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Bridging Traditional Sacramental Use of Plant Medicine with Modern Clinical Models: A Comparative Analysis of Healing Approaches in Clinical Research and Ethnographic Case Studies in Psychedelic-Assisted Therapy

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A Thesis in the Field of Religion

for the Degree of Master of Liberal Arts in Extension Studies

Harvard University

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Abstract

Psychedelic-assisted therapy for mental health is a trending topic in scientific and academic circles. Mental health in the United States is a public health problem with increasing rates of clinical diagnoses and treatments failing to produce long-lasting results. Psychedelic-assisted therapy has been proven helpful for certain conditions based on preliminary evidence in clinical studies. However, there is more to the picture than clinical studies alone can capture. Depending on clinical evidence alone does not suffice in advancing our fledging understanding of how to best utilize these psychoactive substances to their fullest healing potential in clinical therapy spaces. By proving an analytical comparison between clinical studies and ethnographic studies on the psychedelic ritual, I argue for the future of psychedelic science to bridge the gap between traditional ceremonial uses and modern clinical models of application by continuing to research the variables of healing in ritual settings. As a result, the research has the potential to inform the ways in which clinical therapy can get modified going forward in specific ways: by introducing a group therapy option, greater tailoring of music to personal preference, and extending access to nature contact in a natural environment. In addition, modifying clinical training programs for the future of psychedelic-assisted therapists is also proposed and recommended.

Dedication

In loving memory of my dear friend Mallory James.

Acknowledgments

I offer gratitude to my mentors and teachers at Harvard Extension School and Harvard Divinity School. Special thanks to my Thesis Director, Giovanna Parmigiani.

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Chapter I.

An Overview of Contemporary Research (2010-2024) on Psychedelic Medicine

The second wave of psychedelic research is currently a field with unlimited possibilities. It is an exciting time of conversation, information exchange, and imagining what the future will look like as psychedelic substances are an approved form of treatment for certain types of mental disorders characterized by stress. The preliminary clinical evidence supports entheogens (another term for psychedelics meaning "the divine within") efficacy in treating a wide range of both physical and mental conditions. University trials have established that they produce enduring shifts in behavior for a significant number of participants and have gone a step further by creating strict therapeutic protocols to follow. Adherence to these protocols results in positive outcomes in the form of symptom relief. Of special interest is how to manipulate conditions that foster a 'mystical experience' because of its strong correlation with improvements in mood and outlook. To date, the standard is to have sessions beforehand for people to talk about what their goals for therapy are and establish trust with the therapist(s), the dosing session itself, and then an integration session to make sense of what they experienced during psychotropic use. Many discussions are being sparked about the multiple avenues of exploration, with more questions about setting conditions than previous years. The research is in its second wave because it is building upon the first wave of research in the United States and Europe in the 1950s and 60s.

There are multiple events that led up to the phenomenon of psychedelic study in modern times beginning with psychiatry in the 1950s United States. One recognizable

event is the synthesis of lysergic acid diethylamide (LSD) from a fungus on rye by Swiss chemist Albert Hoffman in 1938, and the unintended discovery of its powerful effects in 1942. Hoffman believed it could be beneficial in psychiatry (Pollan, 2018, p. 25). In addition, wall street banker Gordon Wasson took an interest in the traditional use of psilocybin mushrooms in the remote mountains of Mexico. Wasson wrote about his experience using psilocybin in a ceremony under the guidance of Maria Sabina in June 1955, which was published in *Time Magazine* in 1957 along with photographs (Pollan, 2018, p.110). Another well-known event was the correspondence between English writer Aldous Huxley and psychiatrist Humphrey Osmond. In an exchange of letters deciding on a name for the chemical compounds, it was the psychiatrist Osmond who came up with "psychedelics" which stem from the Greek words "soul-revealing" or "mind-manifesting". The combination of these events put these substances into greater awareness in the medical community and society at large. Thus, psychiatry began to test psychedelics as medicine for certain demographics. Early research focused on end-of-life anxiety management and substance abuse disorder.

It is estimated that LSD had been prescribed to about 40,000 participants and generated over 1,000 scientific papers by the mid 1960s (Lieberman, 2021). Evidence of LSD for patients with terminal illness (Kurland, 1972; Grof, 1973) and alcoholism (Kurland, 1967) was abundant. Papers claim the experience of being aware of an "ultimate reality" was related to perceived benefit (Savage et al., 1964). Themes of seeing the world in a new way are common. Participants who underwent LSD-assisted psychotherapy claimed "It was the greatest, most magnificent experience of my life! I felt as though I had been reborn…I felt compassion, warmth, and understanding for my

fellow man…there was so much I could do to change things for the better" (Kurland, 1967). The sentiments expressed by participants and researchers are echoed in today's research. Psychedelics started in psychiatry and quicky burst their influence onto culture and society in the 1960s. They were hugely impactful in the cultural sense by prompting the hippie movement. The generation was encouraged to stand up for beliefs counter to the dominant culture (hence, the counterculture) that were in opposition to the government on issues like the Vietnam war. The association between psychedelics and the anti-war movement was one of the biggest reasons they were outlawed, which eventually made them irrelevant to science.

The tide has since turned because psychedelics have made their comeback in academia, picking up where decades of research earlier left off. It started to reignite in the late 1990s when people began to research them again in university settings. In 2006, the late researcher Roland Griffiths of Johns Hopkins University and colleagues published an article about psilocybin's ability to create 'mystical experiences' that were interpreted as deeply meaningful (Griffiths et al., 2006). The credibility from that prestigious research institution paved the way to test psilocybin (a mushroom species) for mental health disorders, including end-of-life anxiety, depression, addiction, and post-traumatic stress disorder (PTSD). Clinical trials have an abundance of preliminary evidence to support the notion that by creating the ideal conditions for the therapy in a clinical environment, a patient undergoing therapy is more likely to have a mystical experience and get better in a lasting way. To substantiate this claim, it is crucial to discuss what is meant by mystical experience and how it correlates with brain activity. However, clinical evidence alone will not suffice in realizing the fuller healing potential

of entheogens. The scholarly conversation is lacking without interdisciplinary perspectives across fields, especially from scholars of religion.

Case studies about the sacramental use of entheogens offer a different perspective about what makes psychoactive plants healing. Psychedelic rituals are worthy of investigation because they are an entirely different setting in which psychedelics are used therapeutically. Conclusions are derived from ethnographic and anthropological fieldwork, which includes participation of the researcher in the practices, ceremonies, and customs of the culture they are studying. Observation and interviews also compile into qualitative data. By providing an overview of both current clinical studies of psychedelic therapy and ethnographic case studies of psychedelic rituals for healing purposes, an analytical comparison between the two can be made. While clinical evidence is important for changing approaches to mental health in the United States with psychedelics, based on their efficacy, continuing research into ritual ceremonies is also needed. Factors of healing in ceremonies commonly include the sacred nature of the psychedelic peyote or ayahuasca plant, psycho-social dynamics of the group setting, music, songs, chanting, communion with the Divine, and non-human persons, and nature. Although not all these factors can translate into a clinical environment, they can inform prospective ways clinical therapy can get modified going forward. This thesis argues that continuing to research setting conditions in ritual case studies, with emphasis on the alternative variables present that contribute to spiritual healing, will bridge the gap between traditional and clinical uses. In turn, fostering a collaborative dialogue has the potential to inform changes to clinical therapy in three ways: 1) group therapy, 2) a

greater emphasis on music choice during sessions, and 3) access to natural environments, in addition to informing the future of clinical training programs.

The Beginning of the Second Wave of Psychedelic Research

Renowned journalist and author Michael Pollan argues that the current research on psychedelics began in 2006: ayahuasca importation was approved by the U.S. Supreme Court for sacramental use in the United States, Albert Hoffman turned 100 years old thus encouraging the next generation of scientists to pick up the research he started years ago, and, most notably a scientific article about psilocybin's ability to "occasion mystical-type experiences" was published (Pollan, 2018, pp. 21-29). Data from healthy volunteers reporting participation in religious or spiritual activities showed "when administered to volunteers under supportive conditions, psilocybin occasioned experiences similar to spontaneously occurring mystical experiences and which were evaluated by volunteers as having substantial and sustained personal meaning and spiritual significance" (Griffiths et al., 2006, pp. 268-283). Most volunteers considered it one of the top five most significant events of their lives (Griffiths et al., 2006). The "sustained positive changes in attitudes and behavior consistent with changes rated by community observers" gave credibility to advancing the scientific investigation and empirical analysis of psychedelically occasioned mystical experiences (Griffiths et al., 2006, pp. 268-282). These advocations from well-respected researchers at Johns Hopkins were a major steppingstone to exploring the relationship between psychedelic medicine, mental health, habit change and stress resilience in ways never yet tread. Moreover, the positive attitude and prosocial behavior of participants following treatment sessions

imply the larger social consequences of entheogenic substances as therapeutic (Winkleman, 2014).

The Mystical Experience

In the years that followed, clinical research tested psychedelic-assisted therapy for different physical and mental health conditions; end-of-life anxiety, depression, substance addiction, and post traumatic-stress disorder (PTSD) are most common in clinical study literature. Several published journal articles and reviews claim that the beneficial therapeutic outcomes of psychedelics are correlated with volunteers' self-reports of "mystical experiences" and furthermore may very well result directly *because of* them (Lieberman, 2021; Cole-Turner, 2022; Johnson et al., 2022; Barret & Griffiths, 2018; Ko et al., 2022; Pollan, 2018). It is important to define mystical experiences from the psychology of religion as a basis for understanding how they theoretically relate to symptomatic improvement across a range of mental health issues. Here mystical experiences refer to *states of consciousness* which differ from what philosophers, theologians and psychologists refer to as an everyday waking consciousness or the type of conscious awareness most human beings inhabit daily. They are also called modified, altered, or non-ordinary states of consciousness. In ordinary awareness we have names, concepts, and categories for every object we perceive without expending much energy or sensory attention. We also have a clear sense of self-concept and construct a sense duality from the exterior physical environment and other people. Descriptions of the mystical experience is a central topic in the psychology of religion because they are in complete contrast to normal states of consciousness that govern cognition and behavior. Instead of feeling concrete boundaries between the "I" of the ego and everything that is

deemed other, the mystic feels a euphoric sense of oneness. The sense of union means an experiential connection with all of life, living beings, other people, the cosmic universe, and for some, union with a Divine being called by various names (God, the Self/Brahman in Hinduism, a Higher Power). All religions agree upon the existence of an Ultimate Reality. Somehow altering consciousness from its usual spectrum of awareness is the key to unlocking these types of experiences and leaves a lasting impression that a life-changing truth has been revealed. Pollan writes, "People feel they have been let in on a deep secret of the universe, and they cannot be shaken from that conviction" (Pollan, 2018, p. 41). It will be helpful to examine how the study of mystical experiences made its way into academic discourse and became the defining metric for quantifying the therapeutic efficacy of entheogens.

In 1902, Harvard psychologist William James was the first American scholar to formally characterize mystical states of consciousness by attributes referred to as 'marks': 1. ineffability ("…no adequate report of its contents can be given in words") 2. noetic quality ("illuminations, revelations, full of significance and importance, all inarticulate though they remain; and as a rule they carry with them a curious sense of authority for after-time") 3. transiency ("Mystical states cannot be sustained for long") and 4. passivity ("…the mystic feels as if his own will were in abeyance…") (James, 2004, pp. 329-330). In 1960 more dimensions were added to the mystical experience (sacredness, deeply felt positive mood, paradoxicality, and transcendence of time and space), adopted a few years later to make a questionnaire testing mystical experiments in study subjects (famously used in the Marsh Chapel "Good Friday" experiment with Divinity School students) (Barret & Griffiths, 2018; Cole-Turner, 2022). These former

evaluations informed the present-day "Mystical Experience Questionnaire" (MEQ): a set of questions underlying four main factors: "mysticism (a sense of unity, sacredness and noetic quality), positive mood, transcendence of time and space, and ineffability" (Barret & Griffiths, 2018). The MEQ has become the standard self-report measure of mystical experiences in clinical trials used to test the efficacy of treatment (the higher MEQ score, the more complete the mystical experience is, which translates into a higher likelihood of positive outcomes).

Across faith traditions, the core feature of mysticism is the experience of unity/connection/oneness with all of existence (Barret & Griffiths, 2018). In religious terminology mystical states of consciousness are a merging with the various names for the Ultimate Reality in many traditions. Mystic sects teach their followers to strengthen a personal connection with their own version of God (Barret & Griffiths, 2018). The healing effects of such unitive experiences achieved through various methods are all the same (meditation, yoga, breathwork, etc.). In Buddhism, the state is referred to as our essential Buddha nature, the mind in its natural state. Hopkins scientists Bill Richards in an interview with Pollan, believes there are many resemblances between religious mystical experiences and how people feel during psychotropic use. He goes on to say, "whether occasioned by drugs or other means, these experiences of mystical consciousness are in all likelihood the primal basis of religion" (Pollan, 2018, p. 55). In another study by Griffiths and colleagues, prominent similarities between naturally occurring mystical experiences (defined as 'personal encounters with God' in the study) and those created by psychedelics (Griffiths et al., 2019, p.1) were noted. Most participants reported memories of the experience involving "communication with

something having the attributes of being conscious, benevolent, intelligent, sacred, eternal, and all-knowing" (Griffiths et al., 2019). Continuing this exploration on the lasting effects of mystical experiences have potential to further understanding of religious beliefs as well (Griffiths et al., 2019).

The Neuroscience of Mystical Experience

Altered mystical states of consciousness brought on by psychedelic-assisted therapy are important to study because of their relevance in therapeutic interventions for an array of mental health disorders (Barret & Griffiths, 2018; Cole-Turner, 2022). Scientists were curious about what was happening in the brain first and foremost to understand how the therapy works. Neuroscience enabled a look inside the brain to see how mystical experiences correlate with neural activity, and how these temporary neural changes might translate into enduring shifts in personality and attitude. Barret and Griffiths admit mystical experience is not easily reduced into a simple scientific formula, yet still place value in its neural and psychological underpinnings (Barret & Griffiths, 2018). Before neuroscientific studies over the past ten years, science had discovered a few things about the way psychedelics operate in the human brain. Research from the 1950s identified they have a chemical structure that mirrors serotonin to the extent of attaching to serotonin receptor sites as agonists in the brain (which are densely populated in the prefrontal cortex, responsible for higher order processing). In 1998 Swiss researcher Franz Vollenweider discovered 5HT-2A serotonin receptors specifically (Pollan, 2018, p. 293). It was also already hypothesized that hallucinogens affect the way the thalamus processes incoming external sensory stimuli— distorting or amplifying it (Nichols, 2004). Still, more information is needed to fully explain their efficacy in

treating mental illness. Pollan introduces modern studies by asking what brain chemistry can reveal about the phenomenology of the psychedelic experience—a question necessarily concerning consciousness (in this context meaning "the sense of self that has experiences") (Pollan, 2018, p. 293).

The Mystical Experience, Ego-Dissolution, and the Default Mode Network

Clinical studies provide a wealth of information about the neural corelates of mystical experience recently discovered. The most discussed theory today is about a specific brain region called the Default Mode Network (DMN) which was originally discovered in 2001. There are several other physiological mechanisms in brain regions that are not covered here; the default mode network is of special interest because it provides an explanation for why mystical states relate to positive changes in mental health. In 2009 neuroscientist Robin Carhart-Harris and colleagues at the Imperial College of London were surprised to see a decrease in blood-oxygen levels in this area (along with the posterior cingulate cortex and medial prefrontal cortex) while measuring the resting-state brain activity of healthy volunteers in a psychoactive state using fMRI technology (Carhart-Harris et al., 2012). To make sense of these findings, Carhart-Harris and colleagues hypothesize that the DMN is a medial hub connected to other regions involved in the exchange of information in the brain, memory, and emotion; it restrains cognition as a kind of reductive filter under typical conditions, while its deactivation implies an "unconstrained style of cognition" (Carhart-Harris et al., 2012; Carhart-Harris et al., 2014; Pollan, 2018, p. 303).

The DMN exerts high-order processing over the multiple complex systems of the brain, and as such has a role in the formation of mental constructs, including the self-

construct or ego (synonymous with each other in this context), giving rise to self-reflection and self-narration. It typically activates when the mind defaults to self-referential processing whenever it has nothing else to do—as in an activity to engage its attention in or cognitive task to perform requiring concentration (Carhart-Harris et al., 2012; Pollan, 2018, p. 301-302). Griffiths commented in documentary interviews: "There's no such thing as doing nothing"—meaning that the average person in normal waking consciousness tends to think about themself even when only lying down in an MRI machine when given no other task. Scientists talk about the area's association with time-travel, thinking about the past or future. Pollan writes, the DMN is "the place where our minds go to wander—to daydream, ruminate, travel in time, reflect on ourselves, and worry. It may be through these very structures the stream of our consciousness flows" (Pollan, 2018, p. 302).

However, when the sense of self is momentarily absent, we get a glimpse of a different kind of consciousness, which is always available to us but often lies dormant unless intentionally accessed through various means (as mentioned above—whether it be via psychotropics, or religious practices). Interestingly, the brains of advanced meditators also show a dampening of the DMN in fMRI (functional magnetic resonance imaging) (Pollan, 2018, p. 305) and EEG (electroencephalogram) scans (Fingelkurts et al., 2016). When the activity in the DMN drops, the ego briefly disappears and "the usual boundaries we experience between self and world, subject and object, all melt away" (Pollan, 2018, p. 305). Non-duality, no separation between subject and object, taught by Buddhists, is a feature of the mystical experience (Pollan, 2018, pp. 305-306). Other experiments show while the DMN shuts down, the limbic (emotional) regions light up,

which may explain why repressed psychic material rises to the level of conscious awareness (Pollan, 2018, P. 307).

Neurobiology of Self-Awareness, the Mystical Experience and Mental Health

The neurology of self-awareness is useful for understanding the ego dissolution of mystical experiences and their relationship to improvements in mental functioning (Carhart-Harris et al., 2014). The sense of self is problematic insofar as it causes unnecessary psychological suffering. Some people get locked into maladaptive thought patterns where they believe the stories about their experiences are inextricable from their sense of self. It is usually these cases that all other mental health treatment methods fail to produce lasting outcomes. Psychedelic-assisted therapy is a very promising permanent solution for chronic stress responses in the form of negative thinking because they change the way the brain operates via neural/synaptic rewiring. To understand how this works, human evolutionary biology provides the framework for understanding why the brain developed to inhabit ego-based consciousness for the sake of survival and adaptation.

Under normal circumstances the DMN's reductive filter is necessary (Carhart-Harris et al., 2014). Human beings make sense of what is happening in the immediate environment in a matter of nanoseconds by depending on mental concepts for interpreting the information the senses are taking in. Otherwise, it would be too overwhelming to take in the multitude of information at once in any instance. The brain is essentially making its best predictions when it forms perceptions of things in external space, taking in a very small amount of sensory input to do so (Pollan, 2018, p. 308). We can quicky put names to the objects we perceive (anything—a tree, a piece of fruit, a chair or other furniture, another person). From an evolutionary standpoint, we need to assess safety,

such as when a pedestrian looks for cars before crossing the street, or for ancient humans the threat of fleeing from dangerous wildlife predators, in a way that conserves mental energy. Essentially everything perceived gets put into predictable categories and concepts. But existential philosophers, psychologists, and Buddhism remind us that these are only mental constructs which have no inherent existence. For example, we have a concept for "apple": they start from a seed, grow into an edible form for a short time, and eventually, if not transformed into energy after being eaten, decay. There is no "apple", only an idea of it. The same goes for any transient material object in the phenomenal world. Philosophers use furniture as examples to illustrate this point in a different way: a "table" is not inherently a table; it is wood constructed into a rectangle with four legs and called different names in different languages. The same idea applies to the sense of self; in fact, sociologists and psychologists have long called it a 'self-concept' because the self is an abstract idea—not a concrete entity.

The self-concept can become especially overbearing for some people who are challenged by reorienting their attention out of thinking about themselves and their painful past narratives. When normal functioning of the brain areas associated with the formation of self-concept go into overdrive, people tend to self-reflect to the point of mental health impairment. What they could use is more mental flexibility to relate to unconstructive self-reflexive thoughts in a way that dispels them. It is possible that early humans had a different kind of consciousness before the formation of mental categories and the ego. Thus, Carhart-Harris talks about the entropic brain theory: the idea that the fall of the high-ordered activity DMN increases a style of cognition called "primary consciousness" where the brain is in a state of uncertainty (Carhart-Harris et al., 2014).

According to Carhart-Harris et al, psychedelic states are primary states of consciousness before the adult human brain advanced into ordinary everyday consciousness (Carhart-Harris et al., 2014). The authors believe there is a relationship between altered states of consciousness and the undervalued unconscious mind in mainstream psychology/psychiatry, concluding, "psychedelics' greatest value may be as a remedy for ignorance of the unconscious mind" (Carhart-Harris et al., 2014).

The Entropic Brain Theory

"So, what does a high-entropy brain look like?" Pollan asks as he guides his readers through the clinical science (2018, p. 316). In a 2014 study, the brains of people in normal waking consciousness were compared to the brain after a psilocybin injection by tracking electrical activity (Petri et al., 2014). The high entropy brain is one in which the diverse networks of the brain intertwine and "thousands of new connections form, linking far flung brain regions that during normal waking consciousness don't exchange much information… the brain appears to become less specialized and more globally interconnected…", which can lead to mental states that are transformative (Pollan, 2018, pp. 316-318). See Figure 1, "Brain Connections" for an illustration of brain connectivity from the original research study.

Carhart-Harris believes even a momentary rewiring of the brain is helpful for people whose disorders are typified by mental inflexibility (Pollan, 2018, p. 320). The basic notion is psychedelics are like a 'reset' or 'reboot' for the brain stuck in a system that reinforces certain neural firings, erasing worn groves of thinking, so new (and more skillful) ones can start to form. Carhart-Harris has said, "Several of our patients described feeling 'reset' after the treatment and often used computer analogies. For

example, one said he felt like his brain had been 'defragged' like a computer hard drive, and another said he felt 'rebooted'" (O'Hare, 2017). Psychedelics may promote "neuroplasticity"—making thought and behavior patterns more plastic and thus more likely to shift, although it is merely theoretical (Pollan, 2018, p. 320). Psychedelic medicine may promote neuroplasticity for all the stress-related conditions above (anxiety, depression, addiction, and chronic trauma) through cellular, molecular, and synaptic action, mostly in the prefrontal cortex (Calder & Hasler, 2023; Olsen, 2022; Aleksandrova & Phillips, 2021).

These effects are especially useful for breaking out of habitual ways of thinking and behaving that become maladaptive over time. Constant attachment to past experiences hardens the sense of self and makes it more difficult to experience life as it unfolds in the present. When clinical treatments and psychotherapy alone fail to provide stable treatment, psychedelic-assisted therapy has proven benefit. Meditation is also known to enhance neuroplasticity: by the persistent focusing of the mind's attention on a singular object (the breath, a mantra, sensations in the body) in the moment, one's brain slowly begins to change its neural structures. This can manifest as cultivating qualities such as compassion for oneself and others or patience. Both methods are acting upon the brain's ability to rewire itself. Clinical studies take these theories to the next level by testing the therapy's application in the following areas: existential distress in the terminally ill, addiction, depression, and post-traumatic stress disorder (PTSD).

The first area of exploration testing psychedelics' therapeutic value was for people with existential distress due to terminal illness such as cancer back in the 1950s and again in recent years. Spiritual counseling for the fear of death and palliative care itself is relatively new (Dyck, 2019). The mystical feeling entheogens engender can be a natural antidote to that fear for many people. The first few recent clinical studies in this domain came out between 2010-2014, confirming the efficacy of psilocybin/LSD for patients with cancer or other life-threatening illnesses (Grob et al., 2011; Gasser et al., 2014). By using self-report instruments designed to measure depression, anxiety and mood through scales and inventories (the Beck Depression Inventory; Profile of Mood States; the Trait State Anxiety Inventory), the study data showed positive tendencies toward enduring positive mood and decreased anxiety and depression up to twelve months (Grob et al., 2011; Gasser et al., 2014). A few years later, university trials published in the 2016 *Journal of Psychopharmacology* conclude from data extracted from scales and inventories that psilocybin, in conjunction with psychotherapy, created quick and long-lasting reductions in depression for those with cancer-related existential distress (Ross et al., 2016; Griffiths et al., 2016). In addition, systematic reviews confirm classical and atypical psychedelics (like MDMA and ketamine) are effective for existential distress for terminal illness, especially given their ability to create spiritual type experiences (Schimmers et al., 2022). The ego death of psychedelic experiences can mitigate fear (Pollan, 2018, p. 346). Pollan assessed these study outcomes by stating they don't offer any explanation of how the therapy works, only to note that patients who felt the most healed had full mystical experiences (Pollan, 2018, p. 350). Thus, existential distress at the end of life holds the trademark of an overactive default mode

network; with the ego's momentary absence, "…it may be that the loss of self leads to a gain in meaning" (Pollan, 2018, p. 353). In whatever way meaning is made, whether it be the novel connections between brain regions or otherwise, it is clear from the clinical data that psychedelics have a useful role in palliative care for reducing anxiety and depression and improving positive mood.

Substance Abuse Disorder

The next largest area of clinical research focuses on substance abuse (which can intermix, with depression and trauma, discussed next). Substance abuse is an important issue to address because of the national and global toll it has on death and disability and the high economic cost of limited treatment options that fail to work (Bogenschutz & Johnson, 2016). From a systematic review of the literature, the evidence supports the role of the mystical experience as the moderator of healing effects (Bogenschutz & Johnson, 2016). Matthew Johnson gives credit to the ego-dissolving effects of psychedelics for changing any kind of behavior (not just addiction): attachment to self-centered thinking is perpetuated by the stories the self makes up about its relation to the world, believing they are absolute truths (Pollan, 2018, pp. 366-367). When the neurological functions upholding the constructed self are deregulated, the brain's abnormally plastic state (along with psychotherapy) enables people to create new narratives about self and the possibility of creating new long-term healthier habits (Pollan, 2018, pp. 364-367). This has been helpful for people to quit addictions, such as tobacco smoking cessation (Johnson, 2022) and alcohol (Garcia-Romeu et al., 2019). The literature supports the notion that the result of disconnecting the cognitive structures that keep self-reflection in place, coupled with the euphoric feeling of oneness with

various names for the Divine and other living beings, positive social behavior is often observed as an after effect. One study found effects beyond smoking cessation including "increased openness, altruism and pro-social behaviour" (Noorani et al., 2018, p. 767). These studies outline future directions by encouraging the role of variable factors for developing therapeutic protocols in the future (Noorani et al., 2018). All in all, clinical trials are very supportive of psychedelic-assisted therapy for substance abuse. These stress-related disorders appear to share the common feature of entrapment in psychological loops of thinking fixated on the past or future.

Depression

The deactivation of the default mode network, the neural basis for induced mystical experience, is most talked about alongside its usefulness for depression. Depression is characterized by rumination and depressed mood. For people with treatment-resistant depression especially, psychedelic-assisted therapy using psilocybin (Carhart-Harris et al., 2018) and ayahuasca (Palhano-Fontes et al., 2021; Palhano-Fontes et al., 2019; Muttoni et al., 2019) has great potential through disconnecting the DMN. Carhart-Harris and colleagues found psilocybin combined with psychological support is safe and effective for treatment-resistant depression, with results persisting after six months (Carhart-Harris et al., 2018). The relationship between depression and the DMN is highlighted by the self-reflective tendencies evident in depressed people (Carhart-Harris et al., 2019). The depressed person tends to become stuck in self-reflective thinking about the past with corresponding feelings of sadness, shame, or other emotions tied into their sense of self-identity. Jerrold Rosenbaum, head of the Center for the Neuroscience of Psychedelics at Massachusetts General Hospital, in affiliation with

Harvard University, was caught by the concept of the default mode network and its relation to rumination. In an interview with the Harvard Gazette, Rosenbaum states "Think of it as being stuck in recurrent thoughts that torment you…We all ruminate a little, but with depression, you have heat-seeking missiles for it" (Powell, 2021). Overtime, attachment to painful self-narratives that are not yet fully integrated or processed can cause depression to perpetuate. This can create a feeling of disconnection from the self, other people, or nature. Pollan's interviewees described psychedelic-assisted therapy helping their depression in two main ways: by restoring their former sense of "disconnection" that resulted from feeling stuck in mental prisons: "I ruminate much less, and my thoughts feel ordered, contextualized"; others felt more connected to their senses, "I looked at plants and felt their beauty", or to other people (Pollan, 2018, p. 378). The second theme was allowing them to access challenging emotions, which depression typically dulls (Pollan, 2018, p. 379).

The feeling of oceanic boundlessness (a term originating from Freud) and absence of ego, as part of the mystical experience, make the psychedelic experience acute and more predictive of enduring outcomes for those with treatment-resistant depression (Roseman et al., 2018). This unitive aspect of spiritual experience in which "the complex multiplicity of normal consciousness collapses into a simpler state where a sense of an all-encompassing unity with others the world and/or "God" is felt" is a form of brain entropy (Carhart-Harris et al., 2014, p. 15). The mystical experience, with its core features of ego-dissolution and blissful unitive oneness, creates the space to change the triad of thoughts, feelings and behaviors, and these antidepressant effects endure (Muttoni et al., 2019; McCarthy et al., 2022). Like the theory underlying addictive

behaviors, Carhart-Harris hypothesizes depression is in part caused by an overactive DMN, making psychedelics work as a successful treatment because of their ability to shock neural circuits out of their habitual ways (Pollan, 2018, p. 385). Professor David Nutt explains, "You can liberate them from depressive symptoms by showing them it's possible to escape those thoughts" (Senthilingam, 2014). The translations into everyday life are enormous. People who once were mentally trapped in depressive rumination every day of their lives could begin to reorient their attention to live in a way that is able to take in life's goodness and beauty in the present moment. Depression can be overcome in this way of regaining control over one's own mental activity and responding to it with mindfulness and compassion. Rumination may happen, but it does not need to be all encompassing or diminish the ability to live at ease in the present.

Post-Traumatic Stress Disorder and MDMA

The last area of application explored here is post-traumatic stress disorder (PTSD) using non-classical psychedelic methylenedioxy-methamphetamine (MDMA). There are few existing studies using classical psychedelics in this specific area. PTSD was added as a psychiatric condition in the American Psychological Association in 1980 (van der Kolk, 2014). Similar to depression and addiction, and potentially underlying them, is unresolved chronic traumatic stress. Releasing large amounts of 'feel-good' neurotransmitter serotonin can help people feel safe to psychologically process emotionally challenging or repressed memories/experiences; studies find improvements in participants sustained over time (Jerome et al., 2020). Clinical studies evince positive transformations in behaviors and point to the mystical experience as the main determining factor of these outcomes. Pollan summarizes the disintegrated ego/sense of

self as the largest reason for psychedelic's therapeutic effects, because the parts of our brain that interlink with the DMN "appears to generate the narratives that link what happens to us to an abiding sense of who we are" by determining how to relate to the thoughts and feelings in our experience (Pollan, 2018, pp. 389-391). In the same way the meditator learns to control the mind to achieve a different relationship to the mental phenomena of thoughts and feelings; a sense of space in which to observe thoughts and feelings and relate to them in a completely non-identified way is thereby gained. Entheogens encourage the same altered relationship.

The Role of Set and Setting as Variables in Psychedelic Research

Evidence supports the role of the mystical experience in curing; how to create the ideal conditions for a mystical experience using empirical evidence is how research is moving forward. Beyond proving psychedelics' efficacy, which has been abundantly proven by the clinical studies from approximately 2010- now in 2024, the next level of research trending now is a deeper investigation of what specific factors in therapy contribute to beneficial outcomes. The variables of *set and setting* are coming into deeper focus—set referring to a person's mindset and intention for the experience, and setting referring to the context (physical/environmental, social, and cultural). Contemporary clinical trials address setting by "providing a comfortable and aesthetic environment, in addition to music and eye masks…a non-directive therapeutic style is adopted, with therapists instructing patients to 'focus inward' (Johansen et al., 2022, p. 3). Psychological support is perhaps the most important aspect, which can be defined as "intensive clinical care/contact, supportive and reassuring interaction with therapist/sitters and reliable induction of the mystical experience" (Lowe et al., 2021, p.

19). Guidelines for psychological support during psychedelic-assisted therapy are as follows: 1) experienced therapist(s), 2) preparatory sessions, 3) providing support (which involves being physically and emotionally present, reassurance and empathic listening), and 4) an integration session which involves listening to the patient's summary of their psychedelic experience (McCartney et al., 2022; Johnson et al., 2008). Two major variables then are the importance of therapists with aptitude to provide psychological support and a comfortable environment. The context is manipulated in the clinical room environment with dim lighting, selected music, and pleasant décor, as well as establishing a strong therapeutic alliance between client and therapist, all of which stimulate psychedelics therapeutic mechanisms of action (Carhart-Harris et al., 2018). These conditions tend to produce reliable therapeutic outcomes. However, there are other contexts in which psychedelics as a treatment for mental health can be critically examined. Leaving the therapeutic protocols as is by depending on the clinical data thus far has potential drawbacks. Standardizing protocol based on clinical data neglects the people for whom it might not generalize to.

Including Native Indigenous Perspectives to Diversify Research

The clinical data summarized has revolutionized our approach to healthcare both nationally and globally, validating the therapeutic use of entheogenic medicine and advancing the understanding of spirituality's place in therapy. At the same time, it has received some criticism from scholars who strongly believe that relying solely on clinical data to understand something as complex as consciousness altering medicines is insufficient. To do so, they argue, is to stay limited in a predominantly biomedical model of human health. Many scholars' express concerns over the lack of diversity and issues

of inequality in the clinical research in predominant today. One criticism is the lack of racial diversity in research (Williams & Labate, 2021; George et al., 2019; Williams et al., 2021; Michaels et al., 2018; Thrul & Garcia-Romeu, 2021). Black, indigenous, people of color (BIPOC) voices, women and other minority groups are underrepresented, and without inclusion of diverse participants in the studies, we don't know if the outcomes apply equally to everyone (Williams et al., 2021; Michaels et al., 2018; Williams & Labate, 2019). The advancement of psychedelic medicine is indebted to indigenous healing customs throughout history, yet indigenous people and minority groups are absent from the prevailing anecdotes (George et al., 2019). Expanding the western medical structure to incorporate a cultural aspect would lead to greater inclusivity for establishing treatments and circulation of studies in the future (George et al., 2019). Thus, the antidote to this research problem is to include a variety of research methods perspectives, especially indigenous methods of healing that invariably emerge from cultures and religions that have used psychedelic plant medicines for thousands of years. While this point receives acknowledgement in clinical publications, it seldom gets more attention. As time goes on the urgency for inclusivity is increasing. The research *needs* it.

Evengia Fotiou, a cultural anthropologist and researcher advocating for indigenous perspectives in psychedelic science, considers the point we are living in a "critical juncture" where the scholarly community can either "perpetuate the hegemony of western science over other ways of knowledge, or step back and reevaluate our frameworks and methodologies to allow for multiple perspectives to contribute to our research", focusing instead on *how* healing happens (Fotiou, 2019, p. 16). Research on

the religious ritual offers "alternative approaches to reorient the "psychedelic renaissance" towards a more equitable future for Indigenous Peoples, psychedelic medicines, and all our relations" (Williams et al., 2022, p. 509). On a scholarly level, this might look like interdisciplinary work engaging with religious studies through a collaborative dialogue. It may also entail creating more pathways for indigenous people and perspectives in psychedelic research. By examining ritual setting conditions in these traditions, it bridges the current gap between clinical practice and traditional uses of psychotropic plants for the purposes of optimizing the best therapeutic protocols as time goes on.

Cross-Cultural Setting Conditions and Interdisciplinary Study

The biggest difference between the clinical setting and indigenous ritual settings is the physical, cultural, and social context in which the therapy takes place: clinical studies occur in clinical rooms while rituals are often in naturalistic outdoor settings. The controlled clinical environment restricts the full healing potential of these powerful mind-altering substances. Some University researchers in the United States boldly argue psychedelics need to go beyond the clinical context into cross-cultural interdisciplinary study, putting into question what they consider the "the abstract design of the research studies" and "physical design of the therapy settings" because the hospital room is not always the best place to be in altered states of consciousness for prolonged hours (Earp & Yaden, 2021, pp. 219-220). Even neuroscientists published an article admitting "there are many reasons to consider that therapeutic psilocybin sessions, despite the usual 'inward focus' could, for some participants, be better supported by being held in a natural setting than in a hospital room" encouraging future studies to "investigate the benefits of

natural settings and how they may complement (or supplement) clinical or indoor settings in greater detail, employing fine-grained assessments of the settings in question, with thorough attention to potential risks" (Gandy et al., 2020, pp. 7-10). The natural environment of rituals in and of itself is a major point of contrast.

Scholars of religion are making significant contributions to the discussion. The intriguing claim of those who professionally undertake studying psychedelics in ritual specific contexts is healing occurs only if you have the "right" context—a ritual context (Webb, 2011, p. 240). There are a multitude of factors present in ritual ceremonies have their own healing elements that contribute to the therapy. This discussion focuses on the Native American tribes in North America and small religious sects in the South American Amazon region, such as the União do Vegetal (UDV). These traditions have in common the conception of the mind, body, and spirit as three core dimensions of the human being: when one suffers, the rest do too. In this way healing concerns *the whole person*, not merely the body (Fotiou, 2022; Jones, 2007). South American ayahuasca ceremonies and North American peyote ceremonies use music, singing, drumming, chanting, prayer, and intent for healing to unify with fellow group members and God (Jones, 2007). Cultural anthropologist Joseph Calabrese concludes from a decade of fieldwork with the Navajos in the 1990s, the interaction between mental health and culture in cultural psychiatry is very different from traditional scientific approaches but nonetheless proven to work therapeutically (Calabrese, 2013, p. 120). In a more recent example, Loizaga-Velder and Verres demonstrate ayahuasca rituals act as a catalyst for processing traumas that underlies substance abuse (Loizaga-Velder & Verres, 2014). The following chapter explores case studies of the psychedelic ritual while outlining the various factors

hypothesized to facilitate healing. The analysis argues for the importance of future research to continue to investigate ritual conditions, sparking a collaborative dialogue between clinical and traditional ritual practices that serves to enhance current models of therapeutic application.

Chapter II.

An Overview of Contemporary Case Studies on the Sacramental Use of Psychedelic Medicine

Ritualistic consumption of psychedelic plant medicine is an ancient practice in indigenous cultures around the globe dating back thousands of years. Though psychedelics themselves have an illegal status in the United States, Native Americans in the United States and Mexico and religious groups in the South American Amazon use it sacramentally under a legally protected status. In most cases, ceremonies that incorporate psychedelics are composed of multiple elements mediating psychological and physical health (Schmid et al., 2010; Rodrigues et al., 2022). In contrast to clinical studies, ethnographic studies are derived from months or years of participatory fieldwork. Ethnographic and anthropological offer alternative methods highlighting different elements of healing within the specific ritual setting. Researchers gather data from direct firsthand observation, ritual participation, and interviews with ritual participants while being immersed in the culture. Integrating the information from sources rooted in traditional sacraments will fuel the effort to enhance existing modes of therapeutic application in the clinical realm by providing a basis of comparison.

Investigating the healing factors in psychedelic sacraments requires an interdisciplinary discussion across psychology, religion, anthropology, history, and cultural studies. Case studies on the Native American ingestion of peyote (a psychoactive cactus) and more recently South American Amazonian populations use of ayahuasca exemplify the interrelation between culture, religion, and health. Most religions are embedded in a culture in a dynamic relationship that inform each other's

beliefs, values, worldviews, and customs. Indigenous cultures, being amongst the oldest in the world, have religions shaped by a culture that places value on nature and union with their version of God. They believe that indivisible oneness is an individual's true nature; it is through conscious union that individuals feel health and whole. Thus, nourishing spirituality is also nourishing the mind and physical body. There is no difference, and so when someone is ill in these cultures, the person who heals (shaman, roadman, ayahuascquero) is a religious figure and a doctor of sorts. Physical ills and psychological woes are fixed through mending the spirit. The ceremonies themselves are structured in a very systematic way to stimulate one's self-awareness to the point of problem resolution and feel connection with oneself, other people in the group, and names of choice for personal conceptions of the Divine. It has been noted that rituals use relatively low doses of ayahuasca or peyote because the ritual conditions amplify its psychoactive effects. The sacramental setting is contained in a cultural context, which in and of itself affects the therapeutic experiences of healing (Baker, 2005).

The Peyote Ceremony and Healing Elements

Native Americans use peyote—a psychoactive cactus native to southern Texas and Northern Mexico—as a sacrament (Stewart, 1987, p. 3; Aberle, 1966). Its main alkaloid is mescaline (Jones, 2005; Jones, 2007; Doesburg-van Kleffens et al., 2023). Peyote's sacramental use dates to at least the 15th century and has a painful narrative of colonialism, notably within the context of the Spanish conquest wherein peyote was banned. The history of peyote in the United States began with the Native American tribes living near peyote's natural growing habitat around the start of the 1800s and grew rapidly by 1880 (Stewart. 1987, pp. 47-68). The Native American Church formed around

1914 as a collective Native American religious group placing the peyote ritual as central to its practices (Doesburg-van Kleffens et al., 2023). It is primarily responsible for the continuation of peyotism among Native tribes in the United States and Canada (Anderson, 1980, p. 38). Cultures around the world use psychotropic and consciousness-altering substances for a variety of reasons (Alrashedy, 2016) and the peyote ritual is specifically used for religious aims (Aberle, 1966, p. 5).

Although the history of psychedelic medicine discusses clinical psychiatry's interest, case studies from the 1970s concerning peyote's cure for Native American alcoholism were also in print. In 1974, the *American Journal of Psychiatry* called alcoholism "a critical health problem that continues to defy traditional modes of treatment" (Albaugh & Anderson, 1974, p. 1247). Researchers found the promotion of 'spiritual consciousness' and 'self-actualization' absent in Western alcohol treatments (Pascarosa & Futterman, 1976, p. 218). Ethnographers of the time assessed the peyote ceremony is specifically fitted for Native Americans to experience "cathartic expression" of feelings and emotions and intensifies "suggestibility" by the group leader and cultural symbolism (Albaugh & Anderson, 1974, pp. 1247-1250). Additionally, participants claim the meeting was a "turning point" in their efforts to overcome alcoholism (Albaugh & Anderson, 1974, pp. 1247-1250). Identical to modern-day clinical studies, these articles talk about the dismantling of the ego's structure, allowing one to achieve a meditative state wherein "inner conflicts" (normally repressed) are resolved (Pascarosa & Futterman, 1976, p. 218). The roadman (leader) guides participants into a meditative state of widened consciousness. Peyote and mescaline broke free from their illegal status

in the United States in 1978, under the American Indian Religious Freedom act, amended in 1994 to allow for its use in ceremonies (Doesburg-van Kleffens et al., 2023).

Joseph Calabrese spent over ten years in immersive fieldwork among the Navajos in the 1990s. From this experience, Calabrese strongly states the methodology used to study ritual practices lies at the intersection of culture and mental health (Calabrese, 2013, p. 16). Furthermore, he argues that the ritual promotes self-awareness and consciousness expansion, enabling individuals to make their own solutions, in a medical paradigm comparatively infused with greater meaning (Jones, 2005; Jones, 2007; Calabrese, 2013 p. 26). The Native American Church views health as an integrated whole of body, mind, and spirit. Ethnographers speak about the way health and sickness are thought to originate from polarity of these three areas. Consequently, illness is seen as originating from social, psychological, and spiritual imbalances; the ceremony's purpose is to restore balance and promote healthier ways of being (Jones, 2007). Most medical doctors in the United States rely on physical causes of disease in the mind and body. This contrasts with the notion that there are definite psychological and spiritual causes for ailments. Clinical trials, with their research focus on neurobiological processes, might be missing out on the psycho-spiritual processes underpinning health that rituals highlight.

The use of peyote as a sacrament in and of itself is a major point of analytical difference between clinical and ritual studies. Ethnographic researchers from the 1970s through the early 2000s participated in extensive fieldwork, ritual participation, and interviews to gather first person observations on this cultural practice. Most of these studies concern the Native American Church because it is one of the largest sects in the

United States and Canada. The peyote ritual (also called a peyote meeting) is stated to be an overnight ceremony including four fundamental parts: praying, singing, peyote ingestion, and contemplation—all to facilitate communion with God, one's fellow worshippers, and oneself (Jones, 2007; Jones, 2005; Anderson, 1980, p. 41). The Native American Church (NAC) ceremonies follow the same structure which has not changed over the course of time, although some sets may have variations (Stewart, 1987, p. 327; Anderson, 1980, p. 45). The ceremony takes place in a tipi or other special structure (like a wooden building or outside), where participants sit circled around a fire and crescent moon-shaped alter (Jones, 2007; Anderson, 1980, p. 43). Calabrese further explains the cultural symbolism of death and rebirth; self-awareness is symbolized by the "human self or life course in the arc of the Crescent moon altar" and spiritual healing symbolized by death and rebirth, "this depiction of the self in natural transformative processes of gestation, birth, and the dawning of a new day" (Calabrese, 2013, p. 119; Calabrese, 1997, p. 237). The kind of self-awareness in this context is the heightened awareness of one's own mental content that otherwise hides below the surface, preceding inner problem-solving and resolution. Peyote is embodied as a 'benevolent' spirit fostering communion with the Great Spirit (Calabrese, 1997, pp. 238-239).

In the ritual ceremony, four main officials are present: A road man (leader), chief drummer, fire man and cedar man, each ascribed certain functions during the ceremony (Stewart, 1987, p. 328; Anderson, 1980, p. 43; Calabrese, 2013, p. 123). Participants enter the tipi at sundown after dark (Anderson, 1980, p. 45; Calabrese, 2013, p. 123). Peyote is usually dried into 'buttons'; at the beginning of the ceremony the peyote buttons (called "Mother" or "Father" peyote) are placed on the altar. In some

ceremonies, participants smoke tobacco cigarettes before the road chief prays to the Great Spirit to be present in the ceremony (Anderson, 1980, p. 45). Peyotists focus on the peyote and send their prayers into it (Calabrese, 2013, p. 123). Next, incense and a sage brush circulate all before participants finally eat the peyote, cued by the drumbeat (Anderson, 1980, pp. 45-46). Each person sings four songs which continues until midnight, in fact "one-half to two-thirds of a peyote ceremony is occupied by singing" (Calabrese, 2013, p. 123; Anderson, 1980, p. 47; Stewart, 1987, p. 329). Calabrese elaborates "the drum is passed in a clockwise direction and rounds of singing alternate with the passing of peyote, which is also clockwise. Most of the participants time is spent in silent prayer while others are singing" (Calabrese, 2013, p. 123). Calabrese argues that consciousness modification in these ceremonies make the mind more pliable "by altering the individual's attention and suggestibility" in relation to cultural messages, introspection, or reflexivity "allowing for life-changing insights" (Calabrese, 2013, p. 117-118). For instance, hypnotic suggestion is promoted by "the rhythmic drum beating that occurs throughout the night, as well as the rule that participants should fix their attention on the symbol-laden central altar" which effectively guides ritual participants into self-reflection (Calabrese, 2013, p. 118). Peyote ceremonies differ from clinical sessions in three major ways: participants do not talk, rhythmic chanting mitigates anxiety from peyote's psychoactive effects and is an essential factor of healing, and finally, settings are dim or dark (Doesburg-van Kleffens et al., 2023).

Peyote as Spiritual and Medicinal

Peyote is commonly cited to be simultaneously spiritual and medicinal (Jones, 2005; Jones, 2007). NAC members state "The purpose of peyote is to clear the mind.

The mind functions in all kinds of manners, thinking of many things. When you take the Medicine God's spirit power is in the medicine. It clears the mind" (Smith & Snake, 1996, p. 40 as cited in Jones, 2007, p. 411). There is clearly a connection between healing, spirituality, and clearing the contents of the distracted mind in these words. A clear mind is a mind resting in its natural state. Peyote is at once both medicinal and spiritual because physical health is synonymous with mental and spiritual well-being (Jones, 2007). Called the "Medicine of God", it is equally applicable to botanical herbs and a greater power or spiritual entity (Stewart, 1987, p. 329; Calabrese, 2013, p. 101). Peyote therefore is a medicinal herb that cures through its "God-given" essence (Calabrese, 2013, p. 102). The notion of Peyote as a sacrament joins together its herbal properties with its identity as an omniscient spiritual entity (Calabrese, 2013, p. 114).

The Ayahuasca Ceremony and Healing Elements

Beyond the work done in the 1990s and early 2000s on the NAC and Navajo population, academic case studies in recent years investigate ayahuasca ceremonies in the Amazonian region. Ayahuasca is a psychoactive tea drink (called the "brew", containing DMT (dimethyltryptamine) made from the vine *Banisteriopsis caapi* and shrub *Psychotria viridis*) used for sacramental purposes in ritual settings by indigenous communities in the Amazon (Antunes, 2019; Soler et al., 2016; Schmid et al., 2010; Lafrance et al., 2017; Scheidegger, 2021). The ceremony is composed of multiple elements mediating psychological and physical health (Schmid et al., 2010; Rodrigues et al., 2022). When ayahuasca is used in a ritual it is sacred because it provides access to different realms of consciousness and facilitates spiritual feelings. Furthermore, it is

thought of as a healing plant medicine that cannot be separated from the physical land on which it grows (Schmid et al., 2010).

Like the peyote ceremony, ethnographic research about ayahuasca ceremonies involves months to years of participatory fieldwork, observation, and interviews. Evgenia Fotiou is a cultural anthropologist specializing in Indigenous religions. Fotiou shows that sickness is understood as having physical, psychological, spiritual dimensions, and that multiple elements in an ayahuasca ceremony work together to manage all three dimensions (Fortiou, 2012). Fotiou's data was obtained from 17 months of fieldwork and participation in over 60 ayahuasca rituals between 2003-2005 in Iquitis, Peru. The spiritual dimension attracts Westerners because biomedicine lacks in that regard (Fotuiu, 2012). The following elements have been found in ayahuasca rituals in Peru: the ayahuasca itself as a healing plant, *schacapa* (an instrument that removes negative energy from the body), musical instruments, magical stones, alters, *solpladas* (healing energy), the spirits ("doctors"), *icaros* or healing songs ("participants say they can literally "see" the music") (Fotiou, 2012, pp. 9-20). The *icaros* are very important; the 'ayahuasqueros' sing at the beginning of a ceremony for protection to ensure good outcomes. If a participant is feeling any kind of anxiety during the ceremony, they are instructed to focus on the *icaros* during the ritual (Fotiou, 2012, p. 17). Interestingly, personal crisis is a prerequisite to healing in the first place in the sense that "one has to feel bad before they feel better"; the altered state of consciousness allows a person to work with their own internal energy and get rid of obstructions previously unbeknownst to them (Fotiou, 2012, p. 21).

To illustrate this idea, in some forms of medicine, the physical body has a life force energy flowing through it. Good health is the result of energy flowing, while ill health is caused by blocked energy. Thoughts, emotions, memories—mental activity of any kind is also energy. When we do not process those mental energies, they can become 'stuck' in the physical body like a kinked hose that cuts off running water. Entheogens enable the opening of awareness, which subsequently sheds light on stagnant energy in one's own mind and body. Ayahuasca can thus quicken this healing process. Fotiou mentions how the *schacapa* (a rattle made from leaves) "is used to direct energy it where it is needed or to remove negative energy from the patient's body" (Fotiou, 2012, p.11). In this way the psychological distress ayahuasca medicine creates precedes healing and positive transformation (Fotiou, 2012; Lewis, 2008). Acute psychological crisis is regarded as a liminal, in-between state leading to healing and growth (Lewis, 2008). One of Fotiou's interviewed ritual participants described rituals enable the ability to "vibrate positively", stating "…when we vibrate negatively for a long time…We can make ourselves sick. Therefore, by vibrating positively we help transform the negative energy to positive…It is energy and it cannot disappear, only transform to something else" (Fotiou, 2020, pp. 232-233). Taken together, themes arise surrounding the idea of clearing one's mind and body by means of psychological transformation. The end result is a renewed ability to cope with the past and redirect attention to the here and now of firsthand lived experience.

Healing, Transformation, and Resilience

The transformation of releasing negative experiences and reestablishing oneself in an open, loving energy is akin to psychological resilience. In psychological terms,

resilience to stress means having the skills and coping mechanisms to effectively cope with stressful life events. Stress management is essential for a healthy mind, and a compelling reason to learn for the sake of living in a more adaptable way to inevitable onslaughts. In more extreme cases, sometimes people go through experiences so traumatic their stress becomes chronic, as in PTSD. However, it is possible to glean meaning from these experiences in a way that enables not only resilience but also spiritual growth. Some psychologists call "post-traumatic growth" the growth that occurs after one overcomes their PTSD. What makes entheogenic medicine seem to work is their ability to stimulate this dynamic process for people who otherwise find it difficult to let go of adverse experiences. One ayahuascquero (ritual group leader) explains how dark energy gets "crossed" in the body, taking the form of negative thoughts, traumas, and fears that people "do not let go" of, only dispelled through the light energy of an all-encompassing love of "the people and situations in their lives" as well as self-love (Fotiou, 2012, p. 21-22). Extraction of these negative feelings is a part of the transformative healing process. Despite accumulating evidence that there is more to good health than the absence of disease, Western clinicians are more accustomed to treating patients out of a disease model, lacking the proper training to help people with spiritual problems (Lewis, 2008).

Another aspect of rituals is the motivation of the participants themselves: most people who participate in these ceremonies do so for the purposes of self-discovery, personal development, and spiritual growth (Johnstad, 2022). Kavenská & Simonová (2015) note that foreigners seeking ayahuasca ceremonies in South America are motivated by "curiosity, desire to treat mental health problems, need for self-knowledge,

interest in psychedelic medicine, spiritual development, and finding direction in life" (p. 351). This points to an interesting theory that people who get the most benefit out of entheogenic medicine tend to be motivated by spiritual growth and greater self-knowledge. Participants in rituals are perhaps already likely to have a spiritual value system which makes them more attuned to healing influences.

Implications for Approaches to Health

The healing ways in ayahuasca rituals might seem foreign and unfamiliar to medical doctors in the West. Western medicine is the predominant type of healthcare in the United States. This kind of medical model treats diseases and their symptoms based on physical causes. When a person develops a bodily disease or mental affliction, in many cases the biomedical model used in Western medicine prescribes pharmaceutical medication based on a physical cause. In contrast, holistic types of medicine recognize a person's physical and/or mental health as reflection of a complex combination of multiple factors influenced by the life course. Medical anthropologist Arthur Kleinman, for example, believes illness has *meaning* intertwined with one's own life narrative, referred to as an alternative explanatory model of health. Kleinman (1988) uses a man named William Steele to exemplify this idea: William's asthma was exacerbated by personal, work, and family problems that his doctor discredited. After making specific life changes (like in occupation), he said "It wasn't allergies; it was my life" (Kleinman, 1988, p. 126). In the same vein, healing in Native American tribes and small religious sects in the Amazon means a cluster of factors that go beyond a psychopharmacological model. Illness is then a manifestation of spiritual problems.

Throughout Native American and Amazonian indigenous history, the medicine man was at once a doctor and a spiritual figure. Instead of using prescription medicine to heal, the shaman, roadman, or ayahuasquero plunge people into the depths of their own altered states of consciousness and remove stagnant energy inside the body by using purification instruments. In other systems of Eastern medicine, the idea that the body has a life force energy flowing through it is very common. Clinical applications of psychedelic-assisted therapy can gain insight from this vastly different point of view of health and illness. These alternative views have the potential to improve existing clinical practices because by modifying setting conditions with additional factors of healing. Case studies on ritual uses of psychedelic medicine for depression, addiction, and trauma use ethnographic and anthropological methods for examining the therapeutic value of entheogens outside of the laboratory environment. This is important because physical setting of a hospital room can generate much different psychological effects whilst under the influence of mind-altering substances than a natural group setting with the incorporation of ritual elements. Instead of an intense interior focus on mental activity, sacraments make the experience more focused on fostering a sense of connection to the group, the songs, music, and the Divine.

Ayahuasca Rituals for Substance Abuse Disorder

There are several studies in traditional ritual settings that show decreases in anxiety and depression for people suffering from substance use disorder (Berlowitz et al., 2017; Giovannetti et al., 2020). Substance use disorder/addiction is the largest body of research supporting ayahuasca's efficacy. Researchers participating in ayahuasca rituals for addiction affirm that rituals create the necessary containment wherein participants

gain greater agency over their behavior through understanding the psychological issues that underlie their addictions, leading to either abstinence or decreases in use (Loizaga-Velder & Verres, 2014; Frescka et al., 2016). Ayahuasca is thus not a mere pharmacological intervention, but rather its therapeutic properties catalyze when the variables of set, setting, and integration are appropriately managed (Loizaga-Velder & Verres, 2014). Set is "the expectation of the participant…the intention for the intake of ayahuasca"; setting as "the quality of containment and guidance of the experience and the appropriateness of the broader therapeutic framework in which ayahuasca-assisted treatment is embedded" and integration as "implementation of insights into lasting change" (Loizaga-Velder & Verres, 2014, p. 68-69). The recognition of extra pharmacological variables moves the conversation away from questioning if psychedelic-assisted interventions are effective and toward inquiring for what populations and under which circumstances they work (Talin & Sanabria, 2017). In addition to ayahuasca for depression, anxiety, and the substance addiction that is sometimes associated with both states, the ritual use of ayahuasca has also been tested for reducing anxiety and depression in those with severe physical/life-threatening illness. Ritual use of ayahuasca has been shown to change the way people understand and relate to their illness, suggesting ayahuasca usage can encourage illness acceptance through altering the significances of life, death, and the illness (Maia et al., 2021).

Psychological Mechanisms of Healing in Ayahuasca Rituals

We have an idea of what the combination of psychotherapy and ritual looks like. Contemporary studies with ayahuasca and addiction often come from the Takiwasi Center in Peru, combining "traditional Amazonian medicine" using plants from the

Amazon rainforest maintained by highly developed application methods with modern day psychotherapy (Berlowitz et al., 2021). The significant improvements reported by participants after treatment in these natural research designs merits ongoing analysis of the multiple components of ayahuasca therapy's healing effects (Berloweitz et al., 2019; Rush et al., 2021). When the ritual setting is manipulated with those factors, it impacts a person's subjective experience by fostering healthy cognitive and emotional processes. Those who suffer from depression, anxiety, substance addiction and/or trauma have a compromised ability to regulate challenging thoughts and feelings. Treating addiction can concurrently treat trauma because of the association between trauma and substance abuse (Saladin et at. 1995 as cited in Nielson and Megler, 2014, p. 47). The solution for such people is to engage them in practices that make the processing of traumas psychologically safe. Mindfulness is notoriously known for helping depressed and traumatized people become aware of the thoughts and feelings that cement into unhealthy habits. Thoughts and feelings lose power when held in awareness because they are seen as passing, just as unpleasant physical sensations arise and pass. They need not be all-encompassing to the point of negative impact.

Psychedelics have the unique ability to foster the mindful awareness meditative practice naturally produces. Ayahuasca enhances mindfulness capacity (an intentional, non-judgmental awareness of the present moment of lived experience, thereby heightening self-awareness and simultaneously creates a safe space for processing the psychic energy of mental activity without aversion (Soler et al., 2016; Ventegodt & Kordova, 2016; Argento et al., 2019). Hence psychedelic therapy based on the ritual context can be thought of as a *transformation-based therapy* that allows a person to guide

their consciousness through meta-awareness and cognitive flexibility, moving towards a more adaptable mental state (Scheidegger, 2021). This is perhaps most evident in PTSD, which can underlie depression and addiction, where autobiographical memories are subconsciously repressed due to an inability to psychologically integrate them. Ceremonial ayahuasca for trauma veterans generates the reexperiencing of autobiographical memories of adverse life events, linked with cognitive reappraisal and psychological flexibility (Weiss et al., 2021). When the mind has the space to process traumatic content, it strengthens the capacity to frame new meanings out of those experiences. This ability is not merely the pharmacological result of psychedelics themselves, but rather the outcome of supportive environmental variables. Therefore, bridging the gap between current clinical protocols and rituals models will bring richer, more meaningful experiences of psychological healing and resilience.

Mindfulness, Cognitive Restructuring, and Meaning-Making

Mindfulness science shows how meditation practices enable "cognitive reappraisal"—people can miraculously make new attributions or meanings to the life experiences that have been the most challenging to cope with by "seeing" them from a more objective point of view. There is evidence to suggest psychedelic-therapy activates the same cognitive mechanisms. The result of which is psychological growth and an adaptive, accepting attitude that goes with inner freedom. Psychological flexibility is best defined as "the ability to alternate between and manage challenging thoughts, emotions, or mental states in service of carrying out valued actions", and cognitive reappraisal representing "an approach-oriented emotion regulation strategy that involves engaging with an emotion-eliciting circumstance and reinterpreting it in a way that

modifies its emotional impact, response, and meaning" (Hayes et al., 2011; Gross & John, 2003; Lazarus & Folkman, 1984 as cited in Agnin-Liebes et al., 2022, pp. 295-296). Psychological flexibility, reappraisal, and mood improve after an ayahuasca ritual, with shamanism and feelings of group belonging contributing to well-being (Agnin-Liebes et al., 2022). The reason people suffer from chronic depression, trauma, or substance abuse is because their actions are carried out by an inflexibility in their cognitive style. Resilience can therefore get fostered through mindful witnessing of one's inner mental activity, usually in the form of memory, and bearing witness to the discomfort it can bring up. By bearing witness, those memories lose their power because they are seen as transient phenomena. At its most extreme, cognitive reappraisal can manifest as an acceptance of death in a person at the end-of-life because of the dissolution of the ego's—with the illusionary sense-of-self suspended, there is no loss of self to identify with. For the populations of people suffering from depression, chronic trauma, and addiction, cognitive reappraisal/restructuring means relief from the persistent rumination over challenging experiences in their past. New attributions reframe situations past or present, enabling greater psychological flexibility in the face of future events. Ayahuasca's effects on emotions and memory necessitate emphasis on mental state and the physical, social setting (Nielson & Megler, 2014).

To summarize, researchers identify specific elements of healing in ritual ceremony: the naturalistic setting itself (and the connection with nature it engenders), honoring the spiritual dimension of the human being as a part of health, music, chanting, drumming, singing/songs (*icaros)*, presence of a shaman or "ayahuasquero" as a lead figure, the social influence of the communal group, and communion with supernatural

beings and non-human persons. Psychological crisis is another element which "itself can be a source of insight, personal growth, and overall positive transformation" (Lewis, 2008, p. 110). Each of these elements influences subjective experiences of altered consciousness and spiritual healing.

Chapter III.

Conclusions and Future Directions of Research and Therapeutic Application

Despite a consensus that psychedelics are an effective mental health treatment worthy of further scientific pursuit, the conversation surrounding it still debates the definite mechanisms responsible for successful therapy and best practices for utilizing these substances to maximize their benefits (Wheeler & Dyer, 2020; Goldhill, 2023; Bender & Hellerstein, 2022; Golden et al., 2022). That is precisely what makes comparative cross-cultural research into the non-pharmacological variables present in ritual settings opportune for increasing knowledge and diversifying perspectives in the scientific discourse. The preliminary evidence from clinical trials has been overwhelmingly positive and instrumental in validating psychedelic-assisted therapy as a viable treatment for clinical disorders, especially for people whose conditions are chronic and unresponsive to other types of therapy. Clinical studies are important but maintaining a sole focus on the clinical is severely limiting our collective understanding of the relationship between psychedelic medicine and improved mental health, because the setting in which the therapy takes place influences the experience in powerful ways. While both modes of therapy improve mental health for depression, existential anxiety, substance use and trauma, the environment and cultural frameworks of health are radically divergent in rituals and often cannot be translated into a clinical environment. By continuing to research cross-cultural setting conditions, namely Amazonian rituals, we will expand the amount of information we have about how to best employ them, especially because science is still very much in early stages.

University trials occur in hospital-like sterile rooms, with the presence of one or two therapists who are there for reassurance, while most of their guidance is to maintain an introspective focus. In contrast, rituals have a religious/spiritual dimension, occur in a group, usually in a natural environment, and place emphasis on communion, music, and singing to tranquilize the mind. They add a layer of depth to the healing process by means of spiritual restoration through methods of purifying bodily and mental energies. Though both approaches appear to work by ego dissolution related to the mystical experience and the ignition of cognitive processes related to autobiographical memories, the way the therapy gets employed radically differs. Moreover, there is no direct translation of every single factor of healing. The reasonable way forward is to examine ritual structures and identify what we *can* adapt in feasible ways, always with a concern for people's psychological and physical safety. A thoughtful consideration of how we might identify what factors in rituals could potentially be applied in clinical settings will enhance therapy, especially as these substances are on their way to FDA approval within the next five years.

How do we begin to answer the question of how ethnographic research translates into clinical practice in the best ways? Within a field as new and emerging as psychedelic medicine, Biatriz Labate, an anthropologist from Brazil, has some practical recommendations based in work at the Chacruna Institute for Plant Medicines. The Institute "promotes a bridge between the world of plant medicines and the emergent field of psychedelic science, between "traditional ceremonial use" and clinical and therapeutic settings, bringing the knowledge and perspectives of the social sciences to health care professionals and practitioners of psychedelic-assisted therapy" (Chacruna, 2023).

Because medicine is a social construction (Tupper & Labate, 2015), ayahuasca's globalization is cautioning against cultural appropriation by copying the ritual exactly (Fotiou, 2016, Tupper, 2008; Tupper, 2019; Negrin, 2021; Labate, 2021). Likewise, Westerners travelling abroad to participate in ayahuasca ceremonies, called "ayahuasca tourism" has potential downsides. "Shamanic tourism" as Fotiou (2016) calls it is tied to the risk of perpetuating indigenous injustices through stereotyping and appropriation. Guidance on its global expansion is recommended. Some believe educating Western seekers about the potential risks, and mentally preparing them for the experience, in addition to "aftercare services" to help people integrate their experiences (Ray & Lassiter, 2016). Fotiou (2016; 2020) believes that fostering a meaningful dialogue, as well as framing the ritual as transformative, spiritual, and healing for Western participants, will mitigate harm. Another question is how we can integrate both models in a way that is sustainable, appropriate and safe.

Integrating Traditional and Clinical Models of Healing

Charles Grob succinctly writes that is necessary to use scientific and medical methodologies when testing ayahuasca's effects—but it is also just as critical to look at traditional models, "…faced with the challenge of how to incorporate these ancient technologies of consciousness exploration in our own modern healing paradigms" (Grob, 2014, p. xiii). According to researchers like Fotiou, clinical trials "cannot begin to scratch the surface of what is possible with psychedelic plants when used in an indigenous setting" (Fotiou, 2019, pp. 16-19). As mentioned previously, total reproduction is not possible because not all variables can easily translate into clinical environments for practical reasons. The point these researchers are making is that both

models have their advantages and can learn from one another about how to approach holistic models of health to promote flourishing (Walsh, 2021). Scheidegger (2021) postulates investigating contextual factors in traditional ritual settings "could be informative to design prospective therapeutic environments", which does not require adapting the entire ceremonial context, but more fittingly identifying the "essential functional conditions that need to be met to achieve a desired outcome" in both settings (pp. 55-56). Indeed, diversifying research into the non-pharmacological ceremonial variables (Dupuis, 2021; Dupuis, 2022) gives rise to novel perspectives which have the potential to strengthen clinical treatments and affirm the therapeutic benefits of intercultural ritual settings (Perkins et al., 2022; Sapoznikow, 2019). We cannot transfer every element, nor can we expect everyone undergoing therapy to have a strong religious affiliation. What we can do is extract certain aspects of the ritual structure, such as a group setting, greater emphasis on music, and the possibilities of holding the therapy outside of hospital-like rooms and into nature to foster a sense of nature-connectedness.

Psychedelic-Assisted Group Therapy

The most pertinent question is how we are going to do modify the clinical application based on what we have observed from sacramental uses. The first practical recommendation is psychedelic-assisted group therapy. Currently, psychedelic-assisted therapy is individualistic like psychotherapy- it takes place between a person and the accompaniment of one or two therapists. In contrast, ritual ceremonies have been performed in groups for quite some time in history (Lewis et al., 2023). People who suffer from depression, addiction and trauma may have better resiliency outcomes in groups because of the social aspect of healing they contain. In a study by González-

Mariscal and Sosa-Cortés (2022) about what western methods can learn from traditional Mazatec medicine, the authors comment on how severed people in western society are from spiritual connection, conceptualizing the living being as "disconnected from its social, cultural, spiritual, and planetary belonging… On the other hand, for traditional medicine, wellbeing arises from an integral state of equilibrium: it is not only about the individual, but about the collective" (pp. 379-380). In like manner, Bill Brenan (2021) writes that our current models of psychotherapy are focused solely on the individual and not the collective, and at the very least "There are plenty of Indigenous notions of interconnectedness that could gainfully subvert our individualistic models" (p. 88). Groups can be very powerful for generating the subjective feeling of social connection, which is often missing in solitary therapy sessions and Western culture in general. Kettner et al. (2021) assessed feelings of togetherness and shared humanity using a *communitas scale* evaluating "psychosocial mechanisms pertinent to psychedelic ceremonies and retreats"; results highlighted "the importance of intersubjective experience, rapport, and emotional support for long term outcomes of psychedelic use" (pp. 1-2). Examination of psychosocial factors helps develop evidence-backed betterment guidelines for collective psychedelic use (Kettner et al., 2021).

The authors state, "With an increasing number of completed clinical studies and growing datasets of naturalistic psychedelic use, a salient question for future research lies in the comparison of the two…" emphasizing overall "the value of psychosocial approaches in psychedelic research" (Kettner et al., 2021, p. 13). Apud et al. (2023) hypothesize "both ayahuasca and the ritual around it are amplifiers of social psychological factors" (p. 142). Therefore, the ritual itself has definitive influence on the

psychological sense of belonging in community, obliterating feelings of separation. Other studies concluded group psychedelic therapy has more efficient therapeutic outcomes than individual therapy for trauma related disorders (Oehen & Gasser, 2022). More discretionary research needs to be done to assess the benefits and risks. Safety is the biggest concern while creating new protocols in entheogenic therapy. We still need to develop solid methodological approaches to test the value and feasibility of group modalities (Gasser, 2021; Trope et al., 2019). Designing future trials entails complex questions, such as "The optimal number of group members, drug dose, sequencing and number of group sessions, and type of group therapy are among the variables to consider" (Trope et al., 2019, p. 185). Others are advocating for group psychedelic-assisted therapy from a public health perspective, believing communitarian settings can get integrated into healthcare models from a variety of public health methods (Ona et al., 2019; Urrutia, 2023).

Music in Religion and Therapy

Music and religion have long been intertwined. Music, especially when listened to in a group, can produce states very similar to other types of spiritual experiences. Researchers who believe in music as a major mediating factor in therapy suggest we further research into the 'synergistic, therapeutic effects' of music and modified states of consciousness 'especially in cross-cultural environments' (Graham et al., 2023, p. 36-61). Therapists could also work with healers who use music in these kinds of settings (Graham et al., 2023; Barret et al., 2018). Barret et al. (2018) found that music affects therapy by regulating emotions, inducing mystical experiences, and assisting the processing of autobiographical memories. By empirically testing the role of music we

will make progress in our comprehension of psychedelic therapies and what would improve its efficacy (Barret et al., 2018). Strickland et al. (2021) take research a step further by testing different musical genres. As it stands now, most therapy uses standardized music without variation. Because music has such a vital influence, it merits further investigation. They found that Western classical music (considered the standard) held no superiority over other genres, supporting the notion that "developing a process for generating patient musical selections rather than providing standardized music may improve therapeutic outcomes", and "More broadly, these findings emphasize the need for the parametric study of psychedelic session components to either provide improved standardized conditions, or to individualize conditions to improve the therapeutic effects of psychedelic therapy across diverse and varied populations" (p. 475). Different people are going to respond differently to the same music, and so variation in musical preferences ought to be taken into serious consideration. Kaelen et al. (2018) also found therapeutic outcomes were most positive when patients resonated with the music of their liking. These findings show the importance of music in facilitating better outcomes, and how we might optimize its use in clinical therapy.

Nature-Relatedness and Well-being

Psychedelics are strongly associated with nature-relatedness, which in turn is related to subjective feelings of well-being. These studies utilize well-being and nature-relatedness psychological scales composed of questions to assess a person's level of well-being and connection to nature. Psychedelics increase nature-relatedness and psychological well-being, mediated by ego-dissolution and "perceived influence of natural surroundings during acute psychedelic state", measured up to two years later

(Kettner et al., 2019, p.1). One study participant said "Before, I enjoyed nature. Now, I feel part of it. Before I was looking at as a thing, like a TV or a painting. [But] you're part of it, there's no separation or distinction, you *are* it" (Kettner et al., 2019, p. 4). The nature-relatedness scale (NR-6) contains questions such as "My connection to nature and the environment is a part of my spirituality", and, "I am not separate from nature, but a part of nature".

Another article examines the 'potential synergistic effects between psychedelic administration and nature contact for the improvement of mental health' (Gandy et al., 2020). The authors attest a favorable relationship between psychedelics, nature contact, and mental health, hypothesizing the following mechanisms: neurobiological (similarities between brain states in natural settings and with psychedelics), psychological, mystical experiences, awe experiences, increased mindfulness capacity, and personality changes (increasing trait of openness) (Gandy et al., 2020). Gandy et al. (2020) conclude the importance of the soothing effects of nature, putting forth, "There are many reasons to consider that therapeutic psilocybin sessions, despite the usual 'inward focus', for some participants, be better supported by being held in a natural setting than in a hospital room" (p.7). The 'naturalistic use' of entheogens and improvements in mental health and well-being is documented by others as well. Naturalistic in this study defined as alone, with friends, a friend sitter, shaman or guide, guided group, therapist, at home, outdoors or in nature, religious or spiritual setting, concert or festival, or another public place) (Nayak et al., 2023). In a distinct case, naturalistic use of peyote specifically was associated with decreases in substance abuse disorder (Rabinowitz et al., 2023). Overall, considering the relationship between nature connection and well-being, creating a safe

way to employ psychedelic-assisted therapy in outdoor, natural environments will yield better outcomes for certain people, especially as a way of diverting attention from inward to outward by contacting nature.

The Future of Clinical Training for Psychedelic-Assisted Therapists

Psychedelic-assisted therapy is dependent upon context, which includes not only being in a comfortable environment, but also a skilled therapist who can reassure a person undergoing therapy, with compassion, presence, and kind words if needed. Considering the influence the role of the therapist has, the comparison between clinical and ritual studies required greater scrutinization of how training for therapists will look like in the future. What would optimal training look like? Phelps believes there is a scarcity of information about what the competencies of therapists should be, proposing the following: "abiding presence; trust enhancement; spiritual intelligence; knowledge of the physical and psychological effects of psychedelics; therapist self-awareness and ethical integrity; and proficiency in complementary techniques" (Phelps, 2017, p. 451). Phelps also asserts that the ceremonial use of psychedelics in religious settings should be included as one of the twelve domains of training in psychedelic-assisted therapy (Phelps, 2017, p. 474). By educating therapists in ceremonial studies, they can gain a sense of the importance of the mind-body-spirit connection, which is lacking in predominantly biomedical mainstream medicine. Consequently, their knowledge in this arena can make therapy more focused on the social and spiritual dimensions of their mental health.

The incorporation of a psychospiritual counseling framework could improve outcomes compared with standard western psychotherapeutic approaches (Perkins et al.,

2022). New therapies can benefit from holistic models of mind-body-spirit unity (Ray & Lassiter, 2016; Fotiou, 2020). Rochester et al. (2022) suggest training programs should include: "An in-depth study of the spiritual, ritual, and therapeutic uses of psychedelics cross culturally and throughout human history", "The advancement of research in the areas of consciousness, comparative mysticism, mental health, human flourishing.", and "The development of culturally sensitive psychedelic assisted therapies" (p. 423). Valeria McCarroll also supports the notion of "limitations of the western paradigm" in "fully potentiating and integrating the healing possibilities of psychedelic medicine" recommending the incorporation of mind-body nondualism into an ontological framework for the future training of psychedelic guides to "more effectively potentiate the healing opportunities available in psychedelic medicine" (McCarroll, 2022, pp. 5-12).

The Role of Interdisciplinary Study and Expertise

Along with expanding the framework for training therapists, George et al. (2022) note that part of this conversation might make roles for "non-clinical experts (e.g. social scientists, archaeologists, religious studies scholars) in the clinical deployment and evaluation of modern therapies" in the future research sorting out regimens for set/setting (p. 897). Williams et al. (2022) believe the one of the possible ways to incorporate indigenous philosophies into the psychedelic renaissance is to "Engage Indigenous intellectuals and spiritual leaders regarding key issues in the psychedelic sphere" (p. 519). In the name of psychedelic justice, Ceclina De Leon (2021) writes that by supporting the Indigenous cultural roots of the modern "psychedelic renaissance" in a meaningful exchange we are honoring the "significance of our interconnection and the importance of reciprocity" (203).

Conclusion

The comparative analysis between clinical studies and ritual case studies involving psychedelic medicine yields interesting comparisons. Though they both promote psychological well-being and mental health through facilitating cognitive processes, their approaches to therapy are quite different. The clinical model is individualistic, occurs in a controlled environment, and have an emphasis on turning attention inward, with a supportive therapist. Rituals are systematized in a different way: they occur in naturalistic settings, in a group, with live music, singing and a trustworthy leader. Participants usually have spiritual motivations for their use and consider distress as part of the transformative healing process. Though these factors of healing cannot translate into the clinical environment, we can continue to conduct research on ritual setting conditions to bridge the gap that is currently lacking. In the process, we can consider what factors can be adopted in a feasible way, with utmost precaution for safety concerns. This process of modifying clinical therapy might look like providing access to group therapy in clinical settings, manipulating the music to a greater degree, and putting therapy in environments that engender nature relatedness. Comparative research into case studies on the sacramental use of psychedelics needs continuation before change can get implemented.

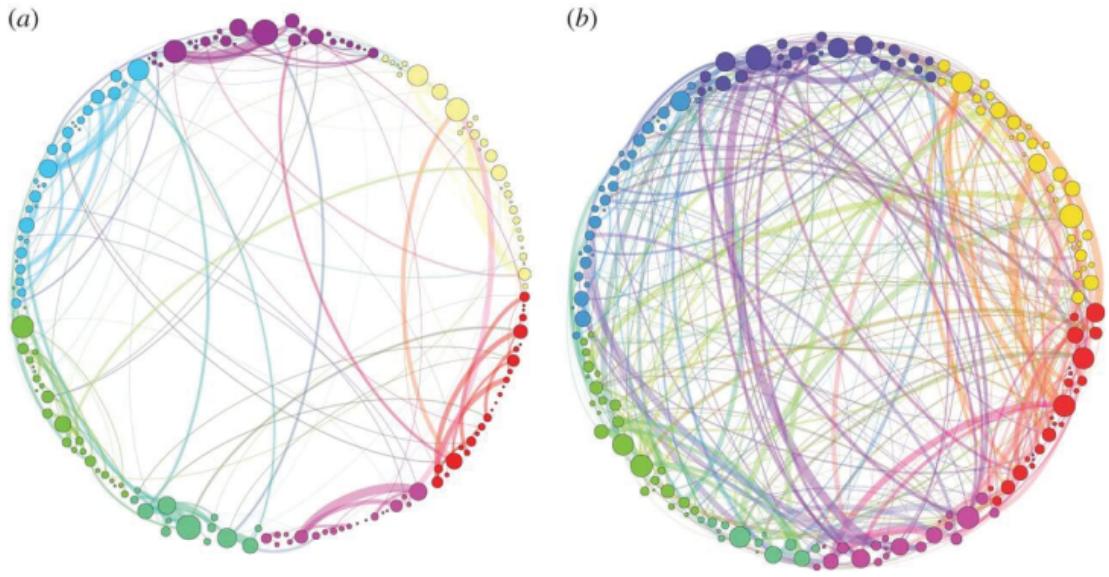


Figure 1. Illustration of Brain Connections.

Brain connections after psilocybin administration (b) versus placebo (a). Petri, G., et al. (2014). Homological scaffolds of brain functional networks. Journal of the Royal Society Interface, 11(101).

References

Aberle, D.F. (1966). *The peyote religion among the navaho.* Wenner-Gren Foundation for Anthropological Research.

Agin-Liebes, G., Zeifman, R., Luoma, J. B., Garland, E. L., Campbell, W. K., & Weiss, B. (2022). Prospective examination of the therapeutic role of psychological flexibility and cognitive reappraisal in the ceremonial use of ayahuasca. *Journal of Psychopharmacology (Oxford)*, *36*(3), 295–308. https://doi.org/10.1177/02698811221080165

Albaugh, B. J., & Anderson, P. O. (1974). Peyote in the treatment of alcoholism among American Indians. *The American Journal of Psychiatry*, *131*(11), 1247–1250. https://doi.org/10.1176/ajp.131.11.1247

Aleksandrova, L. R., & Phillips, A. G. (2021). Neuroplasticity as a convergent mechanism of ketamine and classical psychedelics. *Trends in Pharmacological Sciences (Regular Ed.)*, *42*(11), 929–942. https://doi.org/10.1016/j.tips.2021.08.003

Alrashedy, N. A., & Molina, J. (2016). The ethnobotany of psychoactive plant use: a phylogenetic perspective. *PeerJ (San Francisco, CA)*, *4*, e2546–e2546. https://doi.org/10.7717/peerj.2546

Anderson, E.F. (1980). *Peyote: The divine cactus*. University of Arizona Press.

Antunes, H. F. (2019). Drugs, religion, and cultural heritage: an analysis of the public policies regarding the use of ayahuasca in Brazil. *The International Journal of Religion and Spirituality in Society*, *9*(1), 29–39. https://doi.org/10.18848/2154-8633/CGP/v09i01/29-39

Apud, I., Scuro, J., Carrera, I., & Oliveri, A. (2023). Ayahuasca ritual, personality and sociality: Observational research conducted in a substance use disorder rehabilitation center in Uruguay. *Journal of Psychoactive Drugs*, *55*(2), 141–150. https://doi.org/10.1080/02791072.2022.2053004

Argento, E., Capler, R., Thomas, G., Lucas, P., & Tupper, K. W. (2019). Exploring ayahuasca-assisted therapy for addiction: A qualitative analysis of preliminary findings among an Indigenous community in Canada. *Drug and Alcohol Review*, *38*(7), 781–789. https://doi.org/10.1111/dar.12985

Baker, J. R. (2005). Psychedelic sacraments. *Journal of Psychoactive Drugs*, *37*(2), 179–187. https://doi.org/10.1080/02791072.2005.10399799

Barrett, F. S., & Griffiths, R. R. (2017). Classic hallucinogens and mystical experiences: Phenomenology and neural correlates. *Current Topics in Behavioral Neurosciences*. *Behavioral Neurobiology of Psychedelic Drugs* (pp. 393–430). https://link.springer.com/chapter/10.1007/7854_2017_474

Barrett, F. S., Preller, K. H., & Kaelen, M. (2018). Psychedelics and music: Neuroscience and therapeutic implications. *International Review of Psychiatry (Abingdon, England)*, *30*(4), 350–362. https://doi.org/10.1080/09540261.2018.1484342

Bender, D., & Hellerstein, D. J. (2022). Assessing the risk–benefit profile of classical psychedelics: A clinical review of second-wave psychedelic research. *Psychopharmacology*, *239*(6), 1907–1932. https://doi.org/10.1007/s00213-021-06049-6

Berlowitz, I., Walt, H., Ghasarian, C., Mendive, F., & Martin-Soelch, C. (2019). Short-term treatment effects of a substance use disorder therapy involving traditional Amazonian medicine. *Journal of Psychoactive Drugs*, *51*(4), 323–334. https://doi.org/10.1080/02791072.2019.1607956

Bogenschutz, M. P., & Johnson, M. W. (2016). Classic hallucinogens in the treatment of addictions. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *64*, 250–258. https://doi.org/10.1016/j.pnpbp.2015.03.002

Brenan, B. (2021). The revolution will not be psychologized: psychedelics potential for systemic change. In B. C. Labate & C. Cavnar (Eds.), *Psychedelic Justice: Toward a Diverse and Equitable Psychedelic Culture* (pp. 83-88). Synergetic Press.

Calabrese, J. (2013). *A different medicine: Postcolonial healing in the Native American church*. Oxford University Press.

Calabrese, J. D. (1997). Spiritual healing and human development in the native American church: Toward a cultural psychiatry of Peyote. *The Psychoanalytic Review (1963)*, *84*(2), 237–255.

Calder, A. E., & Hasler, G. (2023). Towards an understanding of psychedelic-induced neuroplasticity. *Neuropsychopharmacology (New York, N.Y.)*, *48*(1), 104–112. https://doi.org/10.1038/s41386-022-01389-z

Carhart-Harris, R. L., Bolstridge, M., Day, C. M. J., Rucker, J., Watts, R., Erritzoe, D. E., Kaelen, M., Giribaldi, B., Bloomfield, M., Pilling, S., Rickard, J. A., Forbes, B., Feilding, A., Taylor, D., Curran, H. V., & Nutt, D. J. (2018). Psilocybin with psychological support for treatment-resistant depression: Six-month follow-

up. *Psychopharmacology*, *235*(2), 399–408. https://doi.org/10.1007/s00213-017-4771-x

Carhart-Harris, R. L., Erritzoe, D., Williams, T., Stone, J. M., Reed, L. J., Colasanti, A., Tyacke, R. J., Leech, R., Malizia, A. L., Murphy, K., Hobden, P., Evans, J., Feilding, A., Wise, R. G., & Nutt, D. J. (2012). Neural correlates of the psychedelic state as determined by fMRI studies with psilocybin. *Proceedings of the National Academy of Sciences*, *109*(6), 2138–2143. https://doi.org/10.1073/pnas.1119598109

Carhart-Harris, R. L., Leech, R., Hellyer, P. J., Shanahan, M., Feilding, A., Tagliazucchi, E., Chialvo, D. R., & Nutt, D. (2014). The entropic brain: A theory of conscious states informed by neuroimaging research with psychedelic drugs. *Frontiers in Human Neuroscience*, *8*, 1–22. https://doi.org/10.3389/fnhum.2014.00020

Carhart-Harris, R. L., Roseman, L., Haijen, E., Erritzoe, D., Watts, R., Branchi, I., & Kaelen, M. (2018). Psychedelics and the essential importance of context. *Journal of Psychopharmacology (Oxford)*, *32*(7), 725–731. https://doi.org/10.1177/0269881118754710

Chacruna. (2023, January 31). *What We Do - Chacruna*. https://chacruna.net/what-we-do/

Cole-Turner, R. (2022). Psychedelic mystical experience: A new agenda for theology. *Religions*, *13*(5), 385. https://doi.org/10.3390/rel13050385

De Leon, C. (2021). Sacred reciprocity: Supporting the roots of the psychedelic movement. In B. C. Labate & C. Cavnar (Eds.), *Psychedelic Justice: Toward a Diverse and Equitable Psychedelic Culture* (pp. 201-203). Synergetic Press.

