

PSYCHOSPIRITUAL INTEGRATION OF AN
AYAHUASCA RETREAT EXPERIENCE

by

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Abstract

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This research was conducted at neo-shamanic ayahuasca retreats in Brazil that were led by a transpersonal psychotherapist. 22 international (English-speaking) retreat participants completed quantitative and qualitative assessments on a confidential website using a repeated measures design. Scales of the Big Five Inventory following participation showed a decrease in Neuroticism ($p < .01$) and an increase in Agreeableness ($p < .05$). The Washington University Sentence Completion Test (SCT) was used to measure ego level. SCT scores increased for 36% of the participants (*mean increase* = 2.13), while for another 36% they decreased (*mean decrease* = 1.25), and for 27%, results did not show any change. The SCT results suggest that the ayahuasca retreat facilitated growth for those whose SCT scores increased and may have indicated difficulty with integration for those whose SCT scores decreased. Thematic analysis of responses to the qualitative assessments showed that the ayahuasca retreat was, overall, a therapeutic and positive experience for the great majority of participants.

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Chapter 1: Introduction

Ayahuasca has been used for several thousand years by the indigenous people of the Amazon jungle for healing, learning, and divination (Grob, 1998; Grof, 1998; Mckenna, 2007; Walsh, 2001). It is an extremely bitter-tasting concoction that is prepared by pounding the jungle vine known as *Banisteriopsis caapi* and boiling it in water with the leaves of the bushy shrub *Psychotria viridis*. Traditionally, the *Ayahuasquero* (ayahuasca shaman) prays and ceremonially blows tobacco smoke into the boiling concoction throughout the process. It is then ingested as a drink during ceremonies. Ayahuasca is a Quechua term that translates to “vine of the soul,” “vine of the dead,” or “vine of the spirits” (Metzner, 1999, p. 1; Shanon, 2002, p. 13). It is believed to free the soul for flight into other realms.

More recently, people in modern society have modified these traditional ayahuasca ceremonies to create neo-shamanic rituals, including the ayahuasca retreat. In the last 10 years, it has become a phenomenon for Westerners to make a pilgrimage to South America to experience such a retreat. Most of the people that attend these retreats are seeking spiritual development, emotional healing, and self-awareness (Shanon, 2002; Trichter, 2006; Winkelman, 2005). Several studies indicate that Westerners who participate in traditional and/or neo-shamanic ayahuasca sessions have positive experiences that promote psychospiritual growth and development (Barbosa, Giglio, & Dalgarrondo, 2005; Dobkin de Rios & Grob, 2005; Grim, 2002; Grob et al., 1996; Lerner & Lyvers, 2006; McKenna, 2007; McKenna, Callaway, & Grob, 1998; Metzner, 1999; Riba & Barbanoj, 2005; Schultes & Hofmann, 1992; Stuckey, Lawson, & Luna, 2005; Trichter, 2006; Walsh & Grob, 2005; Winkelman, 2002, 2005).

Integration of the Ayahuasca Experience

Typically, an ayahuasca experience is powerful and may be disruptive to how a person sees himself or herself in the world. In order for the experience to be positive, it must be integrated into the psyche and then into life (Schlitz, Vieten, & Amorok, 2007). *The Random House Webster's College Dictionary* (1992) defines integration as, "An act or instance of incorporating or combining into a whole . . . [For Psychology] the organization of the constituent elements of the personality into a coordinate, harmonious whole" (p. 700). Whittemore (2005) conducted a search of empirical studies on integration and found that it is a process and a part of healing from a challenging life event. She defines integration as

a complex person-environment interaction whereby new life experiences (e.g., transitions, illness) are assimilated into the self and activities of daily living, resulting in overall life balance. New life experiences are integrated into the self in the presence of unification or merging of values, attitudes, and behaviors resulting in acceptance, reconciliation, and a positive self-concept. . . . A perception of balance and harmony within a new life pattern emerges. (p. 263)

This study will investigate how an ayahuasca retreat experience is psychologically integrated. An ayahuasca experience can bring about a transcendent or peak experience. Maslow (1970) felt that peak experiences, in themselves, were life changing and valuable. A transcendent experience can lead to a whole range of phenomena, from a spiritual emergence that is positive and transformational to a spiritual emergency that is regressive and overwhelming. Bragdon (1990) suggests that the real issue of emergence versus emergency is the individual's "capacity to integrate the experiences" (p. 15). Integration of the experience is essential for spiritual, psychological, and physical health. If the experience creates a crisis for the person, the integration process cannot begin until the acute symptoms of the crisis are stabilized.

If the ego is not developmentally mature enough, an altered state experience can precipitate a traumatic reaction. S. Grof and C. Grof (1989) coined the term “spiritual emergency” to describe a self-transformational crisis following a spiritual or altered state experience:

Spiritual emergencies can be defined as critical and experientially difficult stages of a profound psychological transformation that involves one’s entire being. They take the form of nonordinary states of consciousness and involve intense emotions, visions and other sensory changes, and unusual thoughts, as well as various physical manifestations. (S. Grof & C. Grof, 1990, p. 31)

Ethical and Legal Issues

People have been harmed when they use psychedelics in a way that is not guided and ritualized (Grob, 2002). Many experts have strongly advised that these substances not be consumed alone or with an inappropriate set (intention) and setting (Frecska, 2007; Griffiths, Richards, McCann, & Jesse, 2007; Grob, 2002; Kesinger, 1973; Metzner, 2002).

Another area of concern in drug policy is addiction, and it is indisputable that addictive drugs can be harmful. Some people become compulsively devoted to substances like cocaine and heroin to the point that the habit destroys their life. However, Metzner (2002) points out that the therapeutic use of psychedelics has little in common with the substance use that can lead to a drug addiction.

One of the problems in the United States is that psychedelics have been mistakenly lumped together with the addictive drugs—heroin, cocaine, and crack. I think it is vital to distinguish between the consciousness-contracting, antisocial nature of addictive drugs and the consciousness-expanding, psychotherapeutic nature of psychedelics and hallucinogens. (p. 181)

Gable (2007) conducted an extensive literature review to evaluate the risk of ayahuasca use. He writes, “There was no evidence that ayahuasca has substantial or persistent abuse

potential” (p. 24). Ayahuasca and other consciousness-expanding drugs are fundamentally different from addictive drugs and should not be classified as such (Badiner, 2002; Dobkin de Rios, 1994). Jacques Mabit, a French physician working in Peru runs an ayahuasca center called Takiwasi that treats people with cocaine addiction. Here he discusses the safety of ayahuasca use:

There does not exist any risk of toxicity in the use of the natural beverage, which respects the physiological barriers and natural mechanisms of self-regulation through the functions of evacuation (diarrhea, vomiting, sweat, and urine) when the patient reaches the limits of his capacity of resistance. We are reminded that the studies on rats by Dr. Mitras Costa of the University of Campinas in Brazil indicated that the lethal dose reported for a standard human being (75kg) would be 7.8 liters of ayahuasca, which represents approximately 50 times the usual therapeutic doses (Callaway 1996). The extremely disagreeable taste of the beverage makes it completely impossible to reach this dose. No cases of death following the ingestion of ayahuasca have been reported. (2007, p. 95)

Ayahuasca use is legal in Brazil, Peru, and Ecuador in the indigenous context, and, in Brazil, it has been legal since 1987 for sacramental use within churches (Groisman & Dobkin de Rios, 2007; Ott, 1996). Ayahuasca use in the Church of Santo Daime in the Netherlands became legal through court proceedings (Shanon, 2002), and its use is legal for members of the Uniao do Vegetal (UDV) church in Santa Fe, New Mexico. After 6 years of legal proceedings, the U.S. Supreme Court issued a unanimous decision on February 21, 2006 affirming Religious Liberty to the UDV church (Gonzales v. O Centro Espirita Beneficente Uniao Do Vegetal et al., 2006). Some have predicted that ayahuasca use may become more common in the United States for religious purposes (Trichter, 2006).

Chapter 2: Literature Review

Terminology

The terminology used to describe ayahuasca is varied and not universally accepted. In its traditional context, ayahuasca is thought to be a sacred plant, a plant teacher, or a conscious spiritual entity that communicates with the user when ingested (Luna & Amaringo, 1999; Metzner, 1999; Peters, 1989; Winkelman, 1996). The term *hallucinogen* is often used in association with ayahuasca, but has limited meaning in that it only describes a narrow aspect of the ayahuasca experience, a hallucination. The term *psychedelic* is a carry-over from the so-called psychedelic era of the 1960s, when it usually referred to mescaline, psilocybin, and lysergic acid (LSD). Ruck, Bigwood, Staples, Wasson, and Ott (1979) invented the term *entheogen* because they felt that both the terms *hallucinogen* and *psychedelic* had a pejorative connotation (Roberts, 2001).

We, therefore, propose a new term that would be appropriate for describing states of shamanic and ecstatic possession induced by ingestion of mind-altering drugs. In Greek the word *entheos* means literally “god (theos) within,” and was used to describe the condition that follows when one is inspired and possessed by the god that has entered one’s body. It was applied to prophetic seizures, erotic passion, and artistic creation, as well as to those religious rites in which mystical states were experienced through the ingestion of substances that were transubstantial with the deity. In combination with the Greek root *gen-*, which denotes the action of “becoming,” this word results in the term that we are proposing: *entheogen*. (p. 229)

Smith (2000) prefers the term *entheogen* and expresses his concerns about nomenclature:

Nomenclature has been a problem. I never use the word “hallucinogen” because error is built into its definition. . . . The psychedelic is etymologically innocuous, literally meaning “mind-manifesting,” but it is dated, tagged to “the psychedelic sixties” when recreational use of drugs took over, and thus clearly inappropriate when speaking of shamans, Eleusis, and the Native American Church. We need a word that designates virtually nonaddictive mind-altering substances that are approached seriously and reverently, and the word “entheogens” does just that. (p. xvii)

When appropriate, the term psychoactive substance, a term that encompasses all of the before mentioned terms, will be used in this study.

Pharmacology of Ayahuasca

Ayahuasca is a plant decoction, and every batch is unique. Callaway (2005) analyzed 29 decoctions and found that all of them had different alkaloid profiles. Ayahuasca has qualities that are distinct from those of other psychoactive substances (McKenna, 2007). There is synergism between the two plant ingredients, one of which is completely inactive without the other. The active ingredient that causes hallucinations is dimethyltryptamine (DMT) and comes from the plant *Psychotria viridis*. If taken orally, DMT from *Psychotria viridis* is inactive. Only in the presence of the B-carbolines (harmine, harmaline, and tetrahydroharmaline) derived from the *Banisteriopsis caapi* vine does the DMT in *Psychotria viridis* produce the visions typical of the ayahuasca experience. This is due to the fact that the B-carbolines are monoamine oxidase (MAO) inhibitors that block the breakdown of DMT, serotonin, dopamine, and other monoamines. The MAO inhibitors increase serotonin levels and are known to act as antidepressants that produce a sustained effect for several days (Callaway, 1999, p. 255). This is an important property that may facilitate integration of the experience.

The MAO inhibitor effect of ayahuasca elevates the level of serotonin in the brain and digestive tract, and may contribute to the nausea, vomiting, and diarrhea that are so common with ayahuasca use (Callaway, 1999, p. 255). The elevated serotonin levels may also cause serotonin syndrome—a sudden increase in serotonin level—if that effect is combined with selective serotonin reuptake inhibitors (SSRIs), or high levels of tyramine, phenylalanine, or tryptophan (Callaway, 1999; Callaway & Grob, 1998; Frecska, 2007;

Metzner, 1998a). SSRIs must be avoided and foods that contain tyramines (aged cheese, red wine, smoked fish, and fermented foods) may be important to avoid both before and after ayahuasca administration. Severe serotonin syndrome is usually associated with MOA inhibitor pharmaceuticals that are used to treat depression. Serotonin syndrome with ayahuasca use is typically mild and resolves itself. Psychostimulants such as amphetamines, MDMA (ecstasy), and methylphenidate should also be avoided with ayahuasca use (Frecksa, 2007). It is important to monitor carefully any contemporaneous pharmacological drug use for safe administration of ayahuasca.

Shamanic Use of Ayahuasca

Thousands of years ago, shamans developed systematic “technologies of the sacred” to achieve altered states of consciousness (Grof, 1998; Walsh, 2001). “Ethnographic and ethnopsychopharmacological research in the 1980s has demonstrated that the use of psychoactive substances by indigenous peoples is far more widespread than previously recognized by mainstream anthropologists” (Lukoff, Zanger, & Lu, 1990, p. 143). Peters (1989) identifies shamanism as the root of other spiritual traditions:

Shamanism is the first spiritual discipline or path leading to immediate knowledge of the sacred (gnosis) . . . it is the root from which other spiritual disciplines have issued . . . there are numerous parallels between shamanism and other spiritual disciplines utilizing trance states. (p. 115)

Metzner (1999) adds, “Ayahuasca is widely recognized by anthropologists as being probably the most powerful and most widespread shamanic hallucinogen” (p. 3).

Traditionally, “the shaman is a sacrificial personality who experiences an intimate relationship with cosmic power that he or she is able to mediate through a trance state” (Grim, 2002, p. 14). Because of this intimate experience, the shaman is sought out as a

guide for the uncertain territory between the sacred and the secular, as an expert in “applied mysticism” (Grob, 1998, p. 13).

The ayahuasca experience includes purgation as a central feature, and there is much associated lore about the purpose of purgation. Ayahuasca use commonly causes vomiting and/or diarrhea. The shamanic view of this purging is that it is essential to the curing. Shamanic healers believe that physical toxins and psychic toxins (such as guilt, shame, self-defeating thought patterns, compulsions, and neurosis) are released.

Psychoactive substances are used to facilitate communication between the spirit world and humans, providing an avenue for direct communication with archetypal realms. Indigenous people incorporate this communication into their lives for healing, community building, and divination (Eliade, 1964; Grob, 2002; Grof, 1998; Metzner, 1999). The wisdom and knowledge acquired by their ayahuasca experiences is then integrated into their cosmology and worldview (Harner, 1973, p. 5). In this context, these substances are used only in a ceremonial ritual manner, neither frivolously nor for recreation (Grob, 2002; Mabit, 2007).

Ethnobotanical and anthropological inquiry into the use of psychoactive substances in shamanic practices began in the late 1800s with the description of the peyote religion by Lewin and the subsequent isolation of mescaline by Heffter (Grob, 1988, p. 278). The modern period of research was advanced by Hoffman’s discovery of LSD in 1943. What followed was a period of research that resulted in a new model of psychotherapy called psychedelic psychotherapy (Grinspoon & Bakalar, 1997; Grob & Bravo, 2005; Grof, 1988; Passie, 2007; Tart, 1969). The incorporation of shamanism with psychotherapy has been quietly occurring in the modern ayahuasca retreat.

Neo-Shamanic Ayahuasca Rituals

Western psychology has incorporated shamanic technologies that include the use of psychoactive substances (Walsh, 2001) into a form of neo-shamanism. Metzner (1998a), an expert in the area of consciousness and altered states induced by drugs, plants, and other means, describes a type of ceremonial hallucinogen use in which he has participated that combines traditional shamanic healing with psychotherapeutic qualities in practices that he calls “neoshamanic medicine circles” (1998a, p. 340). In these circles, attention to set and setting as described by Leary, Metzner, and Alpert (1969) and others is vital for safe and effective use of psychoactive substances. *Set* refers to the state and intention of the person experiencing the altered state, and *setting* refers to the situation and environment. Prior to the ceremony, the participants form a circle and share individual intentions. Sometimes meditation, spending time in nature, journaling, and/or producing works of creative expression is done prior to the sharing. These circles have the following components: (a) the participants lie or sit; (b) there is an altar or fire in the center; (c) there is a guide or leader, and sometimes assistants are present; (d) lighting is low or dark; (e) drumming, rattling, singing, and/or recorded music is used; (f) invocations are used to create a ritual space; and (g) a respectful, spiritual attitude is cultivated. After the ceremony, another sharing session is conducted for integration of experiences and discussion of how to apply the lessons learned. Sometimes, works of creative expression, such as painting or drawing, are incorporated into the postceremony integration process.

The leader or guide is very important to the ritual. A safe and sacred space is created with the trust and leadership of the person in this role. When necessary, the leader

may provide support, and he or she may perform psychotherapeutic interventions. It is important that the leader has experience with the substance being used, and sometimes the leaders will ingest a small amount of the substance during the ceremony “in order to help them [the leaders] tune in to participants” (Metzner, 2002, p. 179). For this research, data was collected from participants of an ayahuasca retreat that utilizes the neo-shamanic protocol described above.

Loevinger’s Theory of Ego Development

The term *ego level* was developed by Jane Loevinger (1976) to characterize psychological development. Loevinger views the ego as the organizing principle of the personality: “the frame of reference that structures one’s world and within which one perceives the world” (pp. 9-10). Loevinger’s (1976) theory of ego development provides a model for understanding development of the personality throughout the lifespan. She based her theory on the empirical research of the SCT, a semiprojective instrument that converts qualitative data into psychometrically sound quantitative data. The theory differentiates nine progressive stages of ego development from infancy through adulthood that are grouped into three tiers: preconventional, conventional, and postconventional. Miller and Cook-Greuter (1994) found that 10% of the adult population functions at the preconventional level, 80% at the conventional level, and approximately 10% at the postconventional level.

The first level (infancy) is not included in her model, because Loevinger did not see any way to measure this stage with the SCT. It is generally agreed that development occurs consistently and predictably throughout adolescence, but, beyond early adulthood, there is no guarantee that development will continue (Cohn, 1991; Loevinger, 1998b).

Table 1 summarizes the characteristics of levels two through nine. The table characterizes the source of a person's impulse control, how it relates interpersonally, and what the conscious preoccupations are. The table is divided into three stages: preconventional, conventional, and postconventional. Levels E2 and E3 are preconventional levels. People at the preconventional levels lack impulse control and represent about 10% of the adult population. Levels E4, E5, and E6 are the conventional levels. The meaning-making systems of people at the conventional stage (representing about 80% of the adult population) are developed unconsciously and as a result of conventional cultural conditioning. Levels E7, E8, and E9 are postconventional (representing about 10% of the adult population). People at the postconventional levels are able to recognize and question cultural conditioning.

Table 1

Characteristics of Loevinger's Levels of Ego Development

Level	Impulse Control	Interpersonal Mode	Conscious Preoccupations
<i>Preconventional Levels</i>			
E2) Impulsive	Impulsive	Egocentric, dependent	Bodily feelings
E3) Self-Protective	Opportunistic	Manipulative, wary	“Trouble” control
<i>Conventional Levels</i>			
E4) Conformist	Respect for rules	Cooperative, loyal	Appearances, behavior
E5) Self-Aware	Exceptions allowable	Helpful, self-aware	Feelings, problems, adjustment
E6) Conscientious	Self-evaluated standards, self-critical	Intense, responsible	Motives, traits, achievements
<i>Postconventional Levels</i>			
E7) Individualistic	Tolerant	Mutual	Individuality, development, roles
E8) Autonomous	Coping with conflict	Interdependent	Self-fulfillment, psychological causation
E9) Integrated		Cherish individuality	Identity

Note. Adapted from Hy & Loevinger (1996).

Hy and Loevinger (1996) equate their conception of the autonomous stage (E8) with Maslow's (1970) definition of self-actualization. Loevinger (1976) acknowledges that the integrated stage is difficult to describe because of the small number of people at this level. Cook-Greuter (1999) found that Loevinger's integrated stage was inadequate for describing extremely developed people and created two postautonomous stages to replace Loevinger's integrated stage.

Postautonomous Ego Development

Cook-Greuter worked directly with Loevinger as an expert scorer of the SCT. She was troubled by Loevinger's vagueness and lack of theory regarding the postconventional levels, specifically the postautonomous levels. Cook-Greuter's (1999) dissertation research resulted in the formulation of two high-end stages that include transpersonal (transcendent) modes of awareness—the *Construct-aware stage* and the *Unitive stage*.

Cook-Greuter (1999) summarizes these stages:

At the Construct-aware stage C9 (5/6), individuals recognize (a) the pattern of forming coherent maps of reality by consecutive, increasingly complex approximations, and (b) the underlying human need for permanence and stability that drives reification. At stage C10 (6) [the Unitive stage] people understand the fundamental instability and the illusion of the permanent object world more deeply. They integrate this awareness into a new mode of living and a more sober appraisal of the purpose of rational behavior and language in meaning making. (pp. 61-62)

Transpersonal theorists (Metzner, 1998b; Underhill, 2001; Wilber, 2000) concur in their understanding that, at the highest stages of human development, categories and constructs break down, opposites are reconciled, and polarities are transcended. "In the movement towards increasing levels of differentiation and integration of self and other, the individual self is no longer seen as a separate entity" (Page, 2005, p. 6). Less than one

percent of adults reach the transcendent levels of development (Alexander, Heaton, & Chandler, 1994; Cook-Greuter, 1990; Wilber, 1999).

The Ego and How it Develops in Adulthood

The concept of “ego” is usually associated with Freud and psychoanalytic theory. Loevinger (1998a) states that her theory is closer to H. S. Sullivan’s (1953) concept of the self-system than to psychoanalytic theory:

Sullivan proposed self-system as an explicit alternative to the Freudian ego, superego, and id formulation. The self-system is formed to protect the child from anxiety, which would result from admitting observations or ideas inconsistent with the person’s current frame of reference. It is thus a cognitive dissonance theory. (Loevinger, 1998a, p. 353)

The self-system acts as an *anxiety gate* that shields a person from anxiety. A person tends to recognize only what already exists in his or her self-system. If something unfamiliar is introduced into the self-system, dissonance is created, which produces anxiety and selective inattention. New experiences outside of the established reference frame do not get integrated.

Thus, the search for coherent meanings in experience is the essence of the ego or of ego functioning, rather than just one among many ego functions. The ego maintains its stability, its identity, and its coherence by selectively gating out observations inconsistent with its current state—granting that one person’s coherence is another person’s gibberish. This assumption is the theoretical foundation for the use of sentence completions and other projective techniques to measure ego development. Projective techniques call on subjects to project their own frame of reference on the test material. (Hy & Loevinger, 1996, p. 4)

Loevinger views the ego as “the frame of reference” upon which all of the person’s experiences are based (Hy & Loevinger, 1996, p. 3).

The ego represents the striving of human beings to understand themselves and the world they live in by fitting new experiences into their current meaning system. Overall, the ego labors mightily to create and maintain coherence and vigorously defends against dissonant stimuli. . . . Thus the ego is at the very core of meaning making, constantly integrating and absorbing experience and classifying and

finding order in everything that touches the individual both externally and internally. (Cook-Greuter, 1999, pp. 22-23)

People can integrate dissonant material into consciousness in two ways: (a) horizontally, by adding more information to what one already knows; and (b) vertically, by a transformation in the meaning system (Cook-Greuter, 1999). Vertical changes are rare and usually occur only when horizontal expansion doesn't work. "In that case, the whole previous meaning system may be transformed and restructured into a new, more expansive and inclusive theory" (p. 33). Vertical transformation leads to progression to the next level of ego development. Block (1982) suggests that assimilation is the first maneuver that a person uses when s/he is in a new situation that doesn't fit into his or her existing frame of reference. If assimilation fails, s/he will attempt to transform his or her self-concept and worldview with accommodation. This accommodation of a more complex event may facilitate ego development. King's (2001) research found a more complex process than just accommodation. She found that the *conscious* attempt to fit a difficult event into one's worldview is what contributes to growth.

Loevinger's model delineates the differences in how people at various stages see the world and make meaning of their experiences. A person's ego stage is "that view of reality that he or she most routinely and automatically uses to deal with experience" (Cook-Greuter, 2000, p. 232). As the ego develops, the person's way of relating to the world evolves into increasingly more complex modes of functioning (Cook-Greuter, 1999). A person with a more developed ego level can integrate a wider range of experiences and greater complexity into his or her consciousness (Helson & Roberts, 1994; McCrae & Costa, 1980; Vaillant & McCullough, 1987). They are more flexible, open, and able to expand with new experiences (McAdams, Booth, & Selvik, 1981;

McCrae & Costa, 1980). Loevinger (1998b, p. 33) writes, “people can understand thinking at their own level or at levels below their own, but not at levels above their own.”

Washington University Sentence Completion Test (SCT)

Loevinger developed a psychometric instrument that seeks to quantify ego structure through the use of a semi-projective assessment called the SCT (Hy & Loevinger, 1996; Loevinger & Wessler, 1970). By evaluating how a person uses language, the SCT gives a measure of ego level. Cook-Greuter (1999), a psychologist and linguist, writes:

Ego development theory is based on the notion that language is constitutive of reality. It posits that overall what we say and how we say it indicates how we frame reality. Through our utterances we reveal what we know that we know and notice, as well as what we choose to ignore or unconsciously leave out. Most interestingly, it can also reveal what does not appear on our mental screen at all. It shows what is not in our conception of the world. It illuminates what we do not know we do not know. (pp. 7-8)

The standard SCT has 36 sentence stems (beginning of sentences) that are completed by the test taker in any way s/he chooses. The short-form (18 sentence stems) SCT takes about 15-20 minutes to complete. For purposes of establishing validity, a qualified rater must score the completed SCT.

Reliability and validity have been methodically determined (Cook-Greuter, 1999; Hy & Loevinger, 1996; Loevinger, 1976, 1998b). Cohn (1998) conducted a meta-analysis of 92 studies of ego development with over 12,000 participants that established validity and replicability of the SCT. Redmore (1976) asked 133 individuals to complete the SCT and fake the test high, then low. Redmore found that faking low was successful, but attempts to fake high resulted in at most, a one-half stage increase, and, in some cases, lowered the score. Some “postconventional individuals may ‘choose’ to respond to some

items at lower levels than they are capable of—most often at the conventional stages—because to do so is functionally adequate” (Cook-Greuter, 1999, p. 47). Concealment, then, is a possible limitation to the test. The SCT is not reliable to detect preexisting psychopathology (Hy & Loevinger, 1996).

Overview of Research Using the SCT

More than 280 published and unpublished studies have used the SCT to study personality differences and change, psychological dynamics of growth, and interventions to promote ego development (Hauser, Gerber, & Allen, 1998). Many studies have demonstrated that “certain individual differences in personality are coherently connected with the concept of developmental maturity” (Westenberg & Block, 1993, p. 797). Cohn (1991) reviewed 90 studies, some longitudinal over 30 years, that utilized the SCT to examine ego development in relationship to age. Most of these studies showed that ego development advances in a linear progression through adolescence and then stabilizes in adulthood. Correlational studies have looked at many qualities that are associated with higher ego levels and are summarized as follows:

1. High IQ (Manners & Durkin, 2001).
2. Vocabulary and verbal intelligence (Browning & Quinlan, 1985; Loevinger & Wessler, 1970; McCrae & Costa, 1980).
3. High achievement (Vaillant & McCullough, 1987).
4. Creativity and openness to new and complex ways of thinking (Helson & Roberts, 1994; McCrae & Costa, 1980; Vaillant & McCullough, 1987).
5. Self-awareness and psychological mindedness (Helson & Roberts, 1994; Westenberg & Block, 1993; White, 1985; Helson & Wink, 1987).

6. Higher use of psychotherapy (a willingness to use psychotherapy) (Helson, Mitchell, & Hart, 1985; Vaillant & McCullough, 1987).
7. Open-mindedness, liberal, and critical thinking (McAdams, Booth, & Selvik, 1981; McCrae & Costa, 1980).
8. Tolerance and a nonjudgmental stance toward others (Helson & Roberts, 1994; White, 1985).
9. Greater capacity to form and maintain intimate relationships (Carlozzi, Gaa, & Liberman, 1983; Helson & Wink, 1987; Westenberg & Block, 1993; White, 1985).
10. Increased nurturance, trust, interpersonal sensitivity, valuing of individuality, psychological mindedness, responsibility, and inner control (Hauser et al., 1998).
11. Increased impulse control, interpersonal maturity, ego resilience, moral integrity, and interpersonal integrity (Westenberg & Block, 1993).
12. Ability to transcend gender roles (Bursik, 1995; Helson & Roberts, 1994; Helson & Wink, 1987; Prager & Bailey, 1985; White, 1985).
13. Personal adjustment, well-being, and health (White, 1985).

Some attributes were found to be correlated with conventional levels of ego development. Compliance with authoritarian and conventional attitudes is associated with the Conformist stage (Browning, 1983; McCrae & Costa, 1980; Westenberg & Block, 1993). “Although the capacity for intimacy is linearly related to ego level, friendly, interpersonally pleasant behavior should be curvilinearly related. According to

Loevinger, trying to please others is characteristic of the Conformist stage's interpersonal style" (Pals & John, 1998, p. 116).

Loevinger (1976) suggests that ego level is not related to psychological adjustment, and proposes that adjustment may be related to conformity. She writes, "Adjustment more or less necessarily means adjustment to the world in its present imperfection. Psychologists have increasingly questioned whether conformity represents man's highest state" (p. 147). Helson and Wink (1987) found that adjustment was related to the middle levels of ego level. Several studies have found that higher ego development is not related to happiness, indices of mental health, self-reported subjective well-being, or social adjustment (Hy & Loevinger, 1996; Vaillant & McCullough, 1987; Westenberg & Block, 1993). Research findings are complex and may be due to the samples used in the studies (Pals & John, 1998); for example, some studies included only high-end ego levels and others included mostly those in the Conformist range.

Interventions That Increase Ego Level

There have been several studies that focused on the promotion of ego level in adults. Five of the studies demonstrated promotion of ego development (Manners, Durkin, & Nesdale, 2004). Transcendental meditation (TM), a meditation technique and philosophy that facilitates transpersonal experiences, has been studied as an intervention that promotes ego development. Using the SCT in a controlled study, the responses of students of the Maharishi International University (MIU) were compared to those of engineering and liberal arts students (Alexander et. al, 1994). The MIU students showed significant growth in ego development. A significant increase in ego development was

also shown with the use of TM with prisoners (Alexander, Rainforth, & Gelderloos, 1991).

Manners et al. (2004) conducted a randomized, controlled experiment with an intervention specifically intended to advance ego development. The participants met for 90 minutes each week for several weeks in an intervention program that was “disequilibrating, personally salient, emotionally engaging, and interpersonal” (p. 25). The SCT was administered pre-, post-, and 4 months following the intervention. The study showed significant ego development that was maintained at a 4-month follow-up.

Personality Change

The psychology literature is divided in regard to whether personality can change or not. Some theorists believe in the “plaster hypothesis,” that the personality is an inherited genetic trait, that what a person is born with does not change after age 30 (Costa & McCrae, 1994; McCrae & Costa, 1982, 1999). Other personality researchers have found that personality traits can change (Bursik, 1991; Ormel & Rijdsdijk, 2000; Park, Cohen, & Murch, 1996). The topic continues to be debated (John, Naumann, & Soto, 2008). Some research has found that transitional periods of stress and disequilibrium can provide a stimulus for personality change (Bursik, 1991; Park, Cohen, & Murch, 1996). In an attempt to cope with an experience that is completely unknown, a person may have to restructure his or her way of interacting with the environment. In a meta-analysis of 206 personality stability coefficients, Ardel (2000) concludes that

Personality can change over the course of a person’s life, particularly if the age at first measurement is low or over 50, if the retest interval is large, if individual personality aspects rather than the overall personality are considered, and if personality aspects other than the big five NEO traits are assessed. (p. 400)

The Big Five Model of Personality

The Big Five personality factors have been widely accepted in the psychological literature as a taxonomy of personality traits or dimensions (John, Naumann, & Soto, 2008; John & Srivastava, 1999). The number of publications related to the Big Five personality traits have dramatically increased from near 0 in 1985 to nearly 2000 in 2006 (John, Naumann, & Soto, 2008). The taxonomy of personality traits is entitled the Big Five; it is “an empirical generalization about the covariation of personality traits (McCrae & Costa, 2008, p. 159). The five factors were derived through factor analysis of natural-language terms of personality descriptions. In the original personality lexicon, the list of terms included nearly 18,000 (John, 1990). Cartell worked with the traits and reduced the list to 12 primary personality factors. Tupes and Christal (1961) further refined the list of factors down to five. With replication of many studies by various researchers, a general consensus has been achieved for the Big Five factors (John, 1990; John & Srivastava, 1999). The acronym OCEAN has been coined to facilitate memory of the five factors: (O) Openness, (C) Conscientiousness, (E) Extraversion, (A) Agreeableness, and (N) Neuroticism.

The five factors are described as follows:

Extraversion implies an *energetic approach* toward the social and material world and includes traits such as sociability, activity, assertiveness, and positive emotionality. Agreeableness contrasts a *prosocial and communal orientation* toward others with antagonism and includes traits such as altruism, tender-mindedness, trust, and modesty. Conscientiousness describes *socially prescribed impulse control* that facilitates task- and goal-directed behavior, such as thinking before acting, delaying gratification, following norms and rules, and planning, organizing and prioritizing tasks. Neuroticism contrasts emotional stability and even-temperedness with *negative emotionality*, such as feeling anxious, nervous, sad, and tense. Finally, Openness to Experience (vs. closed-mindedness) describes the breadth, depth, originality, and complexity of an individual’s *mental and experiential life*. (John, Naumann, & Soto, 2008)

John (1990, p. 80) validated the Big Five prototypes during an assessment weekend at the Institute of Personality Assessment and Research at the University of California in Berkeley. John had 10 psychologists serve as expert judges; they identified the most central trait adjectives to develop prototypes of each trait. The prototypes are summarized in the following table:

Table 2

Summary of Big Five Prototypes

Trait	Adjectives Used to Describe High and Low Scores for Each Trait
Extraversion	
High	Talkative, assertive, active, energetic, outgoing, outspoken, dominant, forceful, enthusiastic, show-off.
Low	Quiet, reserved shy, silent, withdrawn, retiring.
Agreeableness	
High	Sympathetic, kind, appreciative, affectionate, soft-hearted, warm, generous, trusting, helpful, forgiving.
Low	Fault-finding, cold, unfriendly, quarrelsome, hard-hearted, unkind, cruel, stern, thankless, stingy.
Conscientiousness	
High	Organized, thorough, planful, efficient, responsible, reliable, dependable, conscientious, precise, practical.
Low	Careless, disorderly, frivolous, irresponsible, slipshod, undependable, forgetful.
Neuroticism	
High	Tense, anxious, nervous, moody, worrying, touchy, fearful, high-strung, self-pitying, temperamental.
Low	Stable, calm, contented.
Openness	
High	Wide interests, imaginative, intelligent, original, insightful, curious, sophisticated, artistic, clever, inventive.
Low	Commonplace, narrow interests, simple, shallow, unintelligent.

Note. Adapted from John (1990). These are the leading items that were selected as initial prototypes for the Big Five. The sample consisted of 140 men and 140 women.

Integration of the Ayahuasca Retreat Experience

An ayahuasca retreat experience with a successful integration process has been reported to facilitate psychospiritual growth and transformation. The *Spiritual Transformation Scientific Research Program of the Metanexus Institute on Religion and Science* (2004) defines spiritual transformation as “dramatic changes in world and self views, purposes, religious beliefs, attitudes, and behavior” (p. 5). Metzner (1998b) describes transformation as a fundamental change in form, nature, and character—a new way to perceive and know the self, thereby changing the way of relating to others and even to life. Both of these definitions are relevant to this study. They are similar to the vertical change that was discussed in the section on ego level development when a person’s meaning-making system is restructured. Metzner (2002) writes about psychospiritual transformation as a central feature of shamanism:

The evolution of consciousness is a transformational process that consists primarily in gaining insight and understanding, or gnosis. The acceleration of this process by molecular catalysts not only is a consequence of new chemical discoveries but also is an integral component of traditional systems of transformation, including shamanism, alchemy, and yoga. (p. 29)

Ayahuasca use is reported to promote psychological insight and understanding (Downing, 1969; Grob, 2002; Mabit, 1996; Metzner, 1999; Shanon, 2002; Stolaroff, 1999). Under the influence of ayahuasca, a person is conscious and has a dual awareness, much the same as in lucid dreaming (LaBerge, 1985; Peters, 1989; Shanon, 2002; Al. Shulgin & An. Shulgin, 1997). With practice, the experienced ayahuasca drinker is able to master the altered state (Peters, 1989; Shanon, 2002). This active participation in the waking-dream state is analogous to Jung’s (1960) “transcendent function” (p. 67-91). In this state, the concrete and symbolic become one: “Divine reality and public reality interpenetrate at every level” (Beyer, 1973, p. 69).

It is almost impossible to comprehend, without direct experience of it, the altered state of consciousness created by ayahuasca and other entheogens (Kornfield, 1993; Walsh, 2001). An important feature of entheogen use is the direct experience of the mystical and ineffable. The entheogenic properties of ayahuasca are very powerful and often lead to a deepening of spiritual beliefs, or even a spiritual conversion (Shanon, 2002). For example, Tart (1991) reports from his study of psychedelic use among Buddhists, “Several respondents reported that their psychedelic experiences had given them direct knowledge of the ‘illusory’ nature of phenomena” (p. 155). The importance of knowing through direct experience has been emphasized by Jung (1959): “In psychology one possesses nothing unless one has experienced it in reality. Hence, a purely intellectual insight is not enough, because one knows only the words and not the substance of the thing from inside” (p. 33). Tart (1991) describes some of the qualities that he found in the “drug literate” Tibetan Buddhist students whom he studied:

The specific experiences that show glimpses of possibilities beyond the ordinary self include seeing life in a much wider perspective, seeing how we create the narrow patterns of our personal lives, comprehending in ways that go beyond intellectual thought, experiencing vital clarity and luminosity, seeing the illusory nature of much of life, feeling vitally connected to the larger world and others, union and harmony with the universe, deep feelings of love and compassion, transcending duality, and glimpsing a “big self” far beyond the ordinary self. (p. 164)

The crucial point regarding the mystical experience is what to do with it, how to integrate it into one’s life. Smith (1964) writes, “drugs appear to induce religious experiences, it is less evident that they can produce religious lives” (para. 27). Walsh elaborates and restates the importance of integration of the experience to development:

The aim is to extend a single peak experience to a recurring plateau experience, to stabilize a state of consciousness into a stage of development, to change an altered state into an altered trait, or as Huston Smith put it so eloquently, to transform flashes of illumination into abiding light” (Walsh, 2002, p. 80).

Difficulties With Integration

The integration process does not always go smoothly. Havens (1968) writes, “The way up is the way down. Spiritual gains are never made without risk” (p. 65). Are difficult experiences a necessary part of positive psychospiritual growth, or are they dangerous? Most authors concur that difficulty and discomfort are a part of the natural developmental process (Assagioli, 1989; Bragdon, 1990, 1993; Corbett, 1996; S. Grof & C. Grof, 1989, 1990; Havens, 1968; Lukoff, n.d.; Perry, 1986; Underhill, 2001). An experience with the numinous can be difficult for a person to assimilate. “But typically, in reasonably well-structured personalities, archetypal experiences and the anxiety they produce are relatively well contained, so the ego controls are eventually able to reassert themselves” (Corbett, 1996, p. 22).

Predisposing Factors That Affect Integration

If the ego is not developmentally mature enough, an altered state (spiritual) experience can precipitate a crisis.

When spiritual emergence catapults an individual into experiences at the high end of the spectrum of consciousness before that person has completed the stages of developing a mature ego, spiritual problems may result. At its most intense crisis point these problems may create a spiritual emergency. (Bragdon, 1993, p. 25)

The developmental stage of the person may affect how the experience is integrated.

“Instances of confusion are not uncommon among people who become dazzled by contact with truths too great or energies too powerful for their mental capacities to grasp and their personality to assimilate” (Assagioli, 1989, p. 36). These individuals may be at risk for an “inflation” of the ego, addressed in the following section. Here, Assagioli discusses this directly, referring to the developmentally “impulsive” person:

There are also cases in which the sudden influx of energies produces an emotional upheaval which expresses itself in uncontrolled, unbalanced, and disordered

behavior. Shouting and crying, singing and outbursts of various kinds characterize this form of response. If the individual is active and impulsive he may be easily impelled by the excitement of the inner awakening to play the role of prophet or savior; he may found a new sect and start a campaign of spectacular proselytism. (p. 36)

Various other factors can affect the capacity to integrate a spiritual experience:

1. “No conceptual framework to support the experience, or to understand and accept the phenomenon with equanimity” (Bragdon, 1993, p. 27).
2. “Someone has neither the physical nor emotional flexibility to integrate the experiences into life” (Bragdon, 1993, p. 27).
3. The person is not prepared for the experience (S. Grof, 2001; Shanon, 2002).
4. The experience is too abrupt (Albert, 2005, p. 36).
5. The person has poor premorbid functioning prior to the experience (Albert, 2005, p. 36, citing Lukoff, n.d.).
6. The person is highly stressed prior to the experience (S. Grof & C. Grof, 1989).

Ego Inflation

The numinous experience usually “works to dissolve narcissistic structures such as grandiosity” (Corbett, 1996, p. 20). In the healthy personality, the experience creates a feeling of awe and allows the person to see that there is something bigger than herself or himself, that s/he is not running things. Corbett continues, “The more cohesive and firmly established the self, the more it can safely experience the Self by reordering itself rather than by fragmenting” (p. 22). But, if the structure of the personality is fragile, a powerful numinous experience can lead to inflation of ego:

Another pathological form of the ego when it identifies with the archetypal Self under the influence of hallucinogenic drugs is for the ego to feel that it is God. This inflationary identity results from the ego losing its usual sense of a dominant

ego-image, so that the archetypal image of the Self, the core of the ego, appears in consciousness as a mistaken ego-identity. (Hall, 1986, p. 41)

The narcissistic personality is more vulnerable to ego inflation (Assagioli, 1989; Corbett, 1996). Corbett points out that ego inflation is a defense mechanism used to protect the person from anxiety: “Grandiosity as a defensive maneuver then serves to protect an enfeebled self” (Corbett, p. 24).

Spiritual Emergence and Spiritual Emergency

Ayahuasca is a powerful psychoactive substance that can bring about a transcendent or peak experience. Maslow (1970) felt that peak experiences were, in themselves, life-changing and valuable. A transcendent experience can lead to the experience of any of a wide range of phenomena, from a spiritual emergence that is positive and transformational to a spiritual emergency that is regressive and overwhelming. Bragdon (1990) suggests that the real issue of emergence versus emergency is the individual’s “capacity to integrate the experiences” (p. 15). Integration of the experience is essential for psychological and physical health.

For some people, a spiritual emergency may be a part of the process of ego-level development.

Moreover, the psychological suffering associated with mental health crisis is a necessary component of spiritual maturation in breaking the grasp of the ego on the self-structure. . . . The destructive forces are intensified during times of developmental crises. (Albert, 2005, p. 21)

Washburn (1988) calls this phenomenon of regressing in order to work through repressed material “regression in the service of transcendence” (p. 155). Assagioli (1989) also describes the concept of regression during the growth process:

There is this possible complication: sometimes these new emerging tendencies revive or exacerbate old or latent conflicts between personality elements. Such conflicts, which by themselves would be regressive, are in fact progressive when

they occur within this larger perspective. They are progressive because they facilitate the achievement of a new personal integration, a more inclusive one, at a higher level—one for which the crisis itself paved the way. So these crises are positive, natural, and often necessary preparations for the progress of the individual. They bring to the surface elements of the personality that need to be looked at and changed in the interest of the person's further growth. (p. 34)

Perls (1969) uses different terminology to describe the difficulty of surrender of the ego constellation. He describes neurosis as a growth disorder, an impasse in development:

My formulation is that maturing is the transcendence from environmental support to self-support. The impasse is the crucial point of growth. The impasse is the position where environmental support or obsolete inner support is not forthcoming any more, and authentic self-support has not yet been achieved. . . . When you get close to the impasse, to the point where you just cannot believe you might be able to survive, then the whirl starts. You get desperate, confused. Suddenly, you don't understand anything any more, and here the symptom of the neurotic becomes very clear. The neurotic is a person who does not see the obvious. (p. 30)

Jung describes this process as a confrontation with the unconscious. He thought that the terror and panic that occurs could cause a crisis. He told Hannah (1981) about that:

Jung once told me that the unconscious itself was not dangerous. There was only one real danger, he said, but that was a very serious one: panic! The fear that grips a person when something very unexpected confronts him, or when he begins to be afraid of losing his footing in the conscious world, can upset him so much that it is really no wonder that so few people embark on the task. (p. 5)

The fear that makes us dread this journey into the unknown and which really makes it a "dangerous enterprise" is the fear of being swamped by the contents of the unconscious. In themselves, they are no more dangerous than the contents of the outer world, but just as we can lose our orientation in a difficult outer interview, which we could have managed easily had terror not overcome us, so we can do the same in our confrontation with the unconscious, with even more alarming consequences, because they are unknown. (p. 6)

Shanon (2002) writes about the fear that is common with the ayahuasca experience:

Notoriously, the Ayahuasca experience can be a most frightening one. This is especially marked with novices, and in fact, one of the key features of long-term experience with the brew is the mastery of fear. . . . One has to master one's fear but at the same time one has to beware not to fall into the trap of vanity, of hubris. In the different contexts of ayahuasca use, fear and vanity are very commonly

singled out as the two “big enemies,” the two big pitfalls of which one should be aware. The advised path that seems to suggest itself is a healthy balance between humble awe and valiant courage. (pp. 352-353)

Bragdon (1993), S. Grof and C. Grof (1989, 1990), Perls (1969), and Walsh and Vaughan (1980) all write about the pain, despair, anxiety, confusion, and suffering that a spiritual emergence creates. Hood (1986) describes many symptoms that look like medical or psychiatric problems: nervousness, hair loss, inability to concentrate, breathing problems, inability to function, fearfulness, anxiousness, rapid weight loss, insomnia, inability to eat, backaches, stomach aches, headaches, irrationality, inability to make decisions, early morning awakening, being unable to do anything constructive, being immobilized, inability to concentrate, loss of energy, a general physical feeling of coming apart, pain, despair, hopelessness, emptiness, despair of isolation, formlessness, and meaninglessness. In addition, a crisis may be accompanied by feelings of insanity and/or a preoccupation with death (S. Grof & C. Grof, 1989; Washburn, 1988). The process of spiritual transformation can be uncomfortable, with physical, emotional, or mental problems that can look like a psychotic state.

It is important to recognize that these various manifestations of the crisis bear a close resemblance to some of the symptoms regarded as characteristic of neurotic and borderline psychotic states. In some cases the stress and strain of the crisis also produce psychotic symptoms, such as nervous tension, insomnia and other psychosomatic disturbances. (Assagioli, 1989, p. 33)

The spiritual emergence literature often restates that if the person is adequately supported and the experience is not pathologized, the end result is more likely to be positive (Assagioli, 1989; Bragdon, 1990; S. Grof & C. Grof, 1989, 1990; Hood, 1986; Perry, 1986).

When individuals have access to appropriate support for spiritual emergency, the intensely disturbing aspects of the crisis may be minimized. When individuals do not have appropriate support, the disturbing aspects may well become magnified.

A lifetime punctuated by isolation, emotional turmoil and psychosomatic illness is not an unusual outcome for those who have not had the benefit of appropriate support during spiritual emergency. (Bragdon, 1993, pp. 26-27)

Albert (2005, pp. 128-129) developed a list of interventions to assist people through a crisis:

1. Reframing of the crisis in a positive light.
2. Valuing of the person as worthy of attention.
3. Limiting the medical model to necessary communications.
4. Minimizing labels and interpretation, and allowing persons to meter them with their own capacity for judgment and rumination.
5. Helping people identify and gather all available resources, including, but not limited to, the variety of philosophical, classical, self-help, and other literature; support groups; individual psychotherapy; spiritual guidance; creative expression; and spiritual practices.
6. Providing a safe and open container for the processing of crisis awareness.
7. Believing in the ultimate and innate wholeness in every individual.
8. Facilitating the discovery of greater levels of consciousness.

Even though mystical experiences are accessible with the use of psychoactive substances, they must be integrated to have lasting value for an individual. Pinchbeck (2002) emphasizes that ayahuasca use is a serious pursuit, “*yage* [ayahuasca] cannot be commodified or consumed recreationally; its gnosis must be earned” (p. 143). Stolaroff discusses the use of psychedelics for personal growth:

Psychedelics are not a shortcut, as it is of little value to sidetrack important experiences. If enlightenment requires resolution of unconscious material (and my personal experience indicates that it does), those who aspire to such achievement must carefully consider the pace and intensity with which they are willing to encounter this vast range of dynamics. The psychedelic path, while much more

intense than many other disciplines, is in a sense easier because it often provides an earlier and more profound contact with the numinous. Such contact inspires commitment and opens the door to more grace in surmounting uncomfortable material. (Stolaroff, 2002, p. 103)

Research

Psychedelic Research: 1950s – 1960s

Psychedelic psychotherapy and research in the 1950s and 1960s showed great promise for the treatment of many psychological disorders (Walsh & Grob, 2005). There is a vast literature concerning the therapeutic uses of LSD from that time. Grinspoon and Bakalar (1997) report that, between 1950 and the mid 1960s, there were more than 1000 clinical papers written, several dozen books published, and six international conferences discussing over 40,000 patients.

Early in the period of psychedelic research, it was thought that psychedelics could induce a temporary psychosis. Psychiatrists experimented with LSD as a psychomimetic (mimicking psychosis) in the study of psychosis and schizophrenia (Pahnke, Kurland, Unger, Savage, & S. Grof, 1970). Osmond (1952) claimed that mescaline “reproduced every single major symptom of acute schizophrenia” (p. 64). Over the years, researchers began to question whether psychedelics accurately mimic psychosis, and the psychomimetic theory was abandoned (S. Grof, 2001).

Later, there were two main LSD psychotherapy approaches (S. Grof, 2001; Grinspoon & Bakalar, 1997; Pahnke et al., 1970): (a) psycholytic therapy that utilized low doses (Pahnke et al., 1970), and (b) psychedelic therapy that utilized high doses (Hewitt, 2002). Psycholytic therapy was psychodynamically oriented, uncovering unconscious material through many psychedelic psychotherapy sessions over time. Psychedelic therapy was usually brief and aimed for a transformational peak

transcendental experience. In both approaches the subjects were well prepared before the session(s) with intensive psychotherapy and those experiences were then followed up with more psychotherapy for integration of the experience(s). Stanislav Grof (2005), a psychiatrist and one of the most eminent psychedelic researchers worldwide, has conducted over 4,000 psychedelic psychotherapy sessions on patients with various psychiatric disorders (p. 135). Here are his comments regarding psycholytic and psychedelic therapy:

The results of this treatment modality—psychedelic therapy as compared to the psycholytic one—are generally much better and are obtained faster. But the price paid is that we do not understand why it happens. Psycholytic therapy provides better understanding, but the results are not as impressive as they can be with the psychedelic approach. The two approaches are thus complementary, one offering better and faster results, the other one offering the missing understanding of the territories involved. (p. 137)

Abraham (1998) reevaluated the LSD research of the 1950s and 1960s, looking for evidence of the positive and negative effects of LSD on mental health. He reviewed medical journal articles for evidence of flashbacks and/or LSD-induced psychosis that may have followed such interventions. He noted that most psychedelic research was done on psychiatric patients, so it is difficult to distinguish whether the LSD precipitated the flashbacks and psychosis. He found that 23% of LSD users did experience flashbacks, but he thought that most of these were not due to pathology. Here are his concluding remarks regarding LSD-induced psychosis:

Whilst legal restraints presently prohibit prospective studies, the large surveys of the 60s and 70s show that in medical settings incidence of prolonged psychoses following LSD use is small, and not much higher than that of the general population. . . . This is surprising since the notion that LSD use causes psychosis was one of the principal reasons for the prohibition of LSD. (Abraham, 1998, para. 163)

Abraham also evaluated the research, looking for possible evidence of effectiveness of LSD psychotherapy. He concluded that the research was methodologically unsound and did not demonstrate efficacy. Nevertheless, in a recent compilation of chapters that review the early use of psychedelic therapy and research, experts in the field, “eminent elders,” discuss many innovative and successful treatment and research projects (Walsh & Grob, 2005).

Controlled clinical use of psychedelics in research and treatment in the 1950s and 1960s was very safe. There were “very few complications and no deaths” associated with clinical use or research (Walsh & Grob, 2005, p. 3). However, there was a dark side to psychedelic use. The U.S. military conducted unethical secret research using “psychedelics as brainwashing and counter espionage weapons” (Grob & Bravo, 2005, p. 8). Unknowing research subjects were administered psychedelics and launched into a “trip” with no preparation or support. There were cases of people who used psychedelics in “sets and settings” that were conducive to “bad trips,” and who were, consequently, physically or psychologically harmed. The dark side of psychedelic use was rampant in the media (Walsh & Grob, 2005). “Flashbacks” and LSD psychosis were featured and exaggerated in the headlines as a part of the anti-LSD hysteria (Stevens, 1987). Stevens points out that the media was biased and the “evidence” was often unsupported or misunderstood. In 1966, the social-political context in the U.S. influenced the federal government to conduct Senate hearings on the investigation of LSD. The proceedings led to criminalization of the possession of LSD, and all above-ground research came to a halt.

The Good Friday Experiment

Walter Pahnke (1966), a physician and minister, conducted an empirical study (double-blind, controlled experiment) known as the “Good Friday Experiment” to investigate mystical states that were created with psychedelic drug experiences. Pahnke developed a nine-category typology of the mystical state that was postulated by W. T. Stace (1960). The nine categories include (a) unity, (b) transcendence of time and space, (c) deeply felt positive mood, (d) sense of sacredness, (e) objectivity and reality, (f) paradoxicality, (g) alleged ineffability, (h) transiency, and (i) persisting positive changes in attitude and behavior. The purpose of the study was to administer psilocybin in a religious context, examine the empirical descriptions of the experience of the participants, and then compare them to experiences described by mystics.

The participants in the study were 20 theological graduate students from a seminary in the Free-Church tradition. Pahnke (1966) describes how they were carefully prepared for the experience:

Preparation was meant to maximize positive expectation, trust, confidence, and reduction of fear. The setting was planned to utilize this preparation through group support and rapport; through friendship and an open, trusting atmosphere; and through prior knowledge of the procedure of the experiment in order to eliminate, if possible, feelings of manipulation that might arise. (p. 300)

Ten of the participants were administered psilocybin and 10 got nicotinic acid, a vitamin that causes a flushed feeling of tingling and warmth. All 20 participated in a religious service. The results found for this experiment demonstrated that the experience reported by the participants who had received the psychedelic substances had more of the qualities of a mystical experience than did those reported by the control group. Eight of the 10 experimental participants felt that the experience had made a profound impact on them. Pahnke (1966) states, “These [participants] felt that this experience had motivated

them to appreciate more deeply the meaning of their lives, to gain more depth and authenticity in ordinary living, and to rethink their philosophies of life and values” (para. 26). Pahnke concluded that profound mystical experiences can occur with the use of entheogenic substances.

Doblin (1991) did a methodological critique and long-term follow-up study of the Good Friday experiment. He pointed out that the double-blind was broken early in the experiment. All of the participants recognized who had received the psilocybin versus the nicotinic acid placebo. Doblin (1991) writes, “In this instance the loss of the double-blind is of lesser significance because the entire experiment was explicitly designed to maximize the combined effect of psilocybin and suggestion” (p. 6). Doblin also points out that the questionnaire that was used has since been improved by Di Leo and Yensen and now exists in a computerized version called the Peak Experience Profile (p. 8). Professional psychological assessments were not done, and the questionnaires were self-reports only and did not assess personality change. Doblin writes:

Several decades seem to have strengthened the experimental groups’ characterization of their original Good Friday experience as having had genuinely mystical elements. . . . A relatively high degree of persisting positive changes were reported by the experimental group while virtually no persisting positive changes were reported by the control group. (p. 12)

The long-term follow-up interviews cast considerable doubt on the assertion that mystical experiences catalyzed by drugs are in any way inferior to non-drug mystical experiences in both their immediate content and long-term positive effects. (Doblin, 1991, p. 24)

The Good Friday experiment demonstrates that the effects of the psilocybin-induced mystical experience apparently have long-term positive effects.

Doblin (1991) notes that Pahnke “underemphasized” (p. 21) the psychic difficulties that some of the participants experienced during the experiment. Five of the 7

participants “felt moments in which they feared they were either going crazy, dying, or were too weak for the ordeal they were experiencing” (p. 21). Pahnke did not report that one participant was administered Thorazine for a psychotic episode. Pahnke did not attempt to explain the psychic difficulties in his experiment, and instead covered them up. This may have added to the backlash that occurred in psychedelic research in the face of the report of its results.

Johns Hopkins Psilocybin Research

In 2004, Griffiths, Richards, McCann, and Jesse published the results of their research, *Psilocybin Can Occasion Mystical-Type Experiences Having Substantial and Sustained Personal Meaning and Spiritual Significance*. Their study looked at the psychological and spiritual effects of a high dose of psilocybin on 36 hallucinogen-naïve adults. The method they used was a double-blind, between-group, crossover design that compared participants who were administered psilocybin to those who were administered methylphenidate hydrochloride. Those who received psilocybin reported having experiences similar to spontaneously occurring mystical experiences and, at 2 months following the experience, participants reported those experiences as having had for them substantial personal meaning and spiritual significance. In addition, volunteer raters in the participants’ communities reported that the participants’ behaviors and attitudes had changed.

Hoasca Project

To date, the Hoasca Project is the most comprehensive research completed on ayahuasca (Grob et al., 1996). It examined the biochemical, pharmacological, physiological, and psychiatric facets of ayahuasca use within a syncretic religious

organization, the Uniao do Vegetal (UDV). The UDV is one of three such organizations that exist in South America that use ayahuasca as a sacrament in their religious ceremonies. In an attempt to legitimize its use of this practice, in 1993, the UDV invited a multinational research team (Grob et al., 1996; McKenna et al., 1998) to conduct a study of the effects of long-term ayahuasca use within the UDV. Several tests and measures were used to assess psychological function that showed significant differences in personality between UDV members in comparison to non-ayahuasca users with a similar age and cultural background. Based on the study, there were statistical differences between the 2 groups in the Tridimensional Personality Questionnaire and the WHO-UCLA Auditory Verbal Learning Test. UDV members were more reflective, rigid, loyal, stoic, slow-tempered, frugal, orderly, persistent, and emotionally mature. In the harm-avoidance tests they were more confident, relaxed, optimistic, carefree, uninhibited, outgoing, and energetic. The neuropsychological tests showed that their concentration and short-term memory scores were higher. The experimental group had no current psychiatric diagnosis; however, prior to UDV membership, 11 of them had been diagnosed with alcohol abuse disorders, 2 with major depressive disorders, 4 with histories of cocaine and amphetamine abuse, 11 with tobacco addiction, and 3 with phobic anxiety disorders. Upon interview, the UDV members attributed their recovery from all of those historic behaviors and disorders to ayahuasca use. All of the participants reported in interviews that they had undergone personal transformation. They also said that ayahuasca was a catalyst for their “moral and psychological evolution” (Grob, 2002, p. 209).

The Hoasca Project did not differentiate the effects of ayahuasca use from the teachings, the ritual ceremonial context, and/or group effects of the UDV practice. For this present study, by contrast, the research setting was a spiritual center, The Vine Retreat Center, but there are no religious teachings associated with it. The participants in this study did not receive any doctrine or religious teachings, and they were part of the retreat group community only for the duration of the retreat.

Antipodes of the Mind

Shanon (2002), a cognitive psychologist, did a phenomenological study of ayahuasca. He interviewed 178 people who had had a total of 2,500 experiences, and he participated in 130 experiences himself (pp. 41-44). His book *Antipodes of the Mind* describes the phenomenology of the ayahuasca experience in detail. Shanon (2002) wrote this about the impact of his research:

First and foremost, this is both the first empirical cognitive-psychological investigation of the Ayahuasca experience ever conducted as well as the first and only theoretical cognitive treatment of this topic. Indeed, apart from the clinical-psychological testing administered in the framework of the medically oriented Hoasca Project conducted by Grob and his associates, this is the only systematic psychological study of Ayahuasca that has ever been undertaken. (p. 45)

Psychoneurobiological Effects

Using a neurophenomenological approach, Winkelman (1996, 2002) has created the term “psychointegrator plants” in an attempt linguistically to bridge the terminology of science and spirituality. He proposes that these plants have neurophysiological effects, along with phenomenal experiential properties. Research in neurobiology suggests that certain neurotransmitter systems, notably serotonergic systems, are important in the mediation of spiritual experience (Strassman, 2001). Behavioral, psychological, and spiritual phenomena appear to be correlated with regard to their mediation by these same

neurotransmitter systems. Winkelman (1996) concludes, “Psychointegrator therefore implies the stimulation of the mind, emotions, soul and spirit to integrative development, consistent with the patterns of experiences and uses of sacred plants in both individual and collective social processes” (p. 18).

Winkelman (2002) reviews how altered states of consciousness (ASC) produce a relaxation response and brain synchronization. Recent research is demonstrating that slow-wave synchronization across the brain systems creates an integrative mode of consciousness (p. 1876):

These slow wave discharges produce strongly coherent brain wave patterns that synchronize the frontal areas of the brain, integrating nonverbal information into the frontal cortex and producing insight. ASC’s heal by producing psychological integration, eliciting opioid and serotonergic functioning, providing access to repressed emotional dynamics, and promoting social bonding. (Winkelman, 2002, p. 1880)

These shamanic ASCs facilitate contact with the unconscious preverbal parts of the psyche.

Shamanistic healing evokes activities of lower brain structures, enabling manifestation and integration of preconscious aspects of the self that are managed by the paleomammalian and reptilian brains. This circumvents egoic processes through the use of a presentational or visual symbolism that embodies rich personal information. (Winkelman, 2002, p. 1885)

Using low-resolution electromagnetic tomography (LORETA) and EEG, Riba, Anderer, Jane, Saletu, and Barbanoj (2004) studied the brain electrical activity of participants who had ingested ayahuasca. Their study was the first published to evaluate regional brain electrical activity with LORETA following administration of ayahuasca to participants. They found that “ayahuasca has demonstrated a combined stimulatory and psychedelic effect profile, as measured by subjective effect self-assessment instruments and dose-dependent changes in spontaneous brain electrical activity, which parallel the

time course of subjective effects” (2004, p. 89). The findings from the administration of the self-assessment instruments demonstrated changes in perception, thought processes, and mood. EEG showed decreases in delta and increases in theta activity, suggesting an arousing or excitatory effect; it also displayed an alpha-suppressing effect. “Thus, ayahuasca would combine alpha-dampening effects, a feature shown by other perception-altering drugs, with slow wave reduction properties, in an overall profile which would bring it closer to drugs such as LSD rather than to pure psychostimulants” (Riba et al., 2004, p. 99).

Unethical Pseudo-Shamans

American and European ayahuasca tourism has created a phenomenon of pseudo-shamanism. Pseudo-shamans are emerging not only in the Amazon Basin but also in the U.S. and other countries in underground ceremonies. These pseudo-shamans are not apprenticed and may administer various hallucinogenic (non-traditional) concoctions. Some people become violently ill and/or may suffer psychologically from the experience (Dobkin de Rios, 1994, p. 277-279). The combination of ayahuasca use with the personal quest for power and/or money is dangerous. It is imperative that whoever administers and acts as a guide for ayahuasca ceremonies is trained, experienced, and ethical. In this way leaders or guides for ayahuasca ceremonies are similar to medical doctors. Shamanism is the earliest form of medical practice, and modern neo-shamanism has the same pitfalls, dangers, and ethical issues as does the practice of medicine. Kornfield (1993) says,

A lot of people use psychedelics in mindless or misguided ways, without much understanding. The spiritual context gets lost. It’s like taking a synthetic mescaline pill and forgetting the two-hundred-mile desert walk and months of prayer and purification the Huichols use to prepare for their peyote ceremony. Some modern explorers like Stan Grof and Ram Dass have a much greater sense of the power or the force that one may confront. One needs to respect the depth of

these experiences and make a conscious commitment to the full journey of spiritual change. (p. 55)

Conclusion

This research is important not only to the field of transpersonal psychology but also to the study of the human experience. Altered states of consciousness are a part of the human experience, and, so far, are not well understood. One hundred years ago, William James (1902/1991) knew that psychology must include the study of altered states of consciousness. He said, “The whole drift of my education goes to persuade me that the world of our present consciousness is only one out of many worlds of consciousness that exist, and that those other worlds must contain experiences which have a meaning for our life also. . .” (James, 1902/1991, p. 391).

Psychospiritual integration of the altered state is fundamental to the completion of transformation. The higher levels of consciousness must find a way to be “converted into enduring structures of consciousness (states into traits)” (Wilber, 2000, p. 15). William James, the pragmatist, goes further, and discusses how changes in consciousness affect our conduct in and relationship to the natural world:

The further limits of our being plunge, it seems to me, into an altogether other dimension of existence from the sensible and merely “understandable” world. Name it the mystical region, or the supernatural region, whichever you choose. So far as our ideal impulses originate in this region (and most of them do originate in it, for we find them possessing us in a way for which we cannot articulately account), we belong to it in a more intimate sense than that [in] which we belong to the visible world, for we belong in the most intimate sense wherever our ideals belong. Yet the unseen region in question is not merely ideal, for it produces effects in this world. When we commune with it, work is actually done upon our finite personality, for we are turned into new men, and consequences in the way of conduct follow in the natural world upon our regenerative change. (James, 1902/1991, p. 389)

Chapter 3: Research Method

Research Questions and Purpose of the Study

This study investigated the psychological effects on individuals attending an ayahuasca retreat. Specifically, it assessed changes in ego level (Loevinger, 1976) and Big Five personality factors (Benet-Martinez & John, 1998). It examined the relationship between baseline ego level, personality factors, and symptoms of psychological distress. In addition, it assessed the effect of integration practices in which retreatants participated during and after the retreat. This study investigated the following research questions:

1. Does ego level change as the result of an ayahuasca retreat?
2. Do Big Five personality factors change as the result of an ayahuasca retreat?
3. Do baseline ego level and baseline personality factors predict symptoms of psychological distress for participants who attend an ayahuasca retreat?
4. Does participation in integration practices (i.e., group sharing or associating with like-minded people, ayahuasca-associated educational classes, creative expression, introspective solitude, an additional spiritual practice, and/or individual counseling) relate to change in ego level and/or personality factors?
5. Does participation in integration practices (i.e., group sharing or associating with like-minded people, ayahuasca-associated educational classes, creative expression, introspective solitude, an additional spiritual practice, and/or individual counseling) relate to symptoms of psychological distress?

These questions generated the following five related hypotheses: As the result of an ayahuasca retreat experience: (a) ego level (Loevinger, 1976) will increase over baseline and be sustained at 8 weeks following the retreat; (b) Big Five personality factors (John,

Donahue, & Kentle, 1991) will change immediately following the retreat as follows: Extraversion will increase, Agreeableness will increase, Conscientiousness will increase, Neuroticism will decrease, and Openness will increase; (c) those persons with a lower baseline ego level and a lower Neuroticism score on the Big Five Inventory will demonstrate more symptoms of psychological distress; (d) integration practices (e.g., group sharing or associating with like-minded people, educational classes, creative expression, introspective solitude, an additional spiritual practice, and/or individual counseling) may facilitate development in ego level and therapeutic change in personality factors; (e) participants who utilize integration practices (e.g., group sharing or associating with like-minded people, educational classes, creative expression, introspective solitude, an additional spiritual practice, and/or individual counseling) will be less likely to have symptoms of psychological distress.

Research Design

Psychometric testing and questionnaires were administered to 33 international (English-speaking) retreat participants, using repeated measures, before the retreat, immediately after the retreat, and at 4 weeks and 8 weeks following the retreat. The research was conducted on participants who attended ayahuasca retreats at TheVine Retreat Center, a legally established nonprofit organization located in Brazil. The director of the center permitted the researcher of this study to collect data from participants at her retreats.

The director of the center is a licensed transpersonal psychotherapist from Argentina who has been involved in working with modified states of consciousness for over 20 years. She carried out field research in Mexico with Mazatec shamans and has

worked extensively with the use of ayahuasca, san pedro, and other sacred plants in their native habitats. For the past decade, she has been hosting ayahuasca seminars and shamanic retreats in both the Peruvian and the Brazilian Amazon. For the last 2 years, she has operated TheVine Retreat Center, and she is the primary facilitator for all of the retreats and ceremonies. She does not consider herself to be a shaman. She encourages retreat participants to focus on how to access and use personal, and sometimes hidden, abilities that stem from the true shaman that is within us all: the higher Self.

All data collection was done via participants' self-administered questionnaires and inventories completed on a confidential and secure research website. The data were analyzed quantitatively, looking for statistical significance, and qualitatively to develop themes. In addition, three case studies were compiled, using the quantitative and qualitative data of individual participants, in order to exhibit the complexity and uniqueness of the participants' experiences.

Instruments

This study used quantitative and qualitative instruments to collect participant data. Each instrument was a self-report questionnaire or inventory, and included the following:

1. Demographic and background questionnaire
2. Washington University Sentence Completion Test
3. Big Five Inventory
4. Qualitative questionnaire

The time required to complete all the instruments was approximately 60-70 minutes for the first preretreat session, and 20-40 minutes for the other sessions. The preretreat data collection session included creation of an online fictitious identification.

Data collection occurred according to the following schedule:

1. Pretest (before the retreat): Demographic questionnaire, SCT, BFI, qualitative questionnaire.
2. Posttest (immediately after retreat): SCT, BFI, qualitative questionnaire.
3. Follow-Up 1 (4 weeks following retreat): BFI, qualitative questionnaire.
4. Follow-Up 2 (8 weeks following retreat): SCT, BFI, qualitative questionnaire.

Demographic and background questionnaire. This instrument (Appendix A) was developed by the researcher and assessed demographics and background of the participants, using a multiple-choice and short-answer questionnaire.

Washington University Sentence Completion Test (SCT). Loevinger developed a psychometric instrument that quantifies ego structure with a semi-projective assessment called the Washington University Sentence Completion Test (SCT) (Hy & Loevinger, 1996; Loevinger & Wessler, 1970). The SCT (Appendix B) can be administered in groups or individually and takes about 15-20 minutes to complete. The completed SCTs were scored by an expert scorer, Paul Marko, Ph.D.

The standard SCT has 36 sentence stems (beginning of sentences) that are completed by the test taker. This study used the short forms that have 18 items. There are two matched alternate short forms of the SCT available (Hy & Loevinger, 1996; Manners et al., 2004). The short forms were used to decrease testing time and to avoid measurement error effects found in short-term repeat testing (Redmore & Waldman, 1975). The short forms have equivalent validities, but their results are less reliable (Hy, Bobbitt, & Loevinger, 1998; Loevinger, 1985). One form was used for the pre-test (baseline) and the 8-week follow-up; the alternate form was used for the post-retreat test.

There are some limitations to the test in regard to how participants may respond. Concealment is a possibility, as some “postconventional individuals may ‘choose’ to respond to some items at lower levels than they are capable of—most often at the conventional stages—because to do so is functionally adequate” (Cook-Greuter, 1999, p. 47). The SCT is also limited in that it does not detect preexisting psychopathology (Hy & Loevinger, 1996, p. 36).

Big Five Inventory (BFI-V44). The BFI-V44 (John et al., 1991) was created as a tool to measure the Big Five factors of personality with a brief but reliable instrument (Appendix C). The five subscales are: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. All items are short phrases based on prototypical trait adjectives (John & Srivastava, 1999). The subscales scores are created by reverse-scoring specified items, summing the ratings for each subscale, and dividing by the total number of items to obtain a mean score.

The NEO PR-I (Costa & McCrae, 1992) is the best validated Big Five measure, but the BFI-V44 has maintained the reliability of the NEO PR-I, while reducing the number of items to 44 (John & Srivastava, 1999). The coefficient alpha mean of the BFI is .83, as compared with the NEO alpha mean of .79 and the mean average of 3-month test-retest reliability, is .85 (John & Srivastava, 1999). The BFIs were scored by the researcher.

Qualitative questionnaire. This questionnaire (Appendix D) was administered to triangulate quantitative data and to obtain information that the quantitative instruments failed to measure. Data from this questionnaire were analyzed for thematic content. Relevant data were utilized as covariates. Integration practices identified through

qualitative data analysis were coded quantitatively (e.g., 0 = *no participation*, 1 = *participation*) to facilitate analysis of therapeutic change mechanisms. The responses to the following question, In the last 2 weeks, have you had any symptoms of psychological distress? were coded quantitatively (0 = *no distress*, 1 = *distress*) to facilitate analysis of ease or difficulty of psychological integration of the retreat experience.

Procedure

Three weeks prior to the beginning of the study, this researcher traveled to Brazil, in order to provide a laptop computer to the retreat center, to review and sign the agreement between TheVine Center and Deborah Quevedo (Appendix G), and to train the research assistant who resides at the center.

Upon the completion of registration by participants for the retreat, TheVine Center staff e-mailed each a letter of invitation (Appendix E) to participate in the study and asked each for permission to give the participant's name and e-mail address to the researcher. The center staff notified the researcher (by e-mail) of the name and e-mail address of each retreat participant. The researcher e-mailed another letter of invitation and a consent form (Appendix F) to each participant. The participant then e-mailed the electronically signed consent form to the researcher. The researcher sent each participant a link to the pretest on the website, along with instructions to complete the pretest prior to traveling to the retreat center. The first time the participant logged onto the website, s/he created a fictitious name that was used for that participant throughout the entire study. The participants followed the promptings on the website to complete each of the assessments and questionnaires. On the last day of the retreat, the research assistant accompanied each participant to the computer station s/he would use to log onto the

website and complete the assessments and questionnaires. On two occasions, the Internet service at the retreat center was not functioning and the participants attempting to log in on those occasions were instructed to complete the post-tests as soon as possible after leaving the retreat center. At 4 weeks and 8 weeks following the retreat, the researcher e-mailed a website link to each participant, along with instructions to complete the follow-up test. The retreat followed this approximate schedule:

1. Day 1: Arrival, orientation, and rest.
2. Day 2: Prepare for and participate in first ceremony.
3. Day 3: Attend art and journaling integration sessions, participate in sharing session, rest.
4. Day 4: Rest and recreation, attend educational lecture on an ayahuasca-related topic, prepare for and attend second ceremony.
5. Day 5 - 6: A repeat of the cycle (ceremony, integration, rest).
6. Day 7: Log onto website, complete assessments and questionnaires, prepare to leave retreat.

At the retreat, each of the ayahuasca ceremonies had the following format: The participants arrived in the ceremony room and then prepared their own space with a mat, bedding, pillows, and a container for vomiting. All of the participants sat in a circle with the facilitator and attendants, and each shared his or her personal intentions for the ceremony. Everyone then stood up, and the facilitator gave each participant a cup of ayahuasca (50 cc to 120 cc) to hold in his or her hand. The facilitator made an invocation to call upon each person's higher self and spiritual guides, and then instructed the

participants to drink the ayahuasca. The participants spent about 10 minutes using the restroom and getting comfortable, and then they quietly returned to lie or sit on their mats. The facilitator turned on recorded music, lit candles, and then turned off the lights. Participants were encouraged to stay quietly on their own mats for the entire ceremony, except to use the restroom, and were asked not to disturb other retreatants during the experience. The duration of action of the ayahuasca was 4 to 6 hours. The facilitator and attendants stayed in the ceremony room throughout the ceremony and assisted people as necessary. During the period of inebriation, the participants were assisted in walking to the bathroom, vomiting, and maintaining physical comfort, as well as receiving support and reassurance during difficult experiences. When the ceremony was complete, the facilitator turned off the music, and the participants stayed in the ceremonial space to sleep on their mats. The group reconvened for breakfast the following morning, after which they attended the events of the day as listed in the retreat schedule.

The retreat facilitator was available to the participants for individual counseling sessions at all times during the retreat. Participants were free to discuss their experiences with each other at meals and during rest periods. Participants were encouraged, but not required, to draw and/or journal. Attendance at the sharing sessions was mandatory.

All meals were provided to the participants. There were special dietary restrictions applied for the duration of the retreat: sodas, red meat, alcohol, sugar, and salt were prohibited. On each ceremony day, nothing was served after lunch; otherwise, three meals a day were served. In addition, participants were asked to refrain from all sexual relations during the retreat.

Statistical Analysis

The data were retrieved from the website database and stored on the researcher's computer in a password-protected folder. The data was screened for missing values, outliers, and implausible values. Scores for the SCT and BFI were calculated as described in the previous section, entitled *Instruments*. The researcher organized the quantitative data using Microsoft Excel spreadsheets and e-mailed the spreadsheets to a research statistician for analysis. The statistician utilized the Statistical Package for the Social Sciences (SPSS) software, 11.0, and then e-mailed the output statistics to the researcher.

Research Question 1

This question tested the hypothesis that the ayahuasca retreat would produce a statistically significant change (i.e., an increase) in ego level at posttest and at 8 weeks following the retreat. Pretest (baseline) and posttest SCT means were compared using a general linear model repeated measures ANOVA. To test for change that was maintained for 8 weeks, the process was repeated to compare pretest (baseline) and 8-week follow-up SCT scores. The following demographic characteristics were examined as potential confounders of observed intervention effects on ego level (SCT): age, gender, and prior tryptamine (ayahuasca, LSD, and psilocybin) use. Control variables were included in the data analysis, using an Analysis of Covariance (ANCOVA) measure.

Research Question 2

A general linear model repeated measures ANOVA was used to test the hypothesis that an ayahuasca retreat experience is associated with statistically significant changes in personality traits, as measured by the BFI. A significant omnibus *F*-test indicates that BFI mean factor scores differ across time. Because the BFI was

administered on four occasions (pretest, posttest, follow-up 1, and follow-up 2), paired *t*-tests were used to compare baseline BFI scores with BFI scores at all subsequent time points. The following demographic characteristics were examined as potential confounders of observed intervention effects on personality traits (BFI): age, gender, and prior tryptamine use. Control variables were included in the analysis, using an ANCOVA.

Research Question 3

A chi-square was used to test the hypothesis that the frequency of psychological distress following the retreat differed by baseline ego level and baseline Neuroticism (BFI) scores. Each of the baseline SCT scores were categorized into either the medium (E3, E4, E5, E6) or the high (E7, E8, and E9) group. Neuroticism (BFI) scores were categorized into either the low (*< median*) or the high (*> median*) group. Psychological distress was assessed in the qualitative questionnaire. The question, Did you experience symptoms of psychological distress? If so, please describe, was coded quantitatively (0 = *no*, 1 = *yes*). The chi-square provided a test of the hypothesis that lower ego level and higher Neuroticism are associated with more frequent psychological distress.

Research Question 4

Integration practices at the retreat that were in addition to the ayahuasca ceremonies were expected to contribute to changes in ego level and personality characteristics. The posttest integration practices identified through qualitative data analysis at the last day of the retreat were coded quantitatively (0 = *no participation*, 1 = *participation*) to facilitate *t*-tests of between-group differences in change in ego level and

personality characteristics (BFI) following the retreat. Posttest integration practices included the following:

1. Participation in the sharing sessions.
2. Attendance of educational classes during the retreat.
3. Drawing, painting, and/or writing at the retreat.
4. Waking time in introspective solitude during the retreat.
5. Participation in an additional spiritual practice during the retreat, such as prayer or meditation.
6. Participation in an individual counseling session during the retreat.

In addition, integration practices after leaving the ayahuasca retreat were expected to contribute to changes in ego development and personality characteristics. The following integration practices identified through qualitative data analysis were coded quantitatively (0 = *no participation*, 1 = *participation*) to facilitate *t*-tests of between-group differences in follow-up changes in ego level and personality characteristics (BFI).

Four-week and 8-week follow-up integration practices included the following:

1. Regular contact with a like-minded community.
2. Attendance of classes or teachings that are related to the ayahuasca retreat.
3. Regular participation in a spiritual practice, such as church attendance, ritual, prayer, or meditation.
4. Regular waking time in introspective solitude, such as walking alone or spending time in nature.
5. Involvement in a creative practice, such as art, music, dance, or writing.
6. Participation in counseling or therapy.

Research Question 5

A chi-square was used to test the hypothesis that the frequency of psychological distress during and following the retreat would differ by participation in integration practices. Separate chi-square tests were conducted for posttest, 4-week follow-up, and 8-week follow-up assessment periods. Integration practices for posttest, 4-week, and 8-week follow-up were the same as those for question 4 above. Psychological distress was assessed in the qualitative questionnaire. The question, Did you experience symptoms of psychological distress? If so, please describe, was coded quantitatively (0 = no, 1 = yes).

Treatment of Qualitative Data

Thematic content analysis of data from the qualitative questionnaires proceeded in orderly sequential steps. Qualitative questionnaire data were downloaded from the website to a database stored on the researcher's password-protected computer and coded by the research assistant. The questionnaires were cut and pasted into Microsoft Excel spreadsheets that were sorted and grouped into potential thematic topic categories (Mertens, 1998). Long statements were reduced into simple coded categories, to facilitate analysis. The themes were revised and refined as necessary, following Mertens' (1998) suggestion that "the categories are flexible and are modified as further data analysis occurs" (p. 351).

Case Studies That Include Quantitative and Qualitative Data

The quantitative and qualitative data of 3 participants were compiled into individual case studies in order to show a more detailed and holistic description of the chosen participants' experiences. The 3 participants for case study were chosen by the researcher to illuminate general trends of the study, along with aspects of the data that

were not revealed in the other data. Mertens (1998) cites the U.S. General Accounting Office's definition of case study methods: "A case study is a method for learning about a complex instance, based on a comprehensive understanding of that instance obtained by extensive descriptions and analysis of that instance taken as a whole and in its context" (p. 166). The case studies were conducted to exhibit the complexity and dynamics of each participant's unique story (Braud & Anderson, 1998).

Determination of Sample Size

Sample size for the study was determined for the primary question of the study: Does ego level change as the result of an ayahuasca retreat? The desired level of significance for this question was 0.05 (95% *confidence level*). Previous research indicates that the estimated effect size change in ego level is from 0.5 to 1.0 and the standard deviation of the baseline values is at 0.7 (Alexander et al., 1991; Manners et al., 2004; White, 1985). For this study, the researcher defined 0.6 as the estimated effect size. Using the table *Sample Size for a Descriptive Study of a Continuous Variable* (Hulley, Cummings, Browner, Grady, Hearst, & Newman, 2001, p. 90), it was determined that a sample size of at least 25 was needed. Thirty-three participants were recruited, to allow for potential attrition.

Participant Safety Concerns

Physical and psychological safety of retreat participants was addressed by the retreat center staff. Applicants who attended the ayahuasca retreat filled out an application prior to the retreat that was screened by the retreat director, a licensed transpersonal psychotherapist from Argentina. In addition to demographic information,

the following questions were asked of applicants on the website-based application form at <http://www.ayahuasca-healing.net>:

1. Do you have any medical conditions we should know of in case of emergencies?
2. Have you had any previous experience with shamanic plants?
3. Why do you want to come to this event?
4. What do you expect from this retreat?
5. How do you handle crises? Explain:
6. Have you spent any time with shamans?
7. Are you currently taking any kind of medication? Explain:
8. Health insurance for travel, company and policy number:
9. On a scale of 1-5, how well do you speak English?

