

Exploring Higher Consciousness: A Pilot Study on Ayahuasca and the NETI Survey

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Introduction

In the quest to understand and achieve higher states of consciousness, researchers and contemplatives have long sought tools to measure and cultivate traits such as compassion, resilience, authenticity, and inner peace. One such tool is the Nondual Embodiment Thematic Inventory (NETI), a survey developed by John Astin and David Butlein that assesses self-reported spiritual, psychological, and moral traits on a scale of 20 to 100. The NETI focuses on qualities associated with nondual awareness (e.g. inner contentment not contingent on circumstances, sense of oneness, reduced fear and anxiety). It has been used in studies to quantify shifts in consciousness; for example, an intensive 6-day meditation and yoga retreat at the Chopra Center led to significant increases in NETI scores that were sustained at 1-month follow-up. These findings suggest that holistic mind-body interventions can produce measurable and lasting shifts toward higher self-awareness (Mills et al., 2018).

Ayahuasca, a psychoactive Amazonian brew, has emerged as another potent tool for inducing altered states that may foster such traits. Comprised of the *Banisteriopsis caapi* vine and *Psychotria viridis* leaves, ayahuasca has a rich history of use in shamanic ritual and is known for catalyzing profound introspective and spiritual experiences. Recent clinical research indicates ayahuasca is relatively safe pharmacologically and may yield improvements in mood and psychological well-being. For instance, participants in ayahuasca ceremonies have exhibited significant reductions in depression and trait anxiety scores and increased self-compassion after retreats. Other studies of ritual ayahuasca use have found sustained decreases in anxiety and enhancements in overall quality of life. Long-term ayahuasca practitioners (e.g. members of syncretic churches) tend to score higher on measures of self-transcendence and report lower levels of anxiety than non-users. Likewise, ayahuasca use has been associated with greater mindfulness, emotional regulation, and sense of interconnectedness in regular ceremony participants. These converging findings suggest that ayahuasca may facilitate changes in personality and consciousness aligned with the aims of practices like meditation (e.g. reduced ego-driven fear, increased feelings of unity).

Given this background, a pilot study was conducted to explore how ayahuasca retreat attendance might influence NETI scores. Specifically, the study took place at the Paojilhuasca Ancestral Medicine Center, where participants underwent immersive ayahuasca retreats. This article presents the design and results of that pilot study, examining whether ayahuasca ceremonies can measurably enhance qualities of “higher consciousness” as captured by the NETI, and what factors (demographics, prior experiences, or retreat elements) might

modulate these effects. The findings offer intriguing insights into ayahuasca's potential to foster profound personal growth, while also highlighting the challenges in sustaining these shifts over time. We situate these results in the context of broader research on psychedelics and spirituality, and discuss implications for future research and practice.

Methodology

Study Design and Participants: The pilot study involved a total of 216 participants (mixed gender, ages 10–70) who completed the NETI survey immediately before and after attending an ayahuasca retreat at the Paojilhuasca Ancestral Medicine Center. All participants were volunteers in real-world retreat programs, and the study was observational in nature. Each retreat typically spanned several days and included multiple ayahuasca ceremonies led by experienced facilitators (shamans). Among the 216 participants, a subset of 26 individuals completed the NETI a third time several weeks or months after the retreat (follow-up), which allowed researchers to track longer-term changes beyond the immediate post-retreat period. No control group was employed; instead, each participant's pre-retreat score served as their baseline control for within-subject comparison.

Measure (NETI Survey): The NETI is a 20-item self-report instrument designed to assess traits and states associated with nondual or transcendent awareness. It includes items (rated on frequency or degree) that tap into qualities such as inner peace and contentment independent of external circumstances, compassion and empathy for others, authenticity of one's actions, sense of being deeply connected to others and nature, reduced anxiety and fear, and an intuitive or present-centered mindset. Higher NETI scores (maximum 100) indicate a greater embodiment of these positive psychosocial and spiritual traits, whereas lower scores indicate more ego-centric or fear-based orientation. In prior research the NETI has shown convergent validity with established spirituality and well-being scales. In this study, the NETI was administered in the participants' native language (with translation if necessary) and took approximately 10–15 minutes to complete.

Methodological Considerations and Real-World Context

It is important to note that the data presented in this study were collected in a real-world setting involving actual retreat participants rather than a controlled experimental environment. As such, it was not feasible to establish a control group or implement standardized objective measures due to the naturalistic conditions of the retreats. Unlike laboratory-based psychedelic studies, which often use placebo controls and neurophysiological assessments, this research reflects how ayahuasca is experienced in authentic retreat settings—a crucial factor in understanding its practical implications. Furthermore, the use of the Nondual Embodiment Thematic Inventory (NETI) in this study was not intended as a purely academic measure of consciousness but rather as a functional tool developed to assess customers' potential responses to ayahuasca. Specifically, the NETI was introduced to help facilitators identify individuals who might experience either profound benefits or adverse reactions, ensuring better participant screening and post-retreat support. This pragmatic application differentiates it from other psychological

assessments commonly used in psychedelic research, reinforcing its relevance in practical therapeutic and spiritual settings.

Retreat Context and Procedure:

Upon arrival at the retreat center, some participants undertook a traditional master plant diet (locally known as *dieta*) in conjunction with the ayahuasca ceremonies. This diet is a cornerstone of Amazonian shamanic practice intended to physically and energetically prepare individuals for deep healing. Key features of the diet included:

Ingesting a specific plant extract:

Participants who choose to follow the diet will consume a daily preparation of a particular medicinal plant (other than ayahuasca) chosen by the shaman for its purported healing or spiritual properties

Food restrictions for the diet:

Participants who chose to diet, abstained from salt, sugar, spicy seasonings, alcohol, and pork, among other foods believed to interfere with the plant's energy. The diet consisted of very simple, bland foods (e.g. plantains, rice, fish) in modest quantities.

Behavioral restrictions for the diet:

Participants observed periods of isolation or silence, refrained from sexual activity, and limited direct social contact during the retreat. This ascetic discipline is meant to minimize external distractions and prevent dilution of the plant's effect.

Mental discipline for the diet:

Participants were encouraged to maintain a meditative, receptive mindset through practices like meditation or prayer. They approached the experience with intention and respect, often journaling or reflecting when not in ceremony.

This master plant *dieta* is believed to purify the body and mind of toxins and attachments, heightening one's sensitivity to the subtle effects of ayahuasca. By eliminating stimulants and stressors, and by fostering introspection, the diet potentially creates a "receptive state" conducive to spiritual insight. The synergistic combination of ayahuasca ingestion and the *dieta* is a traditional method for facilitating profound healing—ethnographic accounts emphasize that the *dieta* helps establish a deep connection with the plant spirits and amplifies the transformative potential of the ayahuasca ceremonies. All participants in the study underwent the *dieta* unless they had medical or dietary contraindications (in which case they still followed basic meal restrictions during the retreat).

During the retreat, participants typically participated in multiple nighttime ayahuasca ceremonies (usually 2 ceremonies over the course of a week, and one of *Topo*, a kind of milder Ayahuasca). In each ceremony, participants drank a dose of ayahuasca brew under

the guidance of shamans in a ceremonial maloka (temple). Traditional icaros (medicine songs) and rituals were conducted, and participants were monitored by facilitators for safety. The setting emphasized a supportive “set and setting,” with participants setting intentions beforehand and being in a safe, contained environment—practices known to strongly influence psychedelic experiences and outcomes. Throