Visions or experience of Hell, demons, devils or other wrathful deities.

1 2 3 4 5

38. With open eyes seeing objects around you turned into great works

of art.

1 2 3 4 5

39. Experience of repulsive biological material (urine, feces, pus, dead flesh, etc.).

1 2 3 4 5

40. Feeling that people were plotting against you.

1 2 3 4 5

41. Experience of pure Being and pure awareness (beyond the world of sense impressions).

1 2 3 4 5

42. Feeling that you have been "outside of" history in a realm where time does not exist.

1 2 3 4 5

43. Experience of ecstasy.

1 2 3 4 5

44. Experience of being both victim and aggressor.

1 2 3 4 5

45. Experience of isolation and loneliness.

1 2 3 4 5

46. Convincing feeling that you obtained information about people or events in an extrasensory manner (telepathy, clairvoyance,

precognition, etc.).

1 2 3 4 5

47. Experience of the insight that "all is One".

1 2 3 4 5

48. Being in a realm with no space boundaries.

1 2 3 4 5

49. Visions of angels, cherubim or seraphim.

1 2 3 4 5

50. Feeling of exaltation.

1 2 3 4 5

51. Loss of feelings of difference between yourself and objects or persons in your surroundings.

1 2 3 4 5

52. Experience of fear.

1 2 3 4 5

53. Sense of being outside your body.

1 2 3 4 5

54. Experience of oneness in relation to an "inner world" within.

1 2 3 4 5

55. Sense of reverence.

1 2 3 4 5

56. Visions of blissful or compassionate deities.

1 2 3 4 5

57. Feeling of being rejected or unwanted.

1 2 3 4 5

58. Increase in the beauty and significance of music.

1 2 3 4 5

59. Sense that in order to describe parts of your experience you would have to use statements that appear to be illogical, involving contradictions and paradoxes.

1 2 3 4 5

60. Feeling of universal or infinite love.

1 2 3 4 5

61. Experience of life as totally meaningless and absurd.

1 2 3 4 5

62. Intuitive insight into the nature of objects and/or persons in your surroundings.

1 2 3 4 5

63. Feeling of emotional closeness with your therapist or nurse.

1 2 3 4 5

64. Feeling of reluctance to return to normal consciousness.

1 2 3 4 5

65. Experience of timelessness.

1 2 3 4 5

66. Frustrating attempt to control the experience.

1 2 3 4 5

67. Visions or experience of warm, brilliant, white light.

1 2 3 4 5

68. Experience of exploring organs, tissues or cells in your body.

1 2 3 4 5

69. You are convinced now, as you look back on your experience, that in it you encountered ultimate reality (i.e. that you "knew" and "saw" what was really real).

1 2 3 4 5

70. Profound experience of your own death.

1 2 3 4 5

71. Visions of beautiful jewels and precious stones.

1 2 3 4 5

72. Experience of antagonism toward your therapist or nurse.

1 2 3 4 5

73. Feeling that you experienced something profoundly sacred and holy.

1 2 3 4 5

74. Awareness of the life or living presence in all things.

1 2 3 4 5

75. Convincing feeling of contact with people who have died.

1 2 3 4 5

76. Sense of being separated from the normal world, as though you were enclosed in a thick, silent glass chamber.

1 2 3 4 5

77. Experience of the fusion of your personal self into a larger whole.

1 2 3 4 5

78. Experience of sexual excitement and/or sexual visions.

1 2 3 4 5

79. Feeling of being extremely sensitive to fine nuances of meaning between different words.

1 2 3 4 5

80. Sense of awe or awesomeness.

1 2 3 4 5

81. Convincing experiences of life in civilizations that existed in another time and/or place (e.g. Ancient Egypt or Rome, Renaissance France, Colonial America, etc.).

1 2 3 4 5

82. Experience of coming in contact with archetypal forces, pure forces underlying the various dramas of existence.

1 2 3 4 5

83. Experience of unity with ultimate reality.

1 2 3 4 5

84. Feeling of disintegration, falling apart.

1 2 3 4 5

85. Fear that you might loose your mind or go insane.

1 2 3 4 5

86. Feeling that it would be difficult to communicate your own experience to others who have not had similar experiences.

1 2 3 4 5

87. Feelings of joy.

1 2 3 4 5

88. Feelings of guilt.

1 2 3 4 5

89. Experience of intense pressure on your head or on various parts of your body, or that your body became extremely heavy.

1 2 3 4 5

90. Convincing feeling of reliving part of another life prior to your birth (a previous incarnation).

1 2 3 4 5

91. Feelings of grief.

1 2 3 4 5

92. Reliving of sensations and feelings associated with past surgery, illness or accidents.

1 2 3 4 5

93. Experience of physical distress (e.g. nausea, vomiting, sweating, rapid heartbeat, etc.).

1 2 3 4 5

94. Sense of becoming a specific animal and feeling like that animal.

1 2 3 4 5

95. Experience of increased awareness of beauty.

1 2 3 4 5

96. Vision of religious personages (e.g. Moses, Christ, Buddha, etc.).

1 2 3 4 5

97. Visions of landscapes (e.g. oceans, mountains, deserts, etc.).

1 2 3 4 5

98. Reliving of situations and events from your childhood.

1 2 3 4 5

99. Increased awareness of the importance of interpersonal relationships.

1 2 3 4 5

100. Feeling of being reborn.

1 2 3 4 5

101. Experience of events that seem related to your own ancestors.

1 2 3 4 5

102. Pleasant experience of the consciousness of a fetus, and/or becoming a fetus.

1 2 3 4 5

103. Experience of having all your needs satisfied.

1 2 3 4 5

104. Feelings of having been cleansed and/or purged.

1 2 3 4 5

105. Experience of possession or threatened possession by another entity.

1 2 3 4 5

106. Experience of suffocation, difficulty with you breathing or choking.

1 2 3 4 5

107. Visions and/or experiences of bloody sacrifice.

1 2 3 4 5

108. Experience of intense anxiety.

1 2 3 4 5

109. Experience of being crushed.

1 2 3 4 5

110. Experience of repulsion in relation to female sexual organs.

1 2 3 4 5

111. Feeling your body becoming light and comfortable.

1 2 3 4 5

112. Experience of spiritual insights of cosmic relevance.

1 2 3 4 5

113. Concern with growing old or old age.

1 2 3 4 5

114. Vivid experience of passing through the birth canal.

1 2 3 4 5

115. Experience of falling and becoming trapped in a dark hole or region.

1 2 3 4 5

116. Deep feeling of understanding and reconciliation with significant persons in your life.

1 2 3 4 5

117. Feeling caught by insurmountable conflicts and paradoxes.

1 2 3 4 5

118. Feeling powerful currents of energy streaming through your body.

1 2 3 4 5

119. Recollection or experience of being distressed inside the womb.

1 2 3 4 5

120. Experience of complex twisting movements of your body.

1 2 3 4 5

121. Experience of negative emotions connected with your death.

1 2 3 4 5

122. Identification with evil entities or forces.

1 2 3 4 5

123. Experience of the "Universal Mind" and/or "Cosmic Void".

1 2 3 4 5

124. Feeling of having disposed of a large amount of guilt, anxiety, or other unpleasant feelings.

1 2 3 4 5

125. Feeling confined and trapped by your personal life.

1 2 3 4 5

126. Experience of the universe as indescribably beautiful.

1 2 3 4 5

127. Experience of being buried alive.

1 2 3 4 5

128. Experience of immense accumulation of energy and its explosive release.

1 2 3 4 5

129. Experience of being one and at peace with the whole world.

1 2 3 4 5

130. Vivid experience of the actual moment of birth.

1 2 3 4 5

131. Experience of melting or fusing with the entire universe.

1 2 3 4 5

132. Feeling cut off from a larger whole and wanting to reunite with it.

1 2 3 4 5

133. Experience of a penetrating pain around the navel.

1 2 3 4 5

134. Feeling engaged in an enormous struggle for survival.

1 2 3 4 5

135. Feeling of extreme coldness.

1 2 3 4 5

136. Experience of a powerful display of physical forces (e.g. electrical discharges, rocket launching, fireworks, etc.).

1 2 3 4 5

137. Experience of having conquered death, pain and evil.

1 2 3 4 5

138. Experience of overwhelming love.

1 2 3 4 5

139. Experience of Paradise.

1 2 3 4 5

140. Reliving or re-experiencing situations, events or significant people from your life.

1 2 3 4 5

141. Experience of the limitation of your everyday reality.

1 2 3 4 5

142. Experience of melted ecstasy.

1 2 3 4 5

143. Experience of being confined by the limitations of time and space and wanting to go beyond these limitations.

1 2 3 4 5

144. Feeling that your mother was sick physically or emotionally during her pregnancy with you.

1 2 3 4 5

145. Feeling that you were alone, cut off and isolated from others.

1 2 3 4 5

146. Experience of darkness or of sinister and ominous colors.

1 2 3 4 5

147. Visions of underwater scenes with dangerous and revulsive animals.

1 2 3 4 5

148. Experience of being oppressed by enormous weights.

1 2 3 4 5

149. Experience of being threatened by evil forces.

1 2 3 4 5

150. Experience of being a victim of natural catastrophes.

1 2 3 4 5

151. Feeling that you were losing all concepts and points of reference.

1 2 3 4 5

152. Experience or memories of early nursing, toilet training, etc.

1 2 3 4 5

153. Gaining insight into past and/or present experiences from your life.

1 2 3 4 5

154. Experience of having to go through a dark tunnel.

1 2 3 4 5

155. Experience of being engulfed by a powerful vortex or maelstrom.

1 2 3 4 5

156. Experience of explosive ecstasy.

1 2 3 4 5

157. Experience of being trapped in the womb or in the birth canal.

1 2 3 4 5

158. Feeling hate against yourself as if you needed to be punished for some crime or sin.

1 2 3 4 5

159. Experience of victory over a powerful enemy.

1 2 3 4 5

160. Visions of dramatic scenes of wars and wild battles.

1 2 3 4 5

161. Concern with urination and/or with the movement of your bowels.

1 2 3 4 5

162. Identification with God or visions of God.

1 2 3 4 5

163. Visions of aggressive sex scenes.

1 2 3 4 5

164. Concern with disease and infirmity.

1 2 3 4 5

165. Experience of fire.

1 2 3 4 5

166. Reliving of past psychological or physical traumas.

1 2 3 4 5

167. Experience of fusion between pleasure and pain.

1 2 3 4 5

168. Feeling that God and all spiritual matters are mere figments of the imagination.

1 2 3 4 5

169. Experience of revolutions and killings.

1 2 3 4 5

170. An unpleasant taste in your mouth.

1 2 3 4 5

171. Feelings of redemption.

1 2 3 4 5

172. Experience of being a fetus peaceful and secure inside the womb.

1 2 3 4 5

173. Experience of the resurrection of Christ, Osiris or other religious personages.

1 2 3 4 5

174. Experience of ultimate serenity with the feeling of having obtained all that one ever wanted.

1 2 3 4 5

175. Experience of being a helpless victim.

1 2 3 4 5

176. Experience of life as a "vicious circle" (a circular pattern full of unsolvable problems).

1 2 3 4 5

177. Experience of powerful centers of energy activated in your body.

1 2 3 4 5

178. Experience of union with a great mothering principle.

1 2 3 4 5

179. Experience of one sensory modality turning into another (e.g. tasting sounds, seeing flavors).

1 2 3 4 5

180. With eyes opened seeing your surroundings change in fantastic ways.

1 2 3 4 5

APPENDIX E

Spiritual Well Being Scale

For each of the following statesments circle the choice that bst indicates the extent of your agreement or disagreement as it describes your personal experience:

SA= Strongly Agree D = Disagree

MA = Moderately Agree MD = Moderately Disagree

A = Agree SD = Strongly Disagree

1. I don't find much satisfaction in private prayer with God. SA MA A D MD SD

2. I don't know who I am, where I came from, or where I am going SA MA A D MD SD

3. I believe that God loves me and cares about me SA MA A D MD SD

4. I feel that life is a positive experience SA MA A D MD SD

5. I believe that God is impersonal and not interested in my daily situation SA MA A D MD SD

6. I feel unsettled about my future SA MA A D MD SD

7. I have a personally meaningful relationship with God SA MA A D MD SD

8. I feel very fulfilled and satisfied with life. SA MA A D MD SD

9. I don't get much personal strength and support from my God SA MA A D MD SD

10. I feel a sense of well-being about the direction my life is headed in SA MA A D MD SD

11. I believe that God is concerned about my problems SA MA A D MD SD

12. I don't enjoy much about life SA MA A D MD SD

13. I don't have a personally satisfying relationship with God SA MA A D MD SD

14. I feel good about my future SA MA A D MD SD

15. My relationship with God helps me not feel lonely SA MA A D MD SD

16. I feel that life is full of conflict and unhappiness SA MA A D MD SD

17. I feel most fulfilled when I'm in close communion with God SA MA A D MD SD

18. Life doesn't have much meaning SA MA A D MD SD

19. My relation with God contributes to my sense of well-being SA MA A D MD SD

20. I believe there is some real purpose for my life SA MA A D MD SD

APPENDIX F

Mysticism Scale – Research Form D

Instructions: The attached booklet contains brief descriptions of a number of experiences. Some descriptions refer to phenomena that you may not have experienced. In each case note the description carefully and then place a mark in the left margin according to how much the description applies to your own experiences. Write a +1. +2, or –1, –2, or ? depending on how you feel in each case.

+1: This description is probably true of my own experience or experiences.
-1: This description is probably not true of my own experience or experiences.
+2: This description is definitely true of my own experience or experiences.
-2: This description is definitely not true of my own experience or experiences.
?: I cannot decide.

Please mark each item trying to avoid if at all possible marking any item with a ?. In responding to each item, please understand that the items may be considered as applying to one experience or as applying to several different experiences. After completing the booklet, please be sure that all items have been marked – leave no items unanswered.

1. I have had an experience which was both timeless and spaceless.
2. I have never had an experience which was incapable of being expressed in words.

3. I have had an experience in which something greater than myself seemed to absorb me.
4. I have had an experience in which everything seemed to disappear from my mind until I was conscious only of void.
5. I have experienced profound joy.
6. I have never had an experience in which I felt myself to be absorbed as one with all things.
7. I have never experienced a perfectly peaceful state.
8. I have never had an experience in which I felt as if all things were alive.
9. I have never had an experience which seemed holy to me.
10. I have never had an experience in which all things seemed to be aware.
11. I have had an experience in which I had no sense of time or space.
12. I have had an experience in which I realized the oneness of myself with all things.
13. I have had an experience in which a new view of reality was revealed to me.
14. I have never experienced anything to be divine.
15. I have never had an experience in which time and space were nonexistent.
16. I have never experienced anything that I could call ultimate reality.
17. I have had an experience in which ultimate reality was revealed to me.
18. I have had an experience in which I felt that all was perfection at that time.
19. I have had an experience in which I felt everything in the world to be part of the same whole.
20. I have had an experience which I knew to be sacred.

21. I have never had an experience which I was unable to express adequately through language.
22. I have had an experience which left me with a feeling of awe.
23. I have had an experience that is impossible to communicate.
24. I have never had an experience in which my own self seemed to merge into something greater.
25. I have never had an experience which left me with a feeling of wonder.
26. I have never had an experience in which deeper aspects of reality were revealed to me.
27. I have never had an experience in which time, place, and distance were meaningless.
28. I have never had an experience in which I became aware of the unity of all things.
29. I have had an experience in which all all things seemed to be conscious.
30. I have had an experience in which all things seemed to be unified into a single whole.
31. I have had an experience in which I felt nothing is ever really dead.
32. I have had an experience that cannot be expressed in words.

APPENDIX H

Semi-Structured Interview Potential Questions

This is a standardized interview. Therefore, I am going to keep the structure pretty tight. If you have any questions, feel free to ask them, however, I can only deviate from the structure so much...

I'm going to ask you some questions and I want you to feel free to spend enough time on each question to make yourself clear. If a question is difficult to answer or does not pertain to your view of spirituality, let me know and we will move onto the next question.

Over the past _____you have had some time to reflect on your participation in the ayahuasca ceremony. Please answer the following questions taking into account both your experiences during the ayahuasca ceremony and in the _____ week since.

-Has the ayahuasca ceremony affected your definition of spirituality. How?

-Has the ayahuasca ceremony changed your spiritual beliefs?

-Has the ayahuasca ceremony changed how important spirituality or religion is to you?

-In what ways is it more or less important to you?

-Have you experienced change in your belief in God or a higher power?

-How do you experience this?

-Has your experience changed your ideas about participating or engaging in any practices that may be described as spiritual?

-How so?

-Finally, I would like you to contemplate what we've discussed, and ask yourself if there is anything specific you would like to mention here especially about your experiences in the last _____ that you feel would be important for me to know in addition to what you've already provided.

APPENDIX I

Ayahuasca Ceremony Written Self Report

As clearly and concisely as possible, please describe your personal experience of the ayahuasca ceremony in the amount of detail you see fit.

APPENDIX J

Difference in Scores Table

Below, shows the analysis in which the difference in the scores between time 2 (12 hours post ayahuasca session) and time 3 (one week post session) are compared to be used as a general post score in comparison with the baseline scores. One can see that in 30 cases, the post score was Time 3, and in 24 cases, it was Mysticism Scale score 2. Therefore the distribution is divided more or less evenly, half-half either one or the other. The same proportion seems to be true for the Spiritual Well Being Score at Time 3. Thirty of the post-score scores will be of the third time, and 24 will be of the second. It will always be Time 3 for the controls, but then we also know that they vary very little over time.

Frequencies for completing 3rd and 2nd time M and Sp scores

Mysticism Score Session 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	55.00	1	1.9	1.9	1.9
	94.00	1	1.9	1.9	3.8
	99.00	1	1.9	1.9	5.7
	101.00	1	1.9	1.9	7.5
	106.00	1	1.9	1.9	9.4
	107.00	1	1.9	1.9	11.3
	109.00	1	1.9	1.9	13.2
	115.00	1	1.9	1.9	15.1
	124.00	1	1.9	1.9	17.0
	126.00	2	3.7	3.8	20.8
	127.00	1	1.9	1.9	22.6
	128.00	1	1.9	1.9	24.5
	129.00	1	1.9	1.9	26.4
	133.50	1	1.9	1.9	28.3
	134.00	1	1.9	1.9	30.2
	136.00	2	3.7	3.8	34.0
	137.00	1	1.9	1.9	35.8
	138.00	1	1.9	1.9	37.7
	139.00	3	5.6	5.7	43.4
	140.00	1	1.9	1.9	45.3
	141.00	1	1.9	1.9	47.2
	142.00	2	3.7	3.8	50.9
	144.00	2	3.7	3.8	54.7

	145.00	1	1.9	1.9	56.6
	147.00	1	1.9	1.9	58.5
	148.00	2	3.7	3.8	62.3
	149.00	2	3.7	3.8	66.0
	150.00	3	5.6	5.7	71.7
	152.00	1	1.9	1.9	73.6
	153.00	3	5.6	5.7	79.2
	154.00	1	1.9	1.9	81.1
	155.00	1	1.9	1.9	83.0
	156.00	2	3.7	3.8	86.8
	157.00	2	3.7	3.8	90.6
	158.00	2	3.7	3.8	94.3
	160.00	3	5.6	5.7	100.0
	Total	53	98.1	100.0	
Missing	.00	1	1.9		
Total		54	100.0		

mysticism score session 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	85.00	1	1.9	3.3	3.3
	90.50	1	1.9	3.3	6.7
	100.00	1	1.9	3.3	10.0
	106.00	1	1.9	3.3	13.3
	112.00	1	1.9	3.3	16.7
	114.00	1	1.9	3.3	20.0
	118.00	1	1.9	3.3	23.3
	119.00	1	1.9	3.3	26.7
	129.00	2	3.7	6.7	33.3
	134.00	2	3.7	6.7	40.0
	136.00	2	3.7	6.7	46.7
	137.00	1	1.9	3.3	50.0
	140.00	2	3.7	6.7	56.7
	145.00	1	1.9	3.3	60.0
	148.00	1	1.9	3.3	63.3
	152.00	3	5.6	10.0	73.3
	153.00	1	1.9	3.3	76.7
	154.00	1	1.9	3.3	80.0
	155.00	2	3.7	6.7	86.7
	156.00	1	1.9	3.3	90.0
	160.00	3	5.6	10.0	100.0
	Total	30	55.6	100.0	
Missing	.00	24	44.4		
Total		54	100.0		

sp total session 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	50.00	1	1.9	1.9	1.9
	51.00	1	1.9	1.9	3.8
	54.00	1	1.9	1.9	5.8
	62.00	1	1.9	1.9	7.7
	66.00	1	1.9	1.9	9.6
	67.50	1	1.9	1.9	11.5
	69.00	1	1.9	1.9	13.5
	70.00	2	3.7	3.8	17.3
	75.00	3	5.6	5.8	23.1
	75.50	1	1.9	1.9	25.0
	76.00	3	5.6	5.8	30.8
	77.00	1	1.9	1.9	32.7
	78.00	1	1.9	1.9	34.6
	79.00	1	1.9	1.9	36.5
	80.00	1	1.9	1.9	38.5
	82.00	3	5.6	5.8	44.2
	84.00	1	1.9	1.9	46.2
	87.00	2	3.7	3.8	50.0
	88.00	2	3.7	3.8	53.8
	89.00	1	1.9	1.9	55.8
	90.00	1	1.9	1.9	57.7
	91.00	3	5.6	5.8	63.5
	92.00	1	1.9	1.9	65.4
	92.50	1	1.9	1.9	67.3
	93.00	1	1.9	1.9	69.2
	94.00	1	1.9	1.9	71.2
	95.00	1	1.9	1.9	73.1
	98.00	2	3.7	3.8	76.9
	99.50	1	1.9	1.9	78.8
	103.00	2	3.7	3.8	82.7
	103.50	1	1.9	1.9	84.6
	105.00	1	1.9	1.9	86.5
	110.00	2	3.7	3.8	90.4
	112.00	1	1.9	1.9	92.3
	114.00	3	5.6	5.8	98.1
	117.00	1	1.9	1.9	100.0
	Total	52	96.3	100.0	
Missing	.00	2	3.7		
Total		54	100.0		

sp total session 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	49.00	1	1.9	3.3	3.3
	51.00	1	1.9	3.3	6.7
	54.00	1	1.9	3.3	10.0
	65.00	1	1.9	3.3	13.3
	67.00	1	1.9	3.3	16.7
	70.00	2	3.7	6.7	23.3
	73.00	1	1.9	3.3	26.7
	74.00	1	1.9	3.3	30.0
	75.00	1	1.9	3.3	33.3
	76.00	1	1.9	3.3	36.7
	77.00	2	3.7	6.7	43.3
	78.00	2	3.7	6.7	50.0
	80.00	1	1.9	3.3	53.3
	81.00	1	1.9	3.3	56.7
	90.00	1	1.9	3.3	60.0
	91.00	1	1.9	3.3	63.3
	92.00	1	1.9	3.3	66.7
	93.00	1	1.9	3.3	70.0
	94.00	1	1.9	3.3	73.3
	99.00	2	3.7	6.7	80.0
	100.00	1	1.9	3.3	83.3
	103.50	1	1.9	3.3	86.7
	105.00	1	1.9	3.3	90.0
	106.00	1	1.9	3.3	93.3
	108.00	1	1.9	3.3	96.7
	110.00	1	1.9	3.3	100.0
	Total	30	55.6	100.0	
Missing	.00	24	44.4		
Total		54	100.0		