At the ayahuasca retreats, the director was available to the participants 24 hours a day for every day of the retreat. She advised all participants to come to her if they experienced any distress. She provided one-on-one psychotherapy whenever she or the participant deemed it necessary. The retreat center always had at least two additional staff people on site to provide assistance. During the ceremonies, no one was allowed to leave the ceremonial space unaccompanied, and participants were strongly discouraged from interacting with each other. The director and staff were present to closely observe and assist participants as needed throughout every ceremony.

The retreat center is less than 1 hour away from a modern hospital. The roads are excellent, and a car or taxi was always available. The retreat center staff members were always available to accompany participants seeking medical care and to provide

translation. Prior to the study, the researcher visited the retreat center and hospital to assess safety.

The researcher also included screening questions in the demographic questionnaire that was administered prior to the retreat. The following questions were asked for the purpose of screening for psychological instability:

1. Are you currently taking any prescription medications? __Y, __N

Please list name and dosage of medication(s):

2. Are you under the care of a psychiatrist? __Y, __N

If a participant was under the care of a psychiatrist and/or was on any psychiatric medications, s/he was disqualified from participation in the study.

Personal Statement

The researcher conducting this study has an interest in this topic because of her personal experience with ayahuasca retreats. She has attended four ayahuasca retreats in Brazil that were facilitated by the same transpersonal psychotherapist who facilitated the retreats in this study. Here, this researcher describes the most significant changes that she has experienced:

1. At the first retreat, I experienced music such as I had never before experienced in my life. I experienced synesthesia, feeling the music in my whole being as ecstasy. It was exquisite. After the retreat, I joined a Sanskrit chanting choir and chanted regularly for several years, and then I took singing lessons. Since then I have sung in public several times.
2. I took art supplies to the retreats, and, after each ayahuasca ceremony, a professional artist supervised drawing and painting sessions. My first retreat

was the first time I had practiced drawing since high school. I kept drawing after the retreat and created at least 60 pictures. With this experience I earned a Creative Expression Certificate at the Institute of Transpersonal Psychology.

3. I gained psychological insight, although I attribute some of these gains to my study of transpersonal psychology in graduate school. I am able to express emotions more freely; I can now tell friends and family (with ease) that I love them. I am less judgmental and more accepting of others and myself. I am more accepting of my shadow parts and, therefore, more compassionate with others and myself. I am more able to see the patterns in my thinking and beliefs that cause me self-inflicted suffering. I am more joyful and happy.
4. I am more comfortable with death. My ayahuasca experience has given me the belief that there is life after death. At the first retreat I attended, I had the insight that, if I am eternal, I might as well accept myself.
5. I am more aware of my intuitions.
6. I am better able to understand spiritual teachings and sacred text since I have experienced the ineffable. In my quest for understanding my own experiences, I have read spiritual texts and attended the teachings of many spiritual teachers of several traditions.
7. I have become more open to the idea of extraterrestrial life with intelligence and of spirit entities.

This researcher's personal experience influenced the formation of the research questions and selection of the psychometric instruments.

Summary

The research for this study was conducted during and after ayahuasca retreats held at TheVine Retreat Center in Brazil. The center's director, a transpersonal psychotherapist, operates the retreat center and invited participants of her retreats to participate in this study. Each participant attended one of the seven retreats offered within the period of October 2007 to June 2008. Psychometric testing and questionnaires were administered to 33 international (English-speaking) retreat participants before (pretest), immediately after (posttest), and at 4 weeks, and 8 weeks following the retreat. All data collection was done via participants' self-administered questionnaires and inventories completed on a secure website, using the following instruments: (a) the Washington University Sentence Completion Test to assess ego level, (b) the Big Five Inventory to measure Big Five personality factors, and (c) a questionnaire to explore qualitative aspects of the retreat experience and the concomitant integration process. Serial measurements of post-retreat ego level and personality factors of each participant were evaluated to assess any changes. A correlation matrix was generated to check for any statistically significant correlations between baseline ego level, Big Five personality factors, and symptoms of psychological distress. Integration practices (i.e., group sharing, educational classes, creative expression, introspective solitude, an additional spiritual practice, and/or individual counseling) were also analyzed to check for possible correlations with symptoms of psychological distress and therapeutic change in ego level and personality factors. Qualitative data were analyzed for thematic content, and three individual case studies were written in order to exhibit general trends along, with the complexity and uniqueness of the participants' experiences. The study explored the

psychological changes that occurred for participants of an ayahuasca retreat experience.

The following chapter (Chapter 4) details the results of this research.

Chapter 4: Results

This chapter presents the results of the quantitative and qualitative data analyses of this study. The first section describes the characteristics of the participants, the second section presents the quantitative results with applicable qualitative comments in the order of the research questions, and the third section presents the qualitative results based on the researcher-developed qualitative questionnaire. The final section presents three case studies.

Participant Characteristics

There were 33 participants in the study; 22 completed the series and 11 completed the pretest only. Their ages ranged from 23-61 years. The mean age of the 33 participants was 37.8 years, 36.3 years for the 22 completers, and 40.6 years for the 11 noncompleters. The education level of the participants varied from “some high school” to “doctorate.” The participants were from 11 different countries, with 10 participants from the U.K., 9 from the U.S., 4 from Ireland, and 2 from Greenland. The other eight countries that were represented had only 1 participant each. The following tables exhibit gender, age, education, prior marijuana use, prior tryptamine use, and prior spiritual practice of the research population.

Table 3

Gender and Age

Attribute	Completers <i>N</i> = 22		Noncompleters <i>N</i> = 11		Total <i>N</i> = 33	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
<i>Gender</i>						
Women	10	45.5	4	36.4	14	42.4
Men	12	54.5	7	63.6	19	57.6
<i>Age</i>						
No response	1	4.5	0	0.0	1	3.0
20-29	4	18.2	2	18.2	6	18.2
30-39	11	50.0	4	36.4	15	45.5
40-49	3	13.6	1	9.1	4	12.1
50-59	3	13.6	3	27.3	6	18.2
60-69	0	0.0	1	9.1	1	3.0

Table 4

Education Level, Prior Marijuana Use, and Prior Tryptamine Use

Attribute	Completers <i>N</i> = 22		Noncompleters <i>N</i> = 11		Total <i>N</i> = 33	
<i>Education Level</i>						
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
No response	1	4.5	1	9.1	2	6.1
Some High School	1	4.5	0	0.0	1	3.0
High School	1	4.5	1	9.1	2	6.1
Some College	2	9.1	2	18.2	4	12.1
BA/BS	10	45.4	2	18.2	12	36.4
MA/MS	6	27.3	4	36.4	10	30.3
Doctorate	1	4.5	1	9.1	2	6.1
<i>Prior Marijuana Use</i>						
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
No response	0	0.0	1	9.1	1	3.0
0 – 50 uses	9	40.9	2	18.2	11	33.3
More than 50 uses	13	59.1	8	72.7	21	63.6
<i>Prior Tryptamine Use</i>						
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
0 – 3 uses	10	45.5	4	36.4	14	42.4
More than 3 uses	12	54.5	7	63.6	19	57.6

Table 5
Prior Spiritual Practice

Attribute	Completers <i>N</i> = 22		Noncompleters <i>N</i> = 11		Total <i>N</i> = 33	
<i>Prior Spiritual Practice</i>						
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
No response	1	4.5	1	9.1	2	6.1
None	10	45.5	3	27.3	13	39.4
Meditation	9	40.5	7	63.6	16	48.5
Prayer	1	4.5	0	0.0	1	3.0
Yoga	2	9.1	0	0.0	2	6.1
Exercise	2	9.1	0	0.0	2	6.1
Shamanic Journeying	1	4.5	0	0.0	1	3.0

Note. Some participants had more than one spiritual practice.

Quantitative Analysis of Pretest Data

The completers were compared to the noncompleters using two-tailed independent *t*-tests with a 95% confidence interval. There were no significant differences in age, gender, education (coded as college or less, or graduate degree), prior marijuana use (coded as < 50 = *Low*, > 50 = *High*), or prior tryptamine use (coded as < 3 = *Low*, > 3 = *High*). There were no significant differences in baseline SCT scores. Analysis of baseline BFI scores showed that noncompleters had a significantly higher mean Agreeableness score ($p < .05$), and a significantly lower mean Neuroticism score ($p = .05$). No significant differences between completers and noncompleters were observed on measures of Extraversion, Conscientiousness, or Openness.

Table 6

Analysis of Pretest SCT and BFI Scores for Completers and Noncompleters

Assessment Scale	Completers <i>N</i> = 22		Noncompleters <i>N</i> = 11		<i>t</i>	<i>p</i> (2-tailed)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
SCT	5.95	1.58	6.73	1.91	1.42	.17
Extraversion	3.49	0.94	3.89	0.91	1.17	.25
Agreeableness	3.75	0.53	4.04	0.48	2.46	.02
Conscientiousness	3.72	0.59	3.60	0.84	0.51	.62
Neuroticism	2.91	0.76	2.32	0.85	2.02	.05
Openness	4.1	0.66	4.43	0.41	1.51	.14

*Quantitative Analysis of Research Questions**Research Question 1: Does Ego Level Change as the Result of an Ayahuasca Retreat?*

Ego Level was measured with the SCT. This assessment was administered three times: pretest, posttest, and at follow-up (8 weeks following the retreat). For this analysis, only data from the completers were analyzed. Five missing values at the posttest assessment were assigned. In four cases in which the SCT score changed by one point, the lowest score at pretest or follow-up was used. In one case in which the change in SCT score was 4 points, the assigned score was calculated to be the median between the pretest and follow-up (*pretest score* = 3, *follow-up score* = 7, *assigned score* = 5). Using repeated measures ANOVA, the pretest to posttest changes in SCT scores were not found to be statistically significant ($N = 22$, $p = .60$), and the pretest to follow-up difference was also not significant ($N = 22$, $p = .45$). Using ANCOVA, the pretest to posttest ($N = 22$) and pretest to follow-up ($N = 22$) changes in SCT scores were not statistically significant

when controlling for age ($p = .46$), gender ($p = .27$), and prior tryptamine use ($p = .35$).

Table 7 exhibits the SCT scores.

Table 7

Sentence Completion Test Scores

SCT Score	Pretest		Posttest		Follow-Up	
	$N = 22$		$N = 22$		$N = 22$	
	N	%	N	%	N	%
E3	3	13.6	1	4.5	0	0
E4	0	0	2	9.1	3	13.6
E5	5	22.7	3	13.6	2	9.1
E6	5	22.7	8	36.4	8	36.4
E7	5	22.7	4	18.2	6	27.3
E8	4	18.2	3	13.6	2	9.1
E9	0	0	1	4.5	1	4.5
Mean Score	22	5.95	22	6.18	22	6.23

There were changes from pretest to follow-up SCT scores. Scores increased (mean increase was 2.13) for 8 participants and decreased (mean decrease was 1.25) for 8 participants. Six participants had no change in SCT scores (see Table 8 below).

Table 8
Sentence Completion Test Scores Over Time

Participant	Pretest	Posttest	Follow-Up
<i>Increase in Pretest to Follow-Up Score</i>			
N	E7	E8	E8
D	E3	E3	E6
B	E3	E6	E5
L	E5	E6	E7
I	E6	E8	E8
F	E3	E5*	E7
M	E8	E9	E9
T	E5	E7	E7
<i>Decrease in Pretest to Follow-Up Score</i>			
A	E5	E5	E4
C	E8	E4	E6
R	E8	E7	E7
C2	E6	E6	E5
A2	E7	E6	E6
M2	E8	E6*	E6
P	E7	E7	E6
L2	E5	E4*	E4
<i>No Change in Pretest to Follow-Up Score</i>			
Z	E6	E5	E6
B2	E6	E8	E6
T2	E7	E7*	E7
R2	E5	E6	E5
S	E6	E6*	E6
O	E7	E6	E7

Note. Participants' fictitious names were coded. *Assigned values.

Research Question 2: Do Big Five Personality Factors Change as the Result of an Ayahuasca Retreat?

Personality traits were tested using the BFI. Assessments were administered four times: at pretest, posttest, follow-up 1 (at 4 weeks), and follow-up 2 (at 8 weeks). The BFI means and standard deviations are exhibited in Table 9 below.

Table 9
Big Five Inventory Means and Standard Deviations

Trait	Pretest		Posttest		Follow-Up 1		Follow-Up 2	
	<i>N</i> = 22		<i>N</i> = 21		<i>N</i> = 18		<i>N</i> = 22	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Extraversion	3.49	.94	3.53	.79	3.58	.67	3.72	.75
Agreeableness	3.57	.56	3.60	.60	3.75	.49	3.81	.56
Conscientiousness	3.72	.67	3.75	.59	3.78	.53	3.66	.58
Neuroticism	2.91	.83	2.56	.59	2.56	.66	2.48	.67
Openness	4.10	.60	4.02	.74	4.14	.65	4.11	.69

Omnibus *F*-tests for repeated measures ANOVA revealed a significant increase in Agreeableness ($N = 17, p < .05$) and a significant decrease in Neuroticism ($N = 17, p < .01$) over time. No significant changes were observed over time for Extraversion, Conscientiousness, or Openness. (see Table 10 below.)

Table 10

Big Five Inventory Repeated Measures ANOVA: Within Participants effects of Time (Pretest, Posttest, Follow-Up 1, and Follow-Up 2)

Trait	<i>F</i>	<i>p</i>
Extraversion	1.90	.14
Agreeableness	3.61	.02*
Conscientiousness	3.39	.76
Neuroticism	6.39	.00**
Openness	1.37	.26

* $p < .05$, ** $p < .01$

Paired *t*-tests (two-tailed with a 95% confidence interval) compared changes in BFI scores from baseline to later points in time. Neuroticism was significantly lower at posttest ($p < .05$), with a medium effect size of .47. At the 4-week and 8-week follow-up, the *p* was less than .01, with medium effect sizes of .57 (4-week) and .56 (8-week). Agreeableness was significantly higher at both 4-week and 8-week follow-ups ($p < .05$), with medium effect sizes of .47 (4-week) and .45 (8-week). Extraversion was significantly higher at 8-week follow-up ($p < .05$), with a small effect size of .24. Since the omnibus *F*-test was not significant for Extraversion, the finding with the *t*-test may represent a Type II error—occurring by chance. The effect size measures the magnitude of the change in scores. A small effect size is about .2, medium is about .5, and a large effect size is about .8 (Cohen, 1988). A medium effect size of .5 would indicate that 69% of the baseline scores fall below the changed (posttest or follow-up) mean score. No

significant changes from baseline were observed for Conscientiousness or Openness.

Tables 11, 12, and 13 exhibit the changes in paired *t*-tests with effect sizes:

Table 11

Big Five Inventory t-Test From Pretest to Posttest

N = 21

Trait	Pretest		Posttest		<i>t</i>	<i>p</i> (2-tailed)	Effect size
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Extraversion	3.49	.96	3.53	.79	-0.29	.78	.04
Agreeableness	3.59	.54	3.60	.60	-0.04	.97	.02
Conscientiousness	3.76	.58	3.75	.59	0.06	.95	.02
Neuroticism	2.93	.78	2.56	.59	2.64	.02*	.47
Openness	4.06	.64	4.02	.74	0.50	.63	.06

* *p* < .05

Table 12

Big Five Inventory t-Test From Pretest to Follow-Up 1

N = 18

Trait	Pretest		Follow-Up 1		<i>t</i>	<i>p</i> (2-tailed)	Effect size
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Extraversion	3.45	.95	3.58	.67	-0.90	.38	.14
Agreeableness	3.53	.47	3.75	.49	-2.25	.04*	.47
Conscientiousness	3.72	.58	3.78	.53	-0.76	.46	.10
Neuroticism	3.00	.76	2.57	.66	2.88	.01**	.57
Openness	4.07	.67	4.14	.65	-0.82	.42	.10

* *p* < .05, ** *p* < .01

Table 13

Big Five Inventory t-Test From Pretest to Follow-Up 2

Trait	Pretest		Follow-Up 2		<i>t</i>	<i>p</i> (2-tailed)	Effect size
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Extraversion	3.49	.94	3.72	.75	-2.26	.03*	.24
Agreeableness	3.57	.53	3.81	.56	-2.97	.01**	.45
Conscientiousness	3.72	.59	3.66	.58	0.85	.41	.10
Neuroticism	2.91	.77	2.48	.67	2.88	.01**	.56
Openness	4.10	.66	4.11	.69	-0.13	.90	.02

* $p < .05$, ** $p < .01$

When controlling for age, gender, and prior tryptamine use, omnibus *F*-tests for repeated measures ANCOVA failed to detect any significant effects of time (or covariates) on mean BFI scores. Paired comparisons that accompanied repeated measures ANCOVA replicated the paired *t*-test findings from above.

Research Question 3: Does the Frequency of Psychological Distress Following an Ayahuasca Retreat Differ by Baseline Ego Level and Negative Affect?

Chi-square was used to compare ego level to reported psychological distress. Baseline ego level was categorized into medium (SCT = E3 - E6) and high (SCT = E7 - E9) ranges; lower (medium) ego level was not associated with more frequent psychological distress following the retreat, or at any subsequent follow-up time.

Chi-square was used to compare baseline negative affect (BFI–Neuroticism) to reported psychological distress. Baseline negative affect was categorized into low (Neuroticism < *median*) and high (Neuroticism > *median*). High neuroticism was not associated with more frequent psychological distress at posttest or follow-ups.

The number of participants reporting psychological distress (completers only) decreased markedly after the retreat. Twelve participants reported distress before the retreat, 4 immediately postretreat, 2 at 4 weeks, and 6 at 8 weeks. Seven participants reported that they had a counseling session from the transpersonal psychotherapist during the retreat. Only 1 participant had counseling sessions at 4 and 8 weeks following the retreat. All of the comments of the participants who reported psychological distress are reported here:

Preretreat

1. I've been wondering lately if I'm slightly depressed, or maybe it's just being homesick, I'm not sure. Feeling like I have very little energy, also I'm not as outgoing and boisterous as I usually am. I am missing my friends and family more so on this trip.
2. Facing the reality of getting even older. A wreck on its descent to hell.
3. My mother-in-law died on Jan 2nd. It has been a traumatic experience not only for my husband but for our whole family, but I guess we are doing fine.
4. I split up from my fiancée and went into very serious psychological distress. I continued to function on a daily basis but it felt as if my world had crumbled and I was lost. We are back together now at the Ayahuasca retreat looking for a new path.
5. Constantly thinking about Ayahuasca and hoping that I have made the right decision.
6. I've been stressed and worried about stuff. Nothing major.
7. I have felt that I couldn't contain my stress.

8. I still get nervous and tearful sometimes, especially around issues regarding weight and food because of my eating disorder, even though I have been “well” physically for 9 months.
9. Only mild anxiety, which is almost constant, never severe but rarely entirely absent.
10. I get a bit of anxiety in crowded places sometimes.
11. Family matters pertaining to my mom’s care.
12. Ever since the break-up of my personal relationship in late June 2007, I have been feeling very intensely unhappy about it. To begin with, it interfered with my sleep, I lost weight, and my mind has been constantly assaulted with all kinds of obsessive thought.

Postretreat

1. During and after the last session, I felt paranoid and unhappy and my feelings about a lot of things were extremely amplified.
2. Some looping worries [that are] normal psychedelic experiences though, and okay.
3. When I did not understand the messages.
4. I think I had a few ticks in the beginning with tension in my face.

4 Weeks

1. Abstinenes for cigarettes.
2. My financial situation was getting a bit stressing, but nothing since that cleared.

8 Weeks

1. A friend of mine lost a lot, but a lot of my money is in the stock market. We have an arrangement whereby I should be safe, but.
2. I have broken up with my fiancée again, and this has brought enormous sadness and distress. As a result, drinking has sadly re-entered my life. This is a struggle I am trying to face and overcome.
3. Yes. I think going from 20-30 smokes a day to none have made me more aggressive, not so calm, and easier to upset.
4. I fell in love.
5. Waiting for professional feedback on my novel, I had a bit of a mini “breakdown” of sorts a few days ago because of anxiety about what my agent is going to make of it, but I got over it within a few hours and feel fine now.
6. It is mainly related to a currently unstable work situation where I am not sure what kind of a decision I should make. I have felt a bit of an emotional pain still related to a break-up of my personal relationship shortly before my ayahuasca retreat. In both cases I noticed that the ayahuasca experience allowed me to handle it better than ever before.

Research Question 4: Do Participant’s Integration Practices Account for Changes in SCT and BFI Scores?

Immediately post-retreat, none of the integration practices assessed, including group sharing, educational lecture or class attendance, creative expression, time in solitude, spiritual practice, or individual counseling, was significantly associated with changes in SCT or BFI scores. There was one exception, in that spiritual practice was

significantly associated with a greater change in Agreeableness ($N = 16, p < .05$).

Because the vast majority of retreat participants engaged in integration practices, it is likely that there were too few participants in the “no activity” groups to make legitimate between-group comparisons.

Table 14

Frequency of Integration Practices

Integration Practices	Pretest		Posttest		Follow-Up 1		Follow-Up 2	
	$N = 21$		$N = 18$		$N = 18$		$N = 22$	
	N	%	N	%	N	%	N	%
Like-Minded/Sharing	15	71	18	100	8	44	15	68
Education	6	29	17	94	3	17	2	9
Spiritual Practice	11	52	16	89	9	50	11	50
Solitude/Introspection	17	81	15	83	12	71	17	77
Creative Expression	13	62	12	67	13	72	17	77
Counseling	1	5	7	39	1	6	1	5

Several aspects of Table 14 are noteworthy. As required by the transpersonal psychotherapist, 100 % of the participants attended group sharing while at the retreat. About 70 % of participants associated with like-minded people in both preretreat and 8-week follow-up measures. Ayahuasca-related education occurred during the retreat, which accounts for the 94 % frequency of that circumstance found at the postretreat measurement. At other points of measurement, the frequency of ayahuasca-related education attendance was low (9 – 29 %). Frequency of spiritual practice (in addition to the ayahuasca ceremonies) was at about 50 % at all measures, except at the posttest measure. During the retreat, a higher percentage (89 %) participated in an additional spiritual practice. Percentage of participation in solitude/introspection was fairly constant

throughout the study (71 – 83 %). It appears that this group of participants regularly practiced solitude/introspection at all assessment time points. The percentage of participants practicing creative expression increased over time (from 62, to 67, to 72, to 77 %). Seven (39 %) of the participants attended private counseling sessions with the transpersonal psychotherapist at the retreat; only 1 participant received counseling outside of the retreat experience.

Research Question 5: Does the Frequency of Psychological Distress During and Following the Ayahuasca Retreat Differ by Participation in Integration Practices?

Participation in integration practices, including group sharing, educational lecture or class attendance, creative expression, time in solitude, spiritual practice, or individual counseling, was not significantly associated with the frequency of psychological distress at either the posttest assessment or the follow-up. Although participation in integration practices was more balanced during follow-up assessments, the frequency of psychological distress at those assessments decreased. This caused chi-square cells to be too small for a meaningful test. Specifically, the 2 x 2 chi-square comparisons (2 participation groups [*yes* or *no*] x 2 psychological distress groups [*yes* or *no*]) often had fewer than 5 participants in each cell. The total *N* for these chi-square statistics ranged between 16 and 22. With each test, the total number became distributed across the 4 cells, resulting in very small cell numbers. As based on these small numbers, the tests may not be valid or reliable.

Summary of Quantitative Results

SCT scores did not change significantly, either from pretest to posttest or from pretest to follow-up. Neuroticism was significantly lower immediately following the

retreat, as well as at follow-up 1 and follow-up 2 ($p < .01$). Agreeableness was significantly higher at both follow-up 1 and follow-up 2 ($p < .05$). No significant changes from baseline were observed for Extraversion, Conscientiousness, or Openness. Lower baseline SCT scores were not associated with more frequent psychological distress at any time following the retreat. Higher baseline Neuroticism was not associated with more frequent psychological distress at any time following the retreat. Nevertheless, the number of participants reporting psychological distress (completers only) decreased markedly after the retreat (from 12 at pretest, to 4 at posttest, to 2 at follow-up 1, to 6 at follow-up 2). During the retreat, the addition of a personal spiritual practice was significantly associated with a greater change in Agreeableness ($N = 16, p < .05$). Participation in integration practices—including group sharing or associating with like-minded people, educational lecture or class attendance, creative expression, time in solitude, spiritual practice, or individual counseling—was not significantly associated with the frequency of psychological distress at any time following the retreat. Prior to the research, the sample size for the study was determined for the primary question of the study (ego level). The only question for which this sample size was adequate was question 2 (BFI).

Qualitative Results

Thematic content analysis was completed from responses to the researcher-developed questionnaire. Only the participants who completed the series of testing ($N = 22$) were included in the discussion of chapter 4 regarding the main themes that emerged from the data. Direct quotations from participants are included here to exhibit exemplar comments. Some participants included more than one theme in their comments, and,

whenever this occurred, the comment was divided into appropriate themes. One of a kind comments were included only if they added relevant content. The following items in the qualitative questionnaire were completed by the participants:

1. What do you expect from this retreat? (This was asked in the pretest only.)
2. Did you feel safe and supported during the retreat? (This was asked in the posttest only.)
3. Have your spiritual beliefs changed as a result of the retreat? If yes, please describe. (This was asked in the 4-week and 8-week follow-ups.)
4. List the positive and negative aspects of the ayahuasca retreat for you. (This was asked in the posttest and in the 4-week and 8-week follow-ups.)
5. How did the retreat affect you? (This was asked in the posttest and in the 4-week and 8-week follow-ups.)
6. What, if anything, did you learn about yourself at the retreat? (This was asked in the posttest and in the 4-week and 8-week follow-ups.)

What Do You Expect From This Retreat?

This question was asked in the pretest questionnaire in order to investigate the participant's expectations and intentions for the retreat. The intention of the participant may be an important factor that affects the experience. As some participants wrote more than one expectation, there are more than 22 responses. All of the responses were divided into the following themes:

1. *Self-knowledge and insights*: Nine participants indicated expectations in this area. One participant wrote, "Greater insight into myself, my shortcomings

and my fear about things” and another, “I hope/expect to learn a lot about myself.”

2. *Expansion of consciousness*: This was a theme for 7 participants.

Representative comments included, “to come away with a different outlook to the world” and “the opening of my mind.”

3. *Healing and enhanced wellbeing*: Six participants had comments such as, “restore my balance and build back my sagging energy” and “learn to relax more, inner peace and hopefully help with migraines.”
4. *Request for guidance*: Four participants hoped to get answers to these types of questions from the experience, “I am bringing with me many questions regarding career, relationships, physical health, spiritual journey, compassion, etc., that I will be holding and exploring.”
5. *A spiritual experience or teaching*: Four participants hoped for such results as, for instance, “Renewed hope in humanity, reconnection with my own spirit, reconnection with nature” and “a mystical experience.”

Did You Feel Safe and Supported During the Retreat?

This question was asked only once, immediately post-retreat. Every participant emphatically answered yes, in such responses as, “absolutely,” “very safe and supported,” “all the time.” Three participants commented about the *quality of the people at the retreat*, both facilitators and participants, in such responses as, “Some of the best people I have ever met.” One participant wrote, “I felt totally safe and fully supported from the very first day of the retreat. I can’t think of any better, loving and caring environment for such a retreat. I feel lucky to have found this one.”

Have Your Spiritual Beliefs Changed as a Result of the Retreat? If Yes, Please Describe.

This question was asked in the 4-week and 8-week follow-up questionnaires. In responses to the 4-week follow-up questionnaire, 9 of 18 participants answered *yes*, and, at the 8-week, 8 of 22 participants answered *yes*. Representative comments included, “My belief in my higher self was renewed.” One participant commented, “I saw that we are all manifestations of oneness hiding in the illusion of separateness as part of cosmic game. I haven’t exactly sorted out what I am supposed to do with that.” Another remarked, “I have a much greater sense of connection with the rest of the universe now.”

At 4 weeks, a total of 8 of 18 participants answered *no* to the question of whether their spiritual beliefs had changed, and this number increased to 13 of 22 at 8 weeks. Five qualified their *no* answers and went on to describe how their spiritual beliefs were already in place and had been reinforced or confirmed, in comments like this: “I have considered myself spiritual rather than religious for quite a long time, and, if anything, the retreat has reinforced it.” Another said of spiritual beliefs that s/he had been “Not changed, but more confirmed. I believe that the universal energy is one and that I have been lucky enough to tap into it. I believe there is universal truth out there. Words like that would not have entered my lexicon before.” Another denied any changes to beliefs, but noted, “No, just a greater ability to LIVE my spiritual beliefs than ever before.” One participant who answered *no* wrote, “Not really. I’m a skeptical, analytical Swiss atheist . . . with quite a spiritual leaning. . . . So as wonderful and crazy as all the stuff was I saw during the trips, it was something produced by my brain and not by a divine outer force.”

Themes From Three of the Questions

The following three questions elicited very similar responses:

1. List the positive and negative aspects of the ayahuasca retreat for you?
2. How did the retreat affect you?
3. What, if anything, did you learn about yourself at the retreat?

Content from the above questions that were asked in the posttest, 4-week, and 8-week follow-up questionnaires were grouped into the following themes:

1. Psychological insight and self-knowledge (89 comments)
2. Enhanced well-being (39 comments)
3. Transformation and personal growth (26 comments)
4. A positive experience (21 comments)
5. Setting and logistics of the retreat (18 comments)
6. Quality of the facilitators and participants at the retreat (18 comments)
7. Psychological discomfort and challenges (11 comments)
8. Behavior and lifestyle changes (8 comments)
9. Enhanced feelings of love and compassion (7 comments)
10. Physical discomfort (6 comments)

Psychological insight and self-knowledge was the most prominent theme, with 89 responses. Participants wrote about the insights that they gained both during and after the retreat. Some of the insights that they cited were confirmatory statements, such as, “I love to knit,” and “I have to dance.” Others wrote about insight into behaviors; “I learned that I am a small bit controlling,” “That my heavy smoking was a cover,” “Helped me to recognize that I’d been depressed and helped me to begin healing that depression,” and “Helped me understand more about the patterns I have lived and why, and then gave me insights into how to change those patterns.” There were statements about self-knowledge,

such as, “[I learned] who I am and what I have to do.” Some participants gained clarity about personal values: “That being happy, loving, and healthy is most important” and “that it is good to have some kind of rules.” Some participants had insights about personal attributes: “I am stronger than I thought” and “That I’m brave, and had a lonely inner child which I’m trying to stand by and comfort.” Awareness of thoughts and feelings was also reported: “more aware of feelings, both positive and negative” and “I was carrying a lot of sadness.” Participants wrote specifically about uncovering or becoming aware of their unconscious: “to investigate my inner world and to awaken latent abilities and potentials that lay covered in my body/mind” and “Ayahuasca provided me with a powerful tool to dig into my subconscious.”

Enhanced well-being was mentioned 39 times, as in the comments, “It helped me heal the mild depression I’d been experiencing for 6 months” and “[I have been] in quite a serene and tranquil state in the subsequent weeks.” Participants used the words “calmer,” “more relaxed,” “more positive,” “energized,” “lighter,” “uplifted,” “more confident,” “peaceful,” and “more content.” One participant directly stated, “I feel a generally enhanced sense of well-being.”

Transformation and personal growth was reported 26 times. Participants wrote about how the experience changed them in a positive way: “It has truly changed me in a profound way” and “I feel like a new person, as though I have dealt with a lot of issues.” One participant claimed, “I think it has changed me. I believe that sadness and anger/bitterness were lifted from me. There is now a gap and I intend to fill it with joy, love and happiness.” Another commented, “A month on I still feel much more confident and comfortable about my abilities.”

There were 21 comments with content about the experience as *a positive experience*. The question asking to list the positive aspects of the retreat especially elicited this response, but it was also a main theme from responses to the other questions. Some of the comments were a simple generalized statement like this one: “Profoundly positive.” Others wrote more detailed comments, such as “The ayahuasca retreat was extremely positive both mentally and physically” and “The experience affected me profoundly and in the most positive way. It went right to the very core of my being and I feel truly lucky to have received that calling.” In response to the question asking to list the negative aspects, 13 responded that there were no negative aspects of the retreat experience.

Setting and logistics of the retreat had 18 comments. There were 10 negative comments, including “not having air conditioning,” and “The food was overcooked and so far away from the healthy nutritious food I put into my body normally.” There were 8 positive comments, such as “Absolutely beautiful and harmonious surroundings” and “Healthy food made me feel good physically and the setting on the beach was therapeutic.”

Quality of the facilitators and participants at the retreat elicited 18 comments. There were only positive comments about the facilitators and other participants at the retreats, including “The facilitators and attendees were fantastic people,” “the people that I met were wonderful,” and “positive group interaction, workshops provided insights and prepared me for the ayahuasca journeys.”

Change or expansion in consciousness was reported 14 times. Some of the comments were, “It has made me question everything. I am reading books on physics in

an attempt to explain what I saw,” “At a personal level, I believe my mind expanded and I am interested in diving deeper and learning more,” and “It gave me a new view on the world.”

Psychological discomfort and challenges were reported 11 times. All of the comments in this study described mild to moderate discomfort or challenge; none described extreme psychological discomfort. Two of the typical comments were, “It could be scary at times” and “The first night I thought I wasn’t getting anything; was just crying, crying all the time. It wasn’t pleasant, but it could have been worse.”

Behavior and lifestyle changes were discussed in 8 comments. Several participants wrote about insights they received about needing to change their behavior or lifestyle: “I need to grow up and let go of the codependent bonds with my family,” “After it all I thought a lot about my life and what I will do in the future. I asked myself if I’m happy with my life and so I’ve reactivated contacts to people from the past which were lost for me,” and “My behavior in some situations is not correct, I’ve seen the way it influences my thoughts.” One participant quit smoking during the retreat and commented about it in each questionnaire, “I have quit smoking.”

Enhanced feelings of love and compassion were described 7 times. Two participants specifically wrote about improvements in their relationships with their spouse or partner: “I felt greater love and understanding for my partner after the experiences.” Other participants wrote about more generalized feelings: “more compassionate,” “more open with other people,” and “Ayahuasca told me that I cannot save anyone but give them love, it actually showed me the power of love and that love does not come from outside but from me.”

Physical discomfort was reported 6 times. Most of the comments were about feeling sick and uncomfortable: “I felt quite sick,” “slight physical discomfort during sessions,” and “This can be exceedingly uncomfortable at times, but has thus far been very rewarding.” Others commented on the taste of the ayahuasca, as in the remark of one: “It doesn’t taste so good.”

Case Studies

Individual case studies are presented here to show a more detailed and holistic description of the 3 chosen participants. The cases presented represent each of the three ego level changes reported. For one participant, ego level rose one level at the posttest measure and then returned to baseline at follow-up; for another it decreased; for the third, ego level increased.

Tom

Tom is a 38-year-old married businessman. He went to the retreat expecting “A better way of life, learn to relax more, inner peace and hopefully help with migraines.” He had no prior experience with ayahuasca or any other tryptamines. Prior to the retreat, he reported psychological distress: “Constantly thinking about ayahuasca and hoping that I have made the right decision.”

Tom’s ego level was at the Self-aware level E5 prior to the retreat, and immediately after the retreat it increased to the Conscientious level E6. At 8 weeks, his ego level returned to baseline, at level E5. Although his ego level remained stable, his BFI scores changed dramatically in positive affect (BFI changes from pretest to 8-week follow-up showed these changes in affect: Extroversion increased 30%, Agreeableness

increased 25%, Conscientiousness decreased 6%, Neuroticism decreased 50%, and Openness increased 8%).

Immediately after the retreat, Tom reported that he felt “very safe and supported” during the retreat and that the sharing at the retreat was helpful: “It helped me to express myself in a better way.” He wrote that, as a result of the retreat experience, “I am a better person, [I learned] how to deal with difficult situations, to relax and be happy. [I had a] change of personality for the better with no negative aspects.” He had psychological distress during the retreat, “when I did not understand the messages,” and received counseling from the transpersonal psychotherapist during the retreat. He attended the educational sessions and practiced Tai Chi at the retreat.

At 4 weeks following the retreat, Tom wrote, “The retreat helped me to think first and act later and to take life in a more relaxed way. I think a lot more about various ideas and enjoy books and learning new things.” He learned “that being happy, loving and healthy is most important.” He feels that his spiritual beliefs changed: “I think there is more to life than what we are made to believe.” He reported “No negative aspects” of the retreat. He developed a like-minded community of “people I’ve met at the retreat,” and he practiced meditation regularly after leaving the retreat.

At the 8-week follow-up, Tom continued to report that the retreat was “positive only, I am calm, more relaxed, think more before I act, read a lot and I’ve taken up home study. Also, I am a better person towards other people.” He reported that his spiritual beliefs changed: “I believe that we are the masters of our destiny by the way we act and think.” At 8 weeks, he was still communicating with the people he met at the retreat. He

reported that he spends time in solitude “sometimes,” with no mention of his meditation practice. Again he stated, “[My ayahuasca retreat experience] made me a better person.”

Pat

Pat is a 39-year-old single female who works in business. She attended the retreat with the intention of “seeking my ‘self’ and a cure to my addictions.” She has been struggling with alcohol addiction for a decade. Prior to the retreat, she reported psychological distress: “I split up from my fiancée and went into very serious psychological distress. I continued to function on a daily basis but it felt as though my world had crumbled and I was lost. We are back together now and attending the ayahuasca retreat looking for a new path.” This is her first time to experience ayahuasca, although she has experienced other tryptamines about 28 times.

Her ego level was at the Individualistic level E7, both prior to and immediately postretreat. At 8 weeks, her ego level decreased to E6, the Conscientious level. She reported a relapse in her alcoholism, and this circumstance could explain her decrease in ego level. Her BFI scores trended toward positive affective change (BFI changes from pretest to 8-week follow-up included these: Extroversion increased 5%, Agreeableness decreased 7%, Conscientiousness increased 7%, Neuroticism decreased 10%, and Openness increased 2%).

Pat reported having a like-minded community at each test in the series: “I travel frequently and have friends all over the world from different nationalities with different thinking, ideas, and cultures. I believe my friends who tend to be from various backgrounds are extremely open-minded and continue to help me grow.” Prior to the retreat, she had a spiritual practice of Episcopal Church meditation; she did not have a

meditation practice at follow-ups and said that she usually stops her spiritual practices when she is drinking alcohol. She reported regular time in solitude at all time points: “I have three dogs and I walk them every morning for 2 hours on the beach alone and then usually walk them for an hour in the afternoon alone.” She also maintained a regular practice of writing.

Immediately after the retreat, Pat wrote:

The ayahuasca retreat was extremely positive for me especially the second and third experiences, it was a mind opening journey into another dimension which offered concrete three-dimensional images blazen in color. There was nothing negative in any of my experiences. I learned that there was less negativity in my psyche than I had originally believed. I have been struggling with alcohol addiction for a decade which recently intensified. I believed that the addiction was a result of something in my sub-conscious from the past, however the lack of any negativity in my “experiences” has left me feeling that perhaps there “is” nothing there. I have not had a drink in 20 days. I am unfamiliar with “sharing” in groups; however, after listening to other people share intimate stories, I too joined in enthusiastically. I had an argument with another participant in the last sharing session, in which he verbally attacked me and I felt very shaken by this exchange. One day later, on the day of departure, we both apologized to each other, and this was an important resolution to an unpleasant experience. I believe there is quite a bit of anxiety and apprehension before each session as participants dive into the experience, and often their sub-conscious.

Immediately after the retreat she reported no psychological distress, but stated that she “felt light-headed for the first 3 days perhaps due to the lack of salt. I also had very vivid dreams on the first 2 nights and woke up frequently.”

At the 8-week follow-up, she wrote, “In the recent months my dreams have taken on great depth and lucidity; I am able to recall my dreams the next day and for a great amount of time thereafter. I often reflect consciously on those dreams.” She reported psychological distress, “I have broken up with my fiancée again and this has brought

enormous sadness and distress. As a result, drinking has sadly re-entered my life. This is a struggle I am trying to face and overcome.”

Mark

Mark is a 35-year-old single male lawyer. He wrote that he was attracted to this retreat because it is “a controlled situation and as part of a course where the ayahuasca is utilized to gain insight into the psyche.” Prior to the retreat his expectation was, “I expect that taking ayahuasca will be a new and fascinating experience. Everything else is only a possibility.” He has never experienced ayahuasca before, but has used other tryptamines 4 times.

Mark’s ego level was at the Autonomous level E8 prior to the retreat; immediately after the retreat it increased to the Integrated level E9, and it was maintained at level E9 at the 8-week follow-up. His BFI scores changed in a unique manner, as compared with those of the others in the study. His positive affective changes were in conscientiousness, neuroticism, and openness (BFI changes from pretest to 8-week follow-up included these: Extroversion decreased 4%, Agreeableness decreased 2%, Conscientiousness increased 9%, Neuroticism decreased 7%, and Openness increased 12%).

He has like-minded friends, some of whom have taken ayahuasca, and others with whom he meditates on a regular basis. He did not attend any ayahuasca-related education, except at the retreat. He meditates and spends time introspecting regularly. He has a creative expression practice: following the retreat, he stated, “I have started singing lessons and plan to both write and draw in the future. One thing at a time though.”

Mark had psychological distress at the retreat and received counseling from the transpersonal psychotherapist while there. He wrote, "During and after the last session I felt paranoid and unhappy and my feelings about a lot of things were extremely amplified." He did not report any psychological distress or receive counseling at follow-ups.

Immediately after the retreat, Mark stated that "more information about how ayahuasca works and how to react and cope with it would have been interesting and helpful. I feel very aware of myself, my thought processes and past behavior, but am still working out what everything means. I have learned that I need to nurture myself more and find my inner child and recapture the love and warmth that I experienced on my ayahuasca experience."

Eight weeks after the retreat, Mark wrote,

I am much more at ease with myself, much happier and a million times more understanding of myself and how my past has shaped me. I learned that I was angry about a lot of things and that I have a huge amount of love to give, also that I am capable of a lot more things than I previously thought. I can have a lot more fun than I previously thought. I learned that believing in myself does not have to be arrogant or egotistical.

He felt that his spiritual beliefs changed as a result of the retreat, "I had been exploring my spirituality before the retreat anyway but it has undoubtedly made me want to explore my spiritual side further. My ayahuasca retreat experience was a profoundly rewarding and positive and affirmative experience for me."

Chapter 5: Discussion

Change in Personality Traits

This study showed strong evidence that attending an ayahuasca retreat was correlated with a decrease in Neuroticism ($p < .01$ with medium effect sizes at all test points). The evidence was not as strong, but still present, that Agreeableness increased ($p < .05$ with medium effect sizes at follow-up 1 and 2). The constancy of personality traits is an area of debate in contemporary psychology. Notable Big Five researchers believe that personality traits do not change in adulthood (Costa & McCrae, 1994; McCrae & Costa, 1982, 1999), while others have found that they can change (Bursik, 1991; Ormel & Rijdsdijk, 2000; Park, Cohen, & Murch, 1996). In this study, the retreat experience was associated with positive affective changes in the BFI. There is research that shows that transitional periods of stress and disequilibrium provide a stimulus that can result in personality change (Bursik, 1991; Park, Cohen, & Murch, 1996). It may be that the ayahuasca retreat experience, being a powerful event, created disequilibrium and resulted in the positive affective changes observed in the BFI. The following sections discuss these changes in the context of research on personality change.

Neuroticism

This is the “Age of Anxiety,” says Twenge (2000), who reported substantially rising prevalence of neuroticism in the average American over the last 40 years. People with high-neuroticism experience anxiety, nervousness, tension, depression, stress, and hostility (Bolger & Zucherman, 1995; John, 1990; McCrae, 1990; McCrae & Costa, 1986). The literature is rich with evidence regarding the negative effects of neuroticism. Those people with higher neuroticism “make poor choices regarding how to handle

stress. In response to major life events, high-neuroticism individuals report using more hostile reaction, escapist fantasy, self-blame, distancing, sedation, withdrawal, and wishful thinking and less planful problem solving to cope” (Bolger, 1990; McCrae & Costa, 1986; O’Brien & DeLongis, 1996). Furthermore, perseveration is a prominent feature of neuroticism. It is a term that describes the excessively repetitive thoughts, activity, and actions that are so troubling to those with high-neuroticism. Robinson, Wilkowski, Kirkeby, & Meier, (2006) wrote, “habitual modes of behavioral response are thought to reinforce experiences of anxiety and depression . . . repetition in thought and action reinforces neuroticism-linked outcomes” (p. 79). The following comment summarizes this:

High-neuroticism individuals are caught in a web of negative behaviors, cognitions, and moods that is manifested on a daily basis. They seem to experience (perhaps generate) more interpersonal stressors, their perceptions of daily events are more negative, and their coping choices are maladaptive. Moreover, their emotional reactivity to severe appraisals and coping efforts is greater than that of low-neuroticism individuals. (Gunthert, Lawrence, & Armeli, 1999, p. 1099)

By contrast, low levels of neuroticism indicate emotional stability and even-temperedness. DeNeve and Cooper (1998) report that the personality traits of Neuroticism, Agreeableness and Extraversion strongly influence subjective well-being, “[Low] Neuroticism is the strongest predictor of life satisfaction and happiness” (p. 197). In 2008, Steel, Schmidt, and Shultz reviewed all the literature on the subject and concluded, “the results of this review not only indicate that personality is substantially related to subjective well-being but also that the relationship is typically much stronger than previously thought” (p. 152).

In this present research study, the participants showed significant improvement in the trait of Neuroticism. In the qualitative results, there were 39 comments that indicated

improvements in negative affect and a decrease in neuroticism. One participant wrote, “[I have been] in quite a serene and tranquil state in the subsequent weeks.” Another stated, “I feel a generally enhanced sense of well-being.” In their comments following the retreat, many participants used the words, “calmer,” “more relaxed,” “uplifted,” “peaceful,” and “more content.”

After completing the research, the researcher attended an ayahuasca retreat at TheVine retreat center in Brazil. The researcher experienced the retreat as a participant and observer, with the intention of discovering more about the ayahuasca phenomenon. During a ceremony, the topic of neuroticism came into the researcher’s consciousness. She had the insight that neuroticism impedes creativity. She then experienced her own neuroticism. Her repetitive thoughts were amplified by the beat of the music that was playing during the ceremony. The repetitive thoughts had an obsessive quality; she felt like she was stuck in a groove. One-by-one, several insights to decrease neuroticism were revealed to the researcher. The insights are listed here: (a) Notice habitual conditionings and change patterns and habits—do things in new ways; (b) Do not use stimulants like coffee—these increase neuroticism, (c) Exercise to decrease neuroticism—especially doing exercise that uses the legs in repetitive motions such as walking, running or swimming; (d) Relax and decrease stress levels. This entry was in the journal notes kept by the researcher and was not intended for publication. After returning from the retreat, the researcher found the article “Stuck in a Rut: Perseverative Response Tendencies and the Neuroticism-Distress Relationship” (Robinson et. al., 2006). The researcher was impressed that her insights were reflected in the current literature.

Agreeableness

People with high-agreeableness are characterized as sympathetic, kind, appreciative, affectionate, soft-hearted, warm, generous, trusting, helpful, forgiving, cooperative, and compassionate (John, 1990; John & Srivastava, 1999). These traits are in contrast to those exhibited by people with low-agreeableness, who are fault-finding, cold, unfriendly, quarrelsome, hard-hearted, unkind, cruel, stern, thankless, and stingy (John, 1990).

Agreeableness is one of the most salient and influential personality constructs.... Agreeableness is of fundamental importance to psychological well-being, predicting mental health, positive affect, and good relations with others. . . . High-agreeable adulthood types reported less alcoholism and depression, fewer arrests, and more career stability than did low-agreeable adulthood types. (Laursen, Pulkkinen, & Adams, 2002, p. 591)

Altruism has been linked to the trait of Agreeableness: “The importance of Agreeableness as a dimension of personality is also evident in its close connection with communion, the desire to contribute to something bigger than the self” (Graziano, Habashi, Sheese, & Tobin, 2007, p. 584). The practices of kindness, forgiveness, compassion, and altruism are essential elements of many spiritual traditions (Bowker, 1997). This study showed an association with increased Agreeableness and changes in spirituality.

Agreeableness scores increased significantly ($p < .05$) at follow-ups 1 and 2. The responses in the qualitative results of this study also demonstrated changes in agreeableness: “I have a much greater sense of connection with the rest of the universe now,” one reported. Other participants wrote that they felt, “more compassionate” and “more open with other people.”

Ego Level

This research did not show the hypothesized increase in ego level for the study population. The ego level of 8 participants increased, that of 8 participants decreased and that of 6 did not change. Theoretically, an increase in ego level would indicate growth. This would mean that the retreat experience would have broadened the person's ego level beyond its existing structure and precipitated an expansion of the meaning-making system. Successful psychospiritual integration of the retreat experience would then have been expected to result in an increase in ego level. By contrast, it was expected that a decrease in ego level would suggest disintegration and regression. No change in ego level would then indicate the inability to assimilate the new perspectives. The researcher used Loevinger's ego level schema as a tool in an attempt to quantify this phenomenon, expecting that most participants' ego level would increase. This study discovered that psychospiritual development is not a linear process and that disintegration and no change were also likely outcomes of that process. The three case studies presented further illustrate this tendency to produce mixed results. One case shows ego level growth, another shows regression, and the third describes a participant whose ego level was stable from pretest to follow-up.

Habermas (1979) specifically discusses Loevinger's theory regarding ego level and supports this interpretation: "The formative process [of ego development] is not only discontinuous but as a rule is crisis-ridden. The resolution of stage-specific developmental problems is preceded by a phase of destructure and, in part, by regression" (p. 74). Those whose ego level decreased may need time with integration practices, including psychotherapy, in order to assimilate the experience and either return

to baseline or increase to a higher ego level. House (2007) discusses difficulties with the integration process and states “[It] may take weeks or months,” (p. 180) and “At times, integration does not occur” (p. 182). The 8 participants in this study with a decrease in ego level may represent this phenomenon. Many experts in the area of psychedelic psychotherapy emphasize the importance of professional guidance or psychotherapy after the experience (Goldsmith, 2007; House, 2007; Marsden & Lukoff, 2007; Roberts, 2007; Walsh & Grob, 2007). A developmental crisis can create growth “if treated skillfully” (Walsh & Grob, 2007, p. 219). Only one of the participants in this study received psychotherapy after the retreat. The participants who experienced disintegration (a decrease in ego level) probably could have benefited from psychotherapy. Moreover, this study may have been too short for the participants whose ego level decreased to assimilate the experience and return to baseline or higher ego level. The case studies illustrate the effects of psychological distress and integration practices on the participants.

According to the literature, an increase in ego level by one level would indicate significant growth (Manners, Durkin, & Nesdale, 2004). Of the 8 participants whose ego levels increased, the mean increase (from pretest to 8-week follow-up) was 2.13 levels. Although the sample size was small, this is a very significant change that merits further research.

It is also of interest that the participants in this study had a higher baseline mean ego level than what has been found in prior research. Cohn (1998) completed a meta-analysis of adult ego level that included 12,370 participants. He found that the mean SCT score “lay mainly between” E5 and E6 (p. 140). The mean SCT scores in this study were 6.21 - 6.29, slightly higher than in Cohn’s finding. Miller and Cook-Greuter (1994) found

that 10% of the adult population functions at the preconventional level (E2 and E3), 80% at the conventional level (E4, E5, and E6), and approximately 10% at the postconventional level (E7, E8, and E9). The self-selected population of this study had a much higher percentage of postconventional level participants (pretest = 48.5%, posttest = 41.4%, and 8-week follow-up = 40.9%). It may be that post-conventional versus pre-conventional or conventional level people are more attracted to such a retreat. Several factors may contribute to this possibility. Postconventional people are more likely to self-reflect and explore their inner life (Hy & Loevinger, 1996). Additionally, conventional thought in Western society mistakenly regards ayahuasca as a dangerous drug. Those with a conventional mindset may be fearful of ayahuasca and would not attend an ayahuasca retreat.

Practices That Facilitate Integration

The literature emphasizes the importance of integration practices (House, 2004; Grof, 2001; Schlitz et. al., 2007), and this researcher also feels that they are very important. This study did not show a correlation between integration practices (like-minded community, educational lecture or class attendance, creative expression, time in solitude, spiritual practice, or individual counseling) and growth, as measured by changes in the SCT and BFI scores. There was also no correlation between these practices and psychological distress. Two factors may have contributed to this result: the study population may have been too small, and almost all of the participants participated in all of the integration practices at the retreat, so there was not a group that did not participate to which to compare them. There was a significant association of integrative practices with spiritual practice and with a greater change in Agreeableness ($N = 16, p < .05$). This

result may be misleading, however, because most (89%) of the participants had a spiritual practice during the retreat, leaving only 11% of the participants in the comparison group. Mark's case study illustrated the significance of integration practices. His baseline ego level was 8 and increased to 9 (the highest level). He had a like-minded community, meditated on a regular basis, had a creative expression practice, and spent time in solitude or introspecting. When he felt psychological distress at the retreat, he asked for and received counseling from the transpersonal psychotherapist.

Discussion of the Qualitative Results

Thematic analysis of responses to questionnaires indicated that the ayahuasca retreat was a therapeutic and positive experience for the participants. Almost all of the participants had expectations that the retreat would provide psychological insight, guidance, healing and enhanced well-being, expansion of consciousness, or a spiritual experience, and everyone expected the experience to be positive.

The above stated expectations seem to fit into the frame of psychospiritual growth and development and perhaps positively contributed to the participants' integration of the experience. Those participants seeking psychospiritual insight and healing may have more success integrating the experience than those seeking a hedonistic recreational experience. In the early period of psychedelic research, Metzner and Leary (1967) advanced the concept of "set and setting." "Set" refers to intentionality and expectations, and "The intentions and expectations one brings into psychedelic sessions heavily influences the experience" (House, 2004, p. 100). "This is because your intentions and surroundings are powerful determinative factors for the nature of the experience" (Schlitz, Vieten, & Amorok, 2007, p. 52).

The “setting” refers to the environment of the retreat. A feeling of physical and psychological safety and support are essential (House, 2004; Schlitz et al., 2007) and can have a profound effect on the experience. It is noteworthy that, in this study, all of the participants reported emphatically that they felt safe and supported. Many participants also commented on the high quality of the retreat facilitators. It cannot be overstated how important this factor is for a positive outcome. It is essential that anyone who is considering attending an ayahuasca retreat understands the vulnerability and seeks out retreat facilitators who are trustworthy and competent. Schlitz et al. emphasized the same point in their comment, “Please bear in mind that all of those who mentioned using psychedelics to induce consciousness transformations also said this was best done under the careful direction of a trusted other. . . . Indeed none of our interviewees recommended that mind-altering substances be taken in a casual or recreational manner” (p. 52).

Spiritual beliefs were enhanced or confirmed in more than half (14 of 22) of the participants. This result appears to demonstrate that ayahuasca is both a psychological and a spiritual experience. Additional themes found in the qualitative questionnaire further support this conclusion. They include psychological insight and self-knowledge, enhanced well-being, transformation and personal growth, healthier behavior and lifestyle changes, and enhanced feelings of love and compassion.

Psychological discomfort and challenges were expected and were reported by some of the participants. The shadow aspects of the personality that become revealed are often unpleasant and uncomfortable not only for the participant but also for the other retreatants who are interacting with the person. It is important that the participants and the facilitators are aware that this is expected and that it will need attention during the

retreat. Most authors on the subject agree that difficulty and discomfort are a part of the psychospiritual growth process (Assagioli, 1989; Bragdon, 1990, 1993; Corbett, 1996; S. Grof & C. Grof, 1989, 1990; Havens, 1968; Lukoff, n.d.; Perry, 1986; Underhill, 2001).

The physical discomfort associated with ayahuasca was also expected. It is well known that ayahuasca is very bitter tasting and difficult to ingest. Participants noted this, as well as its concomitant effects, including nausea, vomiting, diarrhea, and weakness. Traditional ayahuasca shamans believe that purging is therapeutic and is a desired reaction in order to cleanse the person of physical, emotional, and psychic toxins (Mabit, 2007).

Conversations With the Retreat Director

The researcher spent 2 weeks in January, 2009 with the retreat director, a transpersonal psychotherapist. She shared her thoughts and some of the experiences she has had working with retreat participants. Her thoughts are summarized in the next 4 sections regarding retreat experiences that include amplification of character, the significance of discipline, the necessity of addiction referrals, and the importance of screening participants.

Amplification

She believes that ayahuasca amplifies the buried parts (the shadow) of participants' personalities. She thinks that this amplification allows the participant to see and experience these unknown parts, and that then s/he can decide if s/he wants to make the commitment to change. She elaborated, "The general character of a person will be amplified at the retreat; you can see who the person really is." Naranjo (1973) recounts a session of psychedelic psychotherapy with harmaline: "In psychotherapy, as in alchemy,

one must have gold to make gold, and in this case the session gave the patient the initial capital required for the work” (p. 124).

Discipline

Ayahuasca is most effective when the participant is disciplined and follows the insights that are revealed in the ceremonies with behavioral changes. She thinks that ayahuasca works best for people who are willing to do the work to make the changes in their thinking patterns and behaviors after the retreat. She strongly believes that psychotherapy is important following the retreat in order to manifest positive results.

Addiction

Retreats at TheVine Center are not adequate to treat addiction. From experience, she has learned that participants with addictions should be referred for specialized treatment. She refers people to Takiwasi, an ayahuasca addiction treatment center in Peru. Takiwasi treats people who suffer from cocaine, marijuana, and alcohol addiction. The typical stay there is 8 months, and Takiwasi has an 80% success rate (Mabit, 2007).

Screening Participants

TheVine Retreat Center has a website with educational material that participants are encouraged to read before attending a retreat. Nevertheless, the researcher has observed participants in retreat who were unprepared for the experience. Each participant fills out a questionnaire prior to the retreat and corresponds by e-mail to the transpersonal psychotherapist to make arrangements to attend. She said that, usually, she can tell which participants will have a difficult time at the retreat when she reads the e-mail correspondence from them prior to the retreat. With those whose e-mails have qualities that are neurotic, fearful, or aggressive, she proceeds cautiously. She continues to

correspond with them and eventually decides if the retreat is appropriate for them. At times she tells people that she thinks the retreat would not be a good experience for them and does not accept their application to attend.

Limitations and Delimitations

This was an exploratory study. The participants were self-selected as a convenience sample, and there was no control group. The participants were capable of traveling to a foreign country and motivated to participate in an altered-state experience. They also had to be at a socio-economic level that could support the retreat cost of \$2,500 plus airfare (U.S. currency). The participants had to be willing and able to participate in an Internet-based study for a series of questionnaires that required a 2-month commitment. All of the data was self-reported and subject to confabulation. The attrition level was 33% (22 of 33 participants completed the series). A larger population would have provided more power to validity and significance and possibly more definitive results. As a result of the limitations listed above, generalizability of the conclusions may be limited.

Psychological testing and questionnaires can be affected by the mood the person is in when s/he takes the test—for instance, if s/he is irritated about taking the test, if s/he is under the influence of an addiction, tired, or stressed. Pfaffenberger (2007) studied people with postautonomous ego levels and concluded in her dissertation that ego level may not be stable over time and may decrease under stress. She wrote:

Furthermore, my study does not support the conclusion that sorting participants into neat categories called ego stages is always possible. Some people appear to have a consistent center of gravity; however, this does not apply to everyone. The idea seems plausible from a theoretical perspective, but when meeting real people and talking with them it became apparent that a person may move effortlessly across a spectrum of development. (p. 101)

The SCT is a language-based test, and that basis may limit its ability to measure a more holistic view of growth and development. Vaillant (2002) points out that the SCT is the best pencil-and-paper measure of adult development, but that it is limited because it indicates what people think, not what they do.

During the four retreats that the researcher has attended, she has observed several participants (6 - 8) to have difficult experiences, some of which could be categorized as spiritual emergencies. One of the researcher's intentions when designing this study was to document this phenomenon. The participants in this study reported only mild cases of psychological distress, and results of this study did not clearly reflect any events of spiritual emergency. Some possible explanations for this outcome include the following potential circumstances for the participant:

1. The participant was unaware that s/he was having psychological difficulty.
2. The participant externalized the experience and blamed the ayahuasca, the retreat center facilitators, or some other factor for the difficult experience.
3. The participant had a difficult experience and dropped out of the retreat and/or the research.

Experimenter Bias and Demand Characteristics

Experimenter bias—also called *interpersonal expectancy effect*, *self-fulfilling prophecy*, and *Rosenthal effect* (Rosenthal & Rubin, 1978, p. 377)—occurs when the experimenter's motivations or behaviors influence the participants' responses during the study (Rosenthal, 2002). The motivations can be conscious or unconscious, and the behaviors can be verbal or nonverbal. Experimenter bias can skew the research findings.

The researcher believes that her own ayahuasca retreat experiences were transformative and positive. However, she has seen other people at the retreats respond negatively and has talked extensively with a person who feels she has suffered from posttraumatic stress disorder for 2 years following an ayahuasca experience. In order to decrease the effect of experimenter bias, the researcher used specific standardized written instructions for all of the testing. All of the testing took place on a website; the researcher had no personal contact with the participants. The researcher chose instruments and questions with the intention that they would demonstrate both positive and negative aspects of the integration process.

Demand characteristics reflect how the study is affected by the participants and the environment (Orne, 2002). They reflect aspects of the experimental method itself that may contribute to a biasing effect. The participant's motivation to cooperate with the researcher may also have an effect. For some participants, the website may have created a lack of motivation and, therefore, decreased demand characteristics. In addition, the website may have decreased demand characteristics because the participants did not try to please the researcher directly. It must be noted, however, that no study is without demand characteristics (Orne, 2002).

Implications

Psychedelic research in transpersonal psychology is the subject of renewed interest. The recent (2007) textbook, *Psychedelic Medicine: New Evidence for Hallucinogenic Substances as Treatments*, highlights this trend. Ayahuasca is most frequently used in the traditional shamanic (Mabit, 2007; McKenna, 2007; Winkelman, 2007) and religious contexts (Groisman & Dobkin de Rios, 2007; McKenna, 2007).

Ayahuasca retreats that are facilitated by transpersonal psychotherapists are less common. The only published research on this topic prior to this present study was the Hoasca Project, which studied members of an ayahuasca church. This dissertation is apparently the only empirical study that has analyzed the experience as separated from a religious doctrine and focused on the personal psychospiritual integration of an ayahuasca retreat through the lens of transpersonal psychology.

Roberts (2007) offers the suggestion that institutional “centers need to be established and staffed with people who are trained in how to administer psychedelics” (p. 325). He then poses the following questions to the research community: “What would be included in screening, preparation, monitoring and guiding sessions, and follow-up? Who should and shouldn’t be admitted to such a program? What professional preparation is needed?” (p. 325). This research attempted to address most of the aspects of Robert’s first two questions in the context of an ayahuasca retreat.

This researcher’s intention in conducting this study was to distinguish those factors and personality characteristics that would enhance psychospiritual integration of the retreat from those factors and personality characteristics that would contribute to disintegration and/or spiritual emergency in such an experience. Once these factors and personality characteristics were known, the researcher anticipated that the knowledge gained could be used in such a way as to accomplish the following measures addressing safety and a positive experience:

1. Participants could be effectively screened before the retreat in order to determine which candidates might need more psychospiritual support or shouldn’t attend the retreat.

2. Retreat facilitators could be informed how to provide activities at the retreats that assist with integration.
3. Retreat facilitators could learn how to recognize signs of disintegration or spiritual emergency in order effectively to support the participant and, if necessary, to refer him or her for further counseling after the retreat.
4. Retreat facilitators would have guidelines in order to provide or refer participants to follow-up psychological support after the retreat.

Ultimately, the researcher's intention was to elucidate the necessary conditions so that participants would have a safe and successful experience with ayahuasca for psychospiritual growth and healing.

Suggestions for Further Study

Ego Development

This study potentially initiated the process of discovering important findings in ego development. Three groups of participants with regard to ego level change were discovered: those for whom it increased, those for whom it decreased, and those with no change in ego level. In essence, this was a pilot study that suggests the need to replicate this research with a larger population. In such further research, each of the 3 groups could be analyzed and compared to each other. If this were the case, perhaps the research questions 3, 4, and 5 of this study would show significant results. For instance, decrease in ego level might correlate with more psychological distress, or perhaps the use of integration practices would have shown correlations with increased ego levels.

Ego Inflation and Spiritual Emergency

An important area for further study is the phenomenon of ego inflation and spiritual emergency. It is well characterized in the literature and is supported by this researcher's past experiences and by narratives from conversations with the director of TheVine Retreat Center. It is an area that is inadequately studied, but is of importance in the use of psychedelic substances. Stanislov and Christina Grof (1989) elaborated extensively on spiritual emergency with LSD use, but it has not been addressed in the literature within the context of ayahuasca retreats. Even after extensive searching, this researcher found that the literature on ego inflation associated with psychoactive drug use is meager, although direct experience suggests that the phenomenon is not unusual. It may be that research on spiritual emergency and ego inflation require direct observation of participants at the retreat while they are experiencing these problems. Research of these phenomena could be conducted at ayahuasca retreats with direct observation, administration of psychometric tests, and interviewing.

A Screening Tool

Another suggestion for research is further investigation into screening participants for suitability to attend an ayahuasca retreat. The elements of a screening tool are suggested below and could be used to screen participants who are expecting to undergo intense altered-state experiences. Based on the results of this study and the researcher's personal experience, the following elements should be part of a screening tool:

1. Review the participant's prior substance use. Be alert for those participants who are primarily seeking a recreational experience.

2. Ask the participant what his or her intention is for attending the retreat. It is important to know if the intention fits into a therapeutic frame. People who are pursuing consciousness expansion or spiritual growth need to be educated that the experience may be physically and psychologically uncomfortable.
3. Screen for a history of psychosis or use of psychotropic medications, as these are contraindicated as preconditions for those enrolling for an ayahuasca retreat.
4. Screen for addiction. A 7-10 day retreat is not adequate to treat addiction, and the participant may go through symptoms of withdrawal during the retreat.
5. Assess the participant for practices that promote psychospiritual integration.

Conclusion

This study strived to elucidate the factors that may facilitate psychospiritual growth, transformation, and a good outcome for ayahuasca retreat participants. The participants had positive affective changes in personality traits, and the qualitative results depicted that the retreat was a therapeutic and positive experience. This study showed strong evidence that attending an ayahuasca retreat was correlated with a decrease in Neuroticism and an increase in Agreeableness. The ego level results indicated strong growth for about 36% of the participants, no change for 27%, and regression for 36%. The phenomenon of regression pointed toward some of the difficulties that can occur for people who attend ayahuasca retreats. Modern Western society usually views regression as negative, but the spiritual emergence literature shows that regression is often a necessary part of psychospiritual growth. It may indicate that a person is working through

repressed material in the personality. Washburn (1988) calls this, “regression in the service of transcendence” (p. 155). Here is how Assagioli (1989) describes it:

There is this possible complication: sometimes these new emerging tendencies revive or exacerbate old or latent conflicts between personality elements. Such conflicts, which by themselves would be regressive, are in fact progressive when they occur within this larger perspective. They are progressive because they facilitate the achievement of a new personal integration, a more inclusive one, at a higher level—one for which the crisis itself paved the way. So these crises are positive, natural, and often necessary preparations for the progress of the individual. They bring to the surface elements of the personality that need to be looked at and changed in the interest of the person’s further growth. (p. 34)

As long as a person does not get stuck in this regressed state, the uncomfortable experience associated with the regressive changes may help to unblock the hurdles in a person’s psychospiritual development. This is where a person’s integration practices may be important tools for use in working through this regression. Ayahuasca allows a person to see and experience all of his or her parts, even the unwanted shadow aspects that are repressed and denied. It is known that ayahuasca has an antidepressant effect that sometimes lasts up to 2 weeks after the experience. This antidepressant effect may allow the person to see, and then integrate, his or her shadow aspects in an elevated mood with an attitude of acceptance.

The setting of the retreat had all the comforts of a modern retreat center. The retreats were facilitated by a transpersonal psychotherapist, and participants were encouraged to seek guidance from their own inner resources (the Self), with Ayahuasca as the teacher. The retreats were conducted without the overlay of a religious doctrine or a particular cosmology. Each participant was encouraged and allowed to experience the retreat through his or her own cultural and personal lens. The ayahuasca experience is challenging enough without adding primitive logistics, a foreign cosmology, and an inability to understand the language. A culturally appropriate set and setting may be

important for the integration process for modern Westerners. Nevertheless, the ayahuasca experience often awakens the indigenous worldview that was dormant in a person.

There is profound wisdom and beauty in the traditional indigenous worldview, and there is much for Westerners to learn from indigenous ways. In the indigenous worldview, nature is sentient and intelligent, and all things are interconnected. This interconnection extends to the plants and animals; the earth; the cosmos; all people from the present, past and future; spirits; and all that exists.

And yet, out of the experiences of millions of individuals in the Western world with hallucinogenic sacraments as well as other shamanic practices, we are seeing the reemergence of the ancient integrative worldview that views all of life as an interdependent web of relationships that needs to be carefully protected and preserved” (Metzner, 1999, p. 168).

At an ayahuasca retreat it is possible to transcend duality and experience this web of connectedness. The ayahuasca retreat allows the Westerner to understand and value the indigenous worldview; it provides a meeting place for western culture and indigenous lifeways.

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Appendix B: Washington University Sentence Completion Test (SCT)

Sentence Completion Test, Form 81. Hy & Loevinger, 1996, p. 28

Instructions: Complete the following sentences.

1. When a child will not join in group activities
2. Raising a family
3. When I am criticized
4. A man's job
5. Being with other people
6. The thing I like about myself is
7. My mother and I
8. What gets me into trouble is
9. Education
10. When people are helpless
11. Women are lucky because
12. A good father
13. A girl has a right to
14. When they talked about sex, I
15. A wife should
16. I feel sorry
17. A man feels good when
18. Rules are

Sentence Completion Test, Form 81-2, Hy & Loevinger, 1996, p. 29

Instructions: Complete the following sentences.

1. Crime and delinquency could be halted if
2. Men are lucky because
3. I just can't stand people who
4. At times he worried about
5. I am
6. A woman feels good when
7. My main problem is
8. A husband has a right to
9. The worst thing about being a man
10. A good mother
11. When I am with a woman
12. Sometimes he wished that
13. My father
14. If I can't get what I want
15. Usually he felt that sex
16. For a woman a career is
17. My conscience bothers me if
18. A man should always

Appendix C: Big Five Inventory (BFI-V44)

(John, 1990)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

*Disagree strongly – 1**Disagree a little – 2**Neither agree nor disagree – 3**Agree a little – 4**Agree strongly – 5***I see myself as someone who...**

- __1. is talkative.
- __2. tends to find fault with others.
- __3. does a thorough job.
- __4. is depressed, blue.
- __5. is original, comes up with new ideas.
- __6. is reserved.
- __7. is helpful and unselfish with others.
- __8. can be somewhat careless.
- __9. is relaxed, handles stress well.
- __10. is curious about many different things.
- __11. is full of energy.
- __12. starts quarrels with others.
- __13. is a reliable worker.

- __14. can be tense.
- __15. is ingenious, a deep thinker.
- __16. generates a lot of enthusiasm.
- __17. has a forgiving nature.
- __18. tends to be disorganized.
- __19. worries a lot.
- __20. has an active imagination.
- __21. tends to be quiet.
- __22. is generally trusting.
- __23. tends to be lazy.
- __24. is emotionally stable, not easily upset.
- __25. is inventive.
- __26. has an assertive personality.
- __27. can be cold and aloof.
- __28. perseveres until the task is finished.
- __29. can be moody.
- __30. values artistic, aesthetic experiences.
- __31. is sometimes shy, inhibited.
- __32. is considerate and kind to almost everyone.
- __33. does things efficiently.
- __34. remains calm in tense situations.
- __35. prefers work that is routine.
- __36. is outgoing, sociable.

- __37. is sometimes rude to others.
- __38. makes plans and follows through with them.
- __39. gets nervous easily.
- __40. likes to reflect, play with ideas.
- __41. has few artistic interests.
- __42. likes to cooperate with others.
- __43. is easily distracted.
- __44. is sophisticated in art, music, or literature.

Appendix D: Qualitative Questionnaire

Preretreat:

Please complete the following sentence:

My Ayahuasca retreat experience...

Please answer Yes or No and check the appropriate box; if yes, please describe or explain in detail.

1. Do you have regular contact with a like-minded or open-minded community?

_Y _N

2. Have you attended classes or teachings that are related to the ayahuasca retreat? _Y _N
-

3. Do you have a regular spiritual practice, such as church attendance, ritual, prayer, or meditation? _Y _N
-

4. Do you regularly have waking time to yourself in introspective solitude, such as walking alone or time in nature? _Y _N
-

5. Do you have a creative outlet, such as art, music, dance, or writing? _Y _N
-

6. Are you in counseling or therapy? _Y _N
-

7. In the last 4 weeks have you had any symptoms of psychological distress?

 Y N

Immediate Postretreat:

Please complete the following sentence:

My Ayahuasca retreat experience...

Please answer the following questions:

1. List the positive and negative aspects of the ayahuasca retreat for you?
2. How did the retreat affect you?
3. What, if anything, did you learn about yourself at the retreat?
4. Did you feel safe and supported during the retreat?

Please answer Yes or No and check the appropriate box; if yes, please describe or explain in detail.

1. Did you participate in at least three of the sharing sessions? Y N
-

2. Did you attend at least one educational lecture or class during the retreat?

 Y N

3. Did you draw, paint, and/or write at least three times during the retreat?

 Y N

4. Did you have at least 5 hours of waking time in introspective solitude time to yourself during the retreat? _Y _N
-

5. Did you participate in another spiritual practice during the retreat, such as prayer or mediation at least three times? _Y _N
-

6. Did you participate in at least one individual counseling session during the retreat? _Y _N
-

7. During the retreat, did you have any symptoms of psychological distress? _Y _N
-

4-Week and 8-Week Follow-Up:

Please complete the following sentence:

My Ayahuasca retreat experience...

Please answer the following questions:

1. List the positive and negative aspects in your life as a result of the ayahuasca retreat?
2. How did the retreat affect you?
3. What, if anything, have you learned about yourself as a result of the retreat?
4. Have your spiritual beliefs changed as a result of the retreat? If yes, please describe.

Please answer Yes or No and check the appropriate box; if yes, please describe or explain in detail.

Following the Retreat:

1. Do you have regular contact with a like-minded or open-minded community?

_Y _N

2. Have you attended classes or teachings that are related to the ayahuasca retreat? _Y _N
-

3. Do you have a regular spiritual practice, such as church attendance, ritual, prayer, or meditation? _Y _N
-

4. Do you regularly have waking time to yourself in introspective solitude, such as walking alone or time in nature? _Y _N
-

5. Do you have a creative outlet, such as art, music, dance, or writing? _Y _N
-

6. Are you in counseling or therapy? _Y _N
-

7. In the last 4 weeks, have you had any symptoms of psychological distress?

_Y _N

Appendix E: Letter of Invitation to Participants

You are invited to participate in a research study:

Deborah Quevedo, a doctoral candidate at the Institute of Transpersonal Psychology in Palo Alto, California, is conducting a study on individuals that participate in ayahuasca retreats with Silvia Polivoy. The study will investigate psychological changes that may occur as a result of your ayahuasca retreat experience.

Procedure

The procedure will involve logging onto a confidential secure research web site and completing the questionnaires and psychological tests as they appear on the screen. Time to complete all the instruments will be approximately 60 - 70 minutes for the first preretreat session, and then 20 - 40 minutes for the other sessions.

The psychological assessments that you will take are:

1. Demographic and background questionnaire—for general background information.
2. Washington University Sentence Completion Test (SCT) – indicates changes in the way you think and perceive the world.
3. Big Five Inventory (BFI)—to measure personality factors.
4. Qualitative questionnaire—to give you an opportunity to share important aspects of your experience that the assessments may not have addressed.

Here is a summary of the testing schedule:

- Before the retreat: Demographic questionnaire, SCT, BFI, and qualitative questionnaire.
- Last day of retreat: SCT, BFI, and qualitative questionnaire.
- Four weeks following retreat: BFI, qualitative questionnaire.
- Eight weeks following retreat: SCT, BFI, qualitative questionnaire.

The step-by-step process is:

1. Log onto the website, <http://www.brazilstudy.org>.
2. Create a user identification and password (You may want to write this down, you will use it for the entire study)
3. Complete the online Consent Form.
4. Complete the psychological assessments and questionnaire in the order they appear on the screen.

Benefits

1. The questions asked in this research may help you to think about and understand your retreat experience.
2. Participation in this study may contribute further understanding of the psychological and spiritual aspects of an ayahuasca retreat experience to society.

Potential Risks

- Confidentiality: Please be assured that confidentiality will be maintained, and your privacy and identity will be protected at all times, as will any and all information you provide. You will choose an online identification. Your signed consent form will be separated from the other data so that your real name is not linked with your online identification. Deborah Quevedo and her research assistant are the only people who will have access to the web site. In the reporting of information in published material, any information that might identify you will be altered to ensure your anonymity.
- Information obtained in this study is not protected from subpoena or court-ordered disclosure. The researcher will make no record of your name or other identifying data that could be used to link your identity to the information that you provide.
- The Internet data-collection method is designed to assure your autonomy and privacy, and the assessments and questionnaires in this study were chosen to minimize potential risks to you. Nevertheless, the possibility exists that completing the assessments and questionnaires may be uncomfortable or result in emotional distress.

When you register for the retreat, the ayahuasca retreat staff will ask you if they can give your contact name to the researcher. Upon your consent, the researcher will be given your name and e-mail address. The researcher will e-mail you a consent form. If you agree to participate in the research, you will sign the form electronically and e-mail it to the researcher (Deborah74@Brazilstudy.org). You will be e-mailed a link to the confidential secure website. Before the retreat, you will log onto the website in order to complete the first battery of questionnaires. You will repeat this process on the last day of the retreat and at 4 weeks and 8 weeks following the retreat.

I deeply appreciate your consideration to participate in this research.

Sincerely,
 Deborah Quevedo
 Doctoral Candidate
 Institute of Transpersonal Psychology

Appendix F: Consent Form

To the Research Participant:

You are invited to participate in a study to investigate psychological changes that may occur as a result of your ayahuasca retreat experience.

Procedure

When you register for the retreat, the ayahuasca retreat staff will ask you if they can give your contact name to the researcher. Upon your consent, the researcher will be given your name and e-mail address. The researcher will e-mail you a consent form. If you agree to participate in the research, you will sign the form electronically and e-mail it to the researcher (Deborah74@Brazilstudy.org). You will be e-mailed a link to the confidential secure website. Before the retreat, you will log onto the website in order to complete the first battery of questionnaires. You will repeat this process on the last day of the retreat and at 4 weeks and 8 weeks following the retreat. Time to complete all the instruments will be approximately 60 - 70 minutes for the first preretreat session, and then 20 - 40 minutes for the other sessions.

The psychological assessments that you will take are:

1. Demographic and background questionnaire—for general background information.
2. Washington University Sentence Completion Test (SCT)—indicates changes in the way you think and perceive the world.
3. Big Five Inventory (BFI)—to measure personality factors.
4. Qualitative questionnaire—to give you an opportunity to share important aspects of your experience that the assessments may not have addressed.

Here is a summary of the testing schedule:

- Before the retreat: Demographic questionnaire, SCT, BFI, and qualitative questionnaire.
- Last day of retreat: SCT, BFI, and qualitative questionnaire.
- Four weeks following retreat: BFI, and qualitative questionnaire.
- Eight weeks following retreat: SCT, BFI, and qualitative questionnaire.

The step-by-step process is:

1. Read and sign the consent form. E-mail it to the researcher.
2. You will be e-mailed a link in order to log onto the website.
3. Prior to the retreat, log onto the website.
4. Create a user identification (You may want to write this down, you will use it for the entire study).

5. Complete the psychological assessments and questionnaire in the order they appear on the screen.

Benefits

- The questions asked in this research may help you to think about and understand your retreat experience.
- Participation in this study may contribute further understanding of the psychological and spiritual aspects of an ayahuasca retreat experience to society.

Potential Risks

- Confidentiality: Please be assured that confidentiality will be maintained, and your privacy and identity will be protected at all times, as will any and all information you provide. You will choose an online identification. Your signed consent form will be separated from the other data so that your real name is not linked with your online identification. Deborah Quevedo and her research assistant are the only people who will have access to the web site. In the reporting of information in published material, any information that might identify you will be altered to ensure your anonymity.
- Information obtained in this study is not protected from subpoena or court-ordered disclosure. The researcher will make no record of your name or other identifying data that could be used to link your identity to the information that you provide.
- The Internet data-collection method is designed to assure your autonomy and privacy, and the assessments and questionnaires in this study were chosen to minimize potential risks to you. Nevertheless, the possibility exists that completing the assessments and questionnaires may be uncomfortable or result in emotional distress.

If, for any reason whatsoever, you have questions or concerns related to this research, I will make every effort to discuss them with you and inform you how to contact a mental health professional in your area, or we can discuss options for resolving your concerns. Please do not hesitate to contact me. You can e-mail me on the research web site at Deborah74@brazilstudy.org or call me collect at (408) 472-2630.

The chairperson for this dissertation is Dr. Fred Luskin, and the Head of the Ethics Committee is Dr. Jan Fisher. Both are faculty members at the Institute of Transpersonal Psychology and can be reached at (650) 493-4430. The Institute of Transpersonal Psychology assumes no responsibility for psychological or physical injury resulting from this research.

Your participation is strictly voluntary and you may withdraw your consent and discontinue your participation at any time during this study, for any reason, without penalty or prejudice.

You may request a summary of the research findings by providing your mailing address on this form with your signature.

Please provide a contact person who does not live with you who will know how to reach you.

Contact Person:

Name

Street

City, State, Country, Zip

Phone number

e-mail address

Participant's Name

Place an X here to electronically sign _____

Date

E-mail Address or Mailing Address (if you want a summary of the research findings):

Please do not hesitate to contact me for any reason.

Deborah J. Quevedo

Deborah74@brazilstudy.org

Call collect: (408) 472-2630

**Please e-mail this completed consent form to:
Deborah74@Brazilstudy.org**

Appendix G: Agreement Between TheVine Retreat Center and Deborah Quevedo

The purpose of this agreement is to specify the relationship between TheVine Retreat Center, (represented by Silvia Polivoy) and Deborah Quevedo, a doctoral candidate at the Institute of Transpersonal Psychology. TheVine Retreat Center has invited Deborah to conduct her dissertation research on participants of TheVine Retreat Center Ayahuasca Retreats. It is understood and agreed that:

1. TheVine Retreat Center will recruit and screen (for psychological stability) all retreat participants.
2. Deborah will provide TheVine Retreat Center with an electronic copy of the letter of invitation to participate in research. TheVine Retreat Center will send this letter of invitation to people who have registered to attend an Ayahuasca Retreat.
3. TheVine Retreat Center will notify Deborah of each registered retreat participant (name and e-mail address) as soon as s/he registers. Deborah will e-mail another copy of the invitation to participate in research and a consent form to each participant.
4. TheVine Retreat Center will provide a private place for participants to log onto a computer and self-administer psychological assessments and questionnaires.
5. TheVine Retreat Center staff will accompany each research participant to a computer on the last day of the retreat.
6. TheVine Retreat Center will assume all liability for ayahuasca retreat participants.

Please place an X in front of your name to indicate that all of the above is understood and agreed.

X Deborah Quevedo

X Silvia Polivoy