Doesburg-van Kleffens, M., Zimmermann-Klemd, A. M., & Gründemann, C. (2023). An overview on the hallucinogenic peyote and its alkaloid mescaline: The importance of context, ceremony and culture. *Molecules (Basel, Switzerland)*, *28*(24), 7942. https://doi.org/10.3390/molecules28247942

Dupuis, D. (2021). Psychedelics as tools for belief transmission. Set, setting, suggestibility, and persuasion in the ritual use of hallucinogens. *Frontiers in Psychology*, *12*, 730031–730031. https://doi.org/10.3389/fpsyg.2021.730031

Dupuis, D. (2022a). The psychedelic ritual as a technique of the self. *HAU: Journal of Ethnographic Theory*, *12*(1), 198–216. https://doi.org/10.1086/719792

Dupuis, D. (2022b). The socialization of hallucinations: Cultural priors, social interactions, and contextual factors in the use of psychedelics. *Transcultural Psychiatry*, *59*(5), 625–637. https://doi.org/10.1177/13634615211036388

Dyck, E. (2019). Psychedelics and dying care: A historical look at the relationship between psychedelics and palliative care. *Journal of Psychoactive Drugs*, *51*(2), 102–107. https://doi.org/10.1080/02791072.2019.1581308

Earp, B. D., & Yaden, D. B. (2021). Culture, context, and community in contemporary psychedelic research. *Philosophy, Psychiatry, & Psychology: PPP*, *28*(3), 217–221. https://doi.org/10.1353/ppp.2021.0033

Fotiou, E. (2012). Working with "la medicina": Elements of healing in contemporary ayahuasca rituals. *Anthropology of Consciousness*, *23*(1), 6–27. https://doi.org/10.1111/j.1556-3537.2012.01054.x

Fotiou, E. (2016). The globalization of ayahuasca shamanism and the erasure of indigenous shamanism. *Anthropology of Consciousness*, *27*(2), 151–179. https://doi.org/10.1111/anoc.12056

Fotiou, E. (2019). The role of Indigenous knowledges in psychedelic science. *Journal of Psychedelic Studies*, *4*(1), 16–23. https://doi.org/10.1556/2054.2019.031

Fotiou, E. (2020). The importance of ritual discourse in framing ayahuasca experiences in the context of shamanic tourism. *Anthropology of Consciousness*, *31*(2), 223–244. https://doi.org/10.1111/anoc.12117

Frecska, E., Bokor, P., & Winkelman, M. (2016). The therapeutic potentials of ayahuasca: Possible effects against various diseases of civilization. *Frontiers in Pharmacology*, *7*, 35. https://doi.org/10.3389/fphar.2016.00035

Gandy, S., Forstmann, M., Carhart-Harris, R. L., Timmermann, C., Luke, D., & Watts, R. (2020). The potential synergistic effects between psychedelic administration and nature contact for the improvement of mental health. *Health Psychology Open*, *7*(2). https://doi.org/10.1177/2055102920978123

Garcia-Romeu, A., & Richards, W. A. (2018). Current perspectives on psychedelic therapy: Use of serotonergic hallucinogens in clinical interventions. *International Review of Psychiatry (Abingdon, England)*, *30*(4), 291–316. https://doi.org/10.1080/09540261.2018.1486289

Garcia-Romeu, A., Davis, A. K., Erowid, F., Erowid, E., Griffiths, R. R., & Johnson, M. W. (2019). Cessation and reduction in alcohol consumption and misuse after psychedelic use. *Journal of Psychopharmacology (Oxford, England)*, *33*(9), 1088–1101. https://doi.org/10.1177/0269881119845793

Gasser, P. (2021). Psychedelic group therapy. In *Current Topics in Behavioral Neurosciences*. *Disruptive Psychopharmacology* (pp. 23–34). https://doi.org/10.1007/7854_2021_268

Gasser, P., Holstein, D., Michel, Y., Doblin, R., Yazar-Klosinski, B., Passie, T., & Brenneisen, R. (2014). Safety and efficacy of lysergic acid diethylamide-assisted psychotherapy for anxiety associated with life-threatening diseases. *The Journal of Nervous and Mental Disease*, *202*(7), 513–520. https://doi.org/10.1097/NMD.0000000000000113

George, D. R., Hanson, R., Wilkinson, D., & Garcia-Romeu, A. (2022). Ancient roots of today's emerging renaissance in psychedelic medicine. *Culture, Medicine and Psychiatry*, *46*(4), 890–903. https://doi.org/10.1007/s11013-021-09749-y

George, J. R., Michaels, T. I., Sevelius, J., & Williams, M. T. (2019). The psychedelic renaissance and the limitations of a white-dominant medical framework: A call for Indigenous and ethnic minority inclusion. *Journal of Psychedelic Studies*, *4*(1), 4–15. https://doi.org/10.1556/2054.2019.015

Giovannetti, C., Garcia Arce, S., Rush, B., & Mendive, F. (2020). Pilot evaluation of a residential drug addiction treatment combining traditional Amazonian medicine, ayahuasca and psychotherapy on depression and anxiety. *Journal of Psychoactive Drugs*, *52*(5), 472–481. https://doi.org/10.1080/02791072.2020.1789247

Golden, T. L., Magsamen, S., Sandu, C. C., Lin, S., Roebuck, G. M., Shi, K. M., & Barrett, F. S. (2022). Effects of setting on psychedelic experiences, therapies, and outcomes: A rapid scoping review of the literature. In *Current Topics in Behavioral Neurosciences*. *Disruptive Psychopharmacology* (pp. 35–70). https://doi.org/10.1007/7854_2021_298

Goldhill, O. (2023). As psychedelics near approval, there's no consensus on how they work. *Stat,* http://search.proquest.com.ezp-prod1.hul.harvard.edu/trade-journals/as-psychedelics-near-approval-there-s-no/docview/2832219103/se-2

González-Mariscal, J. M., & Sosa-Cortés, P. E. (2022). Insights for modern applications of psilocybin therapy from a case study of traditional Mazatec medicine. *Anthropology of Consciousness*, *33*(2), 358–384. https://doi.org/10.1111/anoc.12168

Graham, O. J., Saucedo, G. R., & Politi, M. (2023). Experiences of listening to icaros during ayahuasca ceremonies at Centro Takiwasi: An interpretive phenomenological analysis. *Anthropology of Consciousness*, *34*(1), 35–67. https://doi.org/10.1111/anoc.12170

Griffiths, R. R., Johnson, M. W., Carducci, M. A., Umbricht, A., Richards, W. A., Richards, B. D., Cosimano, M. P., & Klinedinst, M. A. (2016). Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with life-threatening cancer: A randomized double-blind trial. *Journal of Psychopharmacology (Oxford)*, *30*(12), 1181–1197. https://doi.org/10.1177/0269881116675513

Griffiths, R. R., Richards, W. A., McCann, U., & Jesse, R. (2006). Psilocybin can occasion mystical-type experiences having substantial and sustained personal meaning and spiritual significance. *Psychopharmacology*, *187*(3), 268–283. https://doi.org/10.1007/s00213-006-0457-5

Griffiths, Roland R., Hurwitz, E. S., Davis, A. K., Johnson, M. W., & Jesse, R. (2019). Survey of subjective 'God encounter experiences': Comparisons among naturally occurring experiences and those occasioned by the classic psychedelics psilocybin, LSD, ayahuasca, or DMT. *PloS One*, *14*(4). https://doi.org/10.1371/journal.pone.0214377

Grob, C. (2014). Forward in *The Therapeutic Use of Ayahuasca*. In Labate, B. C., & Cavnar, C. (Eds.), *The Therapeutic Use of Ayahuasca* (pp. vii-xiv). Springer Berlin / Heidelberg. https://doi.org/10.1007/978-3-642-40426-9

Grob, C. S., Danforth, A. L., Chopra, G. S., Hagerty, M., McKay, C. R., Halberstadt, A. L., & Greer, G. R. (2011). Pilot study of psilocybin treatment for anxiety in patients with advanced-stage cancer. *Archives of General Psychiatry*, *68*(1), 71–78. https://doi.org/10.1001/archgenpsychiatry.2010.116

Grof, S., Goodman, L. E., Richards, W. A., & Kurland, A. A. (1973). LSD-assisted psychotherapy in patients with terminal cancer. *International Pharmacopsychiatry*, *8*(3), 129–144. https://doi.org/10.1159/000467984

James, W. (2004). *The varieties of religious experience: A study in human nature*. Barnes & Noble Classics.

Jerome, L., Feduccia, A. A., Wang, J. B., Hamilton, S., Yazar-Klosinski, B., Emerson, A., Mithoefer, M. C., & Doblin, R. (2020). Long-term follow-up outcomes of MDMA-assisted psychotherapy for treatment of PTSD: a longitudinal pooled analysis of six phase 2 trials. *Psychopharmacology*, *237*(8), 2485–2497. https://doi.org/10.1007/s00213-020-05548-2

Johansen, L., Liknaitzky, P., Nedeljkovic, M., Mastin-Purcell, L., & Murray, G. (2022). The psychological processes of classic psychedelics in the treatment of depression: A systematic review protocol. *Systematic Reviews*, *11*(1), 85. https://doi.org/10.1186/s13643-022-01930-7

Johnson, M., Richards, W., & Griffiths, R. (2008). Human hallucinogen research: Guidelines for safety. *Journal of Psychopharmacology (Oxford)*, *22*(6), 603–620. https://doi.org/10.1177/0269881108093587

Johnson, M. W. (2022). Classic psychedelics in addiction treatment: The case for psilocybin in tobacco smoking cessation. *Current Topics in Behavioral Neurosciences*, *56*, 213–227. https://doi.org/10.1007/7854_2022_327

Johnstad, P. G. (2022). Entheogenic spirituality: Characteristics of spiritually motivated psychedelics use. *The International Journal for the Psychology of Religion*, 1-17. https://doi.org/10.1080/10508619.2022.2148060

Jones, P. N. (2005). The American Indian church and its sacramental use of peyote: A review for professionals in the mental-health arena. *Mental Health, Religion & Culture*, *8*(4), 277–290. https://doi.org/10.1080/13674670412331304348

Jones, P. N. (2007). The native American church, peyote, and health: Expanding consciousness for healing purposes. *Contemporary Justice Review*, *10*(4), 411–425. https://doi.org/10.1080/10282580701677477

Kaelen, M., Giribaldi, B., Raine, J., Evans, L., Timmerman, C., Rodriguez, N., Roseman, L., Feilding, A., Nutt, D., & Carhart-Harris, R. (2018). The hidden therapist: Evidence for a central role of music in psychedelic therapy. *Psychopharmacology*, *235*(2), 505–519. https://doi.org/10.1007/s00213-017-4820-5

Kavenská, V., & Simonová, H. (2015). Ayahuasca tourism: participants in shamanic rituals and their personality styles, motivation, benefits and risks. *Journal of Psychoactive Drugs*, *47*(5), 351–359. https://doi.org/10.1080/02791072.2015.1094590

Kettner, H., Gandy, S., Haijen, E. C. H. M., & Carhart-Harris, R. L. (2019). From egoism to ecoism: Psychedelics increase nature relatedness in a state-mediated and context-dependent manner. *International Journal of Environmental Research and Public Health*, *16*(24), 5147. https://doi.org/10.3390/ijerph16245147

Kettner, H., Rosas, F. E., Timmermann, C., Kärtner, L., Charhart-Harris, R. L., & Roseman, L. (2021). Psychedelic communitas: Intersubjective experience during psychedelic group sessions predicts enduring changes in psychological wellbeing and social connectedness. *Frontiers in Pharmacology*, *12*. https://doi.org/10.3389/fphar.2021.623985

Kleinman, A. (1988). *The illness narratives: Suffering, healing, and the human condition*. Basic Books.

Ko, K., Knight, G., Rucker, J. J., & Cleare, A. J. (2022). Psychedelics, mystical experience, and therapeutic efficacy: A systematic review. *Frontiers in Psychiatry*, *13*, 917199. https://doi.org/10.3389/fpsyt.2022.917199

Kurland, A. A., Unger, S., Shaffer, J. W., & Savage, C. (1967). Psychedelic therapy utilizing LSD in the treatment of the alcoholic patient: A preliminary report. *The American Journal of Psychiatry*, *123*(10), 1202–1209. https://doi.org/10.1176/ajp.123.10.1202

Kurland, A. A., Grof, S., Pahnke, W. N., & Goodman, L. E. (1972). Psychedelic drug assisted psychotherapy in patients with terminal cancer. *Journal of Thanatology, 2*(1-2), 644–691.

Labate, B. (March 2021). "Honoring the Indigenous Roots of the Psychedelic Movement." Psychedelics and the Future of Religion, Harvard Divinity School, Virtual, Cambridge, MA. Invited talk. (https://cswr.hds.harvard.edu/news/2021/03/18/honoring-indigenous-roots-psychedelic-movement)

Lafrance, A., Loizaga-Velder, A., Fletcher, J., Renelli, M., Files, N., & Tupper, K. W. (2017). Nourishing the spirit: exploratory research on ayahuasca experiences along the continuum of recovery from eating disorders. *Journal of Psychoactive Drugs*, *49*(5), 427–435. https://doi.org/10.1080/02791072.2017.1361559

Lewis, B. R., Byrne, K., Hendrick, J., Garland, E. L., Thielking, P., & Beck, A. (2023). Group format psychedelic-assisted therapy interventions: Observations and impressions from the HOPE trial. *Journal of Psychedelic Studies*. https://doi.org/10.1556/2054.2022.00222

Lewis, S. E. (2008). Ayahuasca and spiritual crisis: Liminality as space for personal growth. *Anthropology of Consciousness*, *19*(2), 109–133. https://doi.org/10.1111/j.1556-3537.2008.00006.x

Lieberman, J. A. (2021). Back to the future — The therapeutic potential of psychedelic drugs. *The New England Journal of Medicine*, *384*(15), 1460–1461. https://doi.org/10.1056/NEJMe2102835

Loizaga-Velder, A., & Verres, R. (2014). Therapeutic effects of ritual ayahuasca use in the treatment of substance dependence-qualitative results. *Journal of Psychoactive Drugs*, *46*(1), 63–72. https://doi.org/10.1080/02791072.2013.873157

Lowe, H., Toyang, N., Steele, B., Valentine, H., Grant, J., Ali, A., Ngwa, W., & Gordon, L. (2021). The therapeutic potential of psilocybin. *Molecules (Basel, Switzerland)*, *26*(10), 2948. https://doi.org/10.3390/molecules26102948

Maia, L. O., Daldegan-Bueno, D., & Tófoli, L. F. (2021). The ritual use of ayahuasca during treatment of severe physical illnesses: a qualitative study. *Journal of Psychoactive Drugs*, *53*(3), 272–282. https://doi.org/10.1080/02791072.2020.1854399

Maia, L. O., Daldegan-Bueno, D., & Tófoli, L. F. (2021). The ritual use of ayahuasca during treatment of severe physical illnesses: a qualitative study. *Journal of Psychoactive Drugs*, *53*(3), 272–282. https://doi.org/10.1080/02791072.2020.1854399

McCarroll, V. (2022). Mysticizing medicine: Incorporating nondualism into the training of psychedelic guides. *Interdisciplinary Science Reviews: ISR*, 1–16. https://doi.org/10.1080/03080188.2022.2075199

McCartney, A. M., McGovern, H. T., & De Foe, A. (2022). Psychedelic assisted therapy for major depressive disorder: Recent work and clinical directions. *Journal of Psychedelic Studies*, *6*(1), 10–22. https://doi.org/10.1556/2054.2022.00211

Michaels, T. I., Purdon, J., Collins, A., & Williams, M. T. (2018). Inclusion of people of color in psychedelic-assisted psychotherapy: A review of the literature. *BMC Psychiatry*, *18*(1), 245–245. https://doi.org/10.1186/s12888-018-1824-6

Muttoni, S., Ardissino, M., & John, C. (2019). Classical psychedelics for the treatment of depression and anxiety: A systematic review. *Journal of Affective Disorders*, *258*, 11–24. https://doi.org/10.1016/j.jad.2019.07.076

Nayak, S. M., Jackson, H., Sepeda, N. D., Mathai, D. S., So, S., Yaffe, A., Zaki, H., Brasher, T. J., Lowe, M. X., Jolly, D. R. P., Barrett, F. S., Griffiths, R. R., Strickland, J. C., Johnson, M. W., Jackson, H., & Garcia-Romeu, A. (2023). Naturalistic psilocybin use is associated with persisting improvements in mental health and wellbeing: Results from a prospective, longitudinal survey. *Frontiers in Psychiatry*, *14*, 1199642–1199642. https://doi.org/10.3389/fpsyt.2023.1199642

Negrin, D. (2021). Colonial shadows in the psychedelic renaissance. In B. C. Labate & C. Cavnar (Eds.), *Psychedelic Justice: Toward a Diverse and Equitable Psychedelic Culture* (pp. 65–70). Synergetic Press.

Nichols, D. (2004). Hallucinogens. *Pharmacology & Therapeutics (Oxford)*, *101*(2), 131–181. https://doi.org/10.1016/j.pharmthera.2003.11.002

Nielson, J.L., & Megler, J.D. (2014). Ayahuasca as a candidate therapy for PTSD. In Labate, B. C., & Cavnar, C. (Eds.), *The Therapeutic Use of Ayahuasca* (pp. 41–58). Springer Berlin / Heidelberg. https://doi.org/10.1007/978-3-642-40426-9_3

Noorani, T., Garcia-Romeu, A., Swift, T. C., Griffiths, R. R., & Johnson, M. W. (2018). Psychedelic therapy for smoking cessation: Qualitative analysis of participant accounts. *Journal of Psychopharmacology (Oxford, England)*, *32*(7), 756–769. https://doi.org/10.1177/0269881118780612

Oehen, P., & Gasser, P. (2022). Using a MDMA- and LSD-group therapy model in clinical practice in Switzerland and highlighting the treatment of trauma-related disorders. *Frontiers in Psychiatry*, *13*, 863552. https://doi.org/10.3389/fpsyt.2022.863552

O'Hare, R. (2017). Magic mushrooms may 'reset' the brains of depressed patients. *Imperial News*. https://www.imperial.ac.uk/news/182410/magic-mushrooms-reset-brains-depressed-patients/

Olson, D. E. (2022). Biochemical mechanisms underlying psychedelic-induced neuroplasticity. *Biochemistry (Easton)*, *61*(3), 127–136. https://doi.org/10.1021/acs.biochem.1c00812

Ona, G., Kohek, M., Massaguer, T., Gomariz, A., Jiménez, D. F., Dos Santos, R. G., Hallak, J. E. C., Alcázar-Córcoles, M. Ángel, & Bouso, J. C. (2019). Ayahuasca and public health: Health status, psychosocial well-being, lifestyle, and coping strategies in a large sample of ritual ayahuasca users. *Journal of Psychoactive Drugs*, *51*(2), 135–145. https://doi.org/10.1080/02791072.2019.1567961

Palhano-Fontes, F., Barreto, D., Onias, H., Andrade, K. C., Novaes, M. M., Pessoa, J. A., Mota-Rolim, S. A., Osório, F. L., Sanches, R., dos Santos, R. G., Tófoli, L. F., de Oliveira Silveira, G., Yonamine, M., Riba, J., Santos, F. R., Silva-Junior, A. A., Alchieri, J. C., Galvão-Coelho, N. L., Lobão-Soares, B., … Araújo, D. B. (2019). Rapid antidepressant effects of the psychedelic ayahuasca in treatment-resistant depression: A randomized placebo-controlled trial. *Psychological Medicine*, *49*(4), 655–663. https://doi.org/10.1017/S0033291718001356

Palhano-Fontes, F., Mota-Rolim, S., Lobão-Soares, B., Galvão-Coelho, N., Maia-Oliveira, J. P., & Araújo, D. B. (2021). Recent evidence on the antidepressant effects of ayahuasca. In *Ayahuasca Healing and Science* (pp. 21–41). Springer International Publishing. https://doi.org/10.1007/978-3-030-55688-4_2

Pascarosa, P., & Futterman, S. (1976). Ethnopsychedelic therapy for alcoholics – observations in the peyote ritual of native American church. *Journal of Psychedelic Drugs*, *8*(3), 215–221. https://doi.org/10.1080/02791072.1976.10472016

Powell, A. (2021). "New center seeks to understand any 'magic' in mushrooms". *The Harvard Gazette*. https://news.harvard.edu/gazette/story/2021/06/harvard-medical-school-professor-discusses-future-of-psychedelics/

Perkins, D., Pagni, B. A., Sarris, J., Barbosa, P. C. R., & Chenhall, R. (2022). Changes in mental health, wellbeing and personality following ayahuasca consumption: Results of a naturalistic longitudinal study. *Frontiers in Pharmacology*, *13*, 884703. https://doi.org/10.3389/fphar.2022.884703

Perkins, D., Schubert, V., Simonova, H., Tofoli, L. F., Bouso, J. C., Horak, M., Galvao-Coelho, N. L., & Sarris, J. (2021). Influence of context and setting on the mental health and wellbeing outcomes of ayahuasca drinkers: Results of a large international survey. *Frontiers in Pharmacology*, *12*, 623979–623979. https://doi.org/10.3389/fphar.2021.623979

Petri, G., Expert, P., Turkheimer, F., Carhart-Harris, R., Nutt, D., Hellyer, P. J., & Vaccarino, F. (2014). Homological scaffolds of brain functional networks. *Journal of the Royal Society Interface*, *11*(101), 20140873–20140873. https://doi.org/10.1098/rsif.2014.0873

Phelps, J. (2017). Developing guidelines and competencies for the training of psychedelic therapists. *Journal of Humanistic Psychology*, *57*(5), 450–487. https://doi.org/10.1177/0022167817711304

Pollan, M. (2018). *How to change your mind: What the new science of psychedelics teaches us about consciousness, dying, addiction, depression, and transcendence*. Penguin Books.

Rabinowitz, J., Lev-Ran, S., & Gross, R. (2023). The association between naturalistic use of psychedelics and co-occurring substance use disorders. *Frontiers in Psychiatry*, *13*, 1066369–1066369. https://doi.org/10.3389/fpsyt.2022.1066369

Rochester, J., Vallely, A., Grof, P., Williams, M. T., Chang, H., & Caldwell, K. (2022). Entheogens and psychedelics in Canada: Proposal for a new paradigm. *Psychologie Canadienne [Canadian Psychology]*, *63*(3), 413–430. https://doi.org/10.1037/cap0000285

Rodrigues, L. S., Rossi, G. N., Rocha, J. M., L Osório, F., Bouso, J. C., Hallak, J. E. C., & Dos Santos, R. G. (2022). Effects of ayahuasca and its alkaloids on substance use disorders: an updated (2016-2020) systematic review of preclinical and human studies. *European Archives of Psychiatry and Clinical Neuroscience*, *272*(4), 541–556. https://doi.org/10.1007/s00406-021-01267-7

Ray, R. R., & Lassiter, K. S. (2016). Ayahuasca treatment center safety for the western seeker. *Anthropology of Consciousness*, *27*(2), 121–150. https://doi.org/10.1111/anoc.12060

Roseman, L., Nutt, D. J., & Carhart-Harris, R. L. (2018). Quality of acute psychedelic experience predicts therapeutic efficacy of psilocybin for treatment-resistant depression. *Frontiers in Pharmacology*, *8*, 974–974. https://doi.org/10.3389/fphar.2017.00974

Ross, S., Bossis, A., Guss, J., Agin-Liebes, G., Malone, T., Cohen, B., Mennenga, S. E., Belser, A., Kalliontzi, K., Babb, J., Su, Z., Corby, P., & Schmidt, B. L. (2016). Rapid and sustained symptom reduction following psilocybin treatment for anxiety and depression in patients with life-threatening cancer: a randomized controlled trial. *Journal of Psychopharmacology (Oxford)*, *30*(12), 1165–1180. https://doi.org/10.1177/0269881116675512

Rush, B., Marcus, O., García, S., Loizaga-Velder, A., Loewinger, G., Spitalier, A., & Mendive, F. (2021). Protocol for outcome evaluation of ayahuasca-assisted addiction treatment: The case of takiwasi center. *Frontiers in Pharmacology*, *12*. https://doi.org/10.3389/fphar.2021.659644

Sapoznikow, A., Walsh, Z., Tupper, K. W., Erowid, E., & Erowid, F. (2019). The influence of context on ayahuasca experiences: An analysis of experience reports. *Journal of Psychedelic Studies*, *3*(3), 288–294. https://doi.org/10.1556/2054.2019.028

Savage, C., Savage, E., Fadiman, J., & Harman, W. (1964). LSD: Therapeutic effects of the psychedelic experience. *Psychological Reports*, *14*(1), 111–120. https://doi.org/10.2466/pr0.1964.14.1.111

Scheidegger, M. (2021). Psychedelic medicines: A paradigm shift from pharmacological substitutions toward transformation-based psychiatry. In B. Labate & C. Cavnar (Eds.), *Ayahuasca and Healing Science* (pp. 43–61). Springer International Publishing. https://doi.org/10.1007/978-3-030-55688-4_3

Schimmers, N., Breeksema, J. J., Smith-Apeldoorn, S. Y., Veraart, J., van den Brink, W., & Schoevers, R. A. (2022). Psychedelics for the treatment of depression, anxiety, and existential distress in patients with a terminal illness: a systematic review. *Psychopharmacology*, *239*(1), 15–33. https://doi.org/10.1007/s00213-021-06027-y

Schmid, J. T. (2012). The myth of ayahuasca. *International Journal of Religion and Society*, *3*(3/4), 257-269. https://www.proquest.com/docview/1730024757?parentSessionId=fuZJWjedGzXd8GsteyT23ooRyZ361MhQQMwtJwYJsWc%3D&pq-origsite=primo&accountid=11311&sourcetype=Scholarly%20Journals

Schmid, J. T., Jungaberle, H., & Verres, R. (2010). Subjective theories about (self-) treatment with ayahuasca. *Anthropology of Consciousness*, *21*(2), 188–204. https://doi.org/10.1111/j.1556-3537.2010.01028.x

Senthilingam, M. (2014). How 'magic mushroom' chemical could free the mind of depression, addictions. *CNN Wire*. https://www.cnn.com/2014/09/17/health/magic-mushroom-chemical-depression/index.html

Soler, J., Elices, M., Franquesa, A., Barker, S., Friedlander, P., Feilding, A., Pascual, J. C., & Riba, J. (2016). Exploring the therapeutic potential of Ayahuasca: acute intake increases mindfulness-related capacities. *Psychopharmacology*, *233*(5), 823–829. https://doi.org/10.1007/s00213-015-4162-0

Stewart, O.C. (1987) *Peyote religion*. University of Oklahoma Press.

Strickland, J. C., Garcia-Romeu, A., & Johnson, M. W. (2021). Set and setting: A randomized study of different musical genres in supporting psychedelic therapy. *ACS Pharmacology & Translational Science*, *4*(2), 472–478. https://doi.org/10.1021/acsptsci.0c00187

Talin, P., & Sanabria, E. (2017). Ayahuasca's entwined efficacy: An ethnographic study of ritual healing from 'addiction'. *The International Journal on Drug Policy*, *44*, 23–30. https://doi.org/10.1016/j.drugpo.2017.02.017

Thrul, J., & Garcia-Romeu, A. (2021). Whitewashing psychedelics: racial equity in the emerging field of psychedelic-assisted mental health research and treatment. *Drugs : Education, Prevention & Policy*, *28*(3), 211–214. https://doi.org/10.1080/09687637.2021.1897331

Trope, A., Anderson, B. T., Hooker, A. R., Glick, G., Stauffer, C., & Woolley, J. D. (2019). Psychedelic-assisted group therapy: A systematic review. *Journal of Psychoactive Drugs*, *51*(2), 174–188. https://doi.org/10.1080/02791072.2019.1593559

Tupper, K. W. (2008). The globalization of ayahuasca: harm reduction or benefit maximization? *The International Journal on Drug Policy*, *19*(4), 297–303. https://doi.org/10.1016/j.drugpo.2006.11.001

Tupper, K. W. (2009). Ayahuasca healing beyond the Amazon: the globalization of a traditional indigenous entheogenic practice. *Global Networks (Oxford, England)*, *9*(1), 117–136. https://doi.org/10.1111/j.1471-0374.2009.00245.x

Tupper, K., & Labate, B. (2015). Ayahuasca, psychedelic studies and health sciences: The politics of knowledge and inquiry into an Amazonian plant brew. *Current Drug Abuse Reviews*, *7*(2), 71–80. https://doi.org/10.2174/1874473708666150107155042

Urrutia, J., Anderson, B. T., Belouin, S. J., Berger, A., Griffiths, R. R., Grob, C. S., Henningfield, J. E., Labate, B. C., Maier, L. J., Maternowska, M. C., Weichold, F., Yaden, D. B., & Magar, V. (2023). Psychedelic science, contemplative practices, and indigenous and other traditional knowledge systems: towards integrative community-based approaches in global health. *Journal of Psychoactive Drugs*, *55*(5), 523–538. https://doi.org/10.1080/02791072.2023.2258367

van der Kolk, B. A. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma.* Viking.

Ventegodt, S., & Kordova, P. (2016). Contemporary strategies in Peru for medical use of the hallucinogenic tea ayahuasca containing DMT: In search of the optimal

strategy for the use of medical hallucinogens. *Journal of Alternative Medicine Research*, *8*(4). https://www.proquest.com/docview/1864051794?pq-origsite=gscholar&fromopenview=true&sourcetype=Scholarly%20Journals

Walsh, C. (2021). Beyond prohibition of plant medicines. In B. C. Labate & C. Cavnar (Eds.), *Psychedelic Justice: Toward a Diverse and Equitable Psychedelic Culture* (pp. 173-180). Synergetic Press.

Webb, H. S. (2011). The use of peyote as treatment for alcoholism within the NAC community: reflections on a study: An interview with John Halpern, M.D. *Anthropology of Consciousness*, *22*(2), 234–244. https://doi.org/10.1111/j.1556-3537.2011.01051.x

Weiss, B., Miller, J. D., Carter, N. T., & Keith Campbell, W. (2021). Examining changes in personality following shamanic ceremonial use of ayahuasca. *Scientific Reports*, *11*(1), 6653. https://doi:10.1038/s41598-021-84746-0

Weiss, B., Wingert, A., Erritzoe, D., & Campbell, W. K. (2023). Prevalence and therapeutic impact of adverse life event reexperiencing under ceremonial ayahuasca. *Scientific Reports*, *13*(1). https://doi.org/10.1038/s41598-023-36184-3

Wheeler, S. W., & Dyer, N. L. (2020). A systematic review of psychedelic-assisted psychotherapy for mental health: An evaluation of the current wave of research and suggestions for the future. *Psychology of Consciousness (Washington, D.C.)*, *7*(3), 279–315. https://doi.org/10.1037/cns0000237

Williams, K., Romero, O. S. G., Braunstein, M., & Brant, S. (2022). Indigenous philosophies and the "psychedelic renaissance". *Anthropology of Consciousness*, *33*(2), 506–527. https://doi.org/10.1111/anoc.12161

Williams, M. T., & Labate, B. C. (2019). Diversity, equity, and access in psychedelic medicine. *Journal of Psychedelic Studies*, *4*(1), 1–3. https://doi.org/10.1556/2054.2019.032

Williams, M. T., Davis, A. K., Xin, Y., Sepeda, N. D., Grigas, P. C., Sinnott, S., & Haeny, A. M. (2021). People of color in North America report improvements in racial trauma and mental health symptoms following psychedelic experiences. *Drugs : Education, Prevention & Policy*, *28*(3), 215–226. https://doi.org/10.1080/09687637.2020.1854688

Winkleman, J.W. (2014). Therapeutic applications of ayahuasca and other sacred medicines. In Labate, B. C., & Cavnar, C. (Eds.), *The Therapeutic Use of Ayahuasca* (pp. 1–21). Springer Berlin / Heidelberg. https://doi.org/10.1007/978-3-642-40426-9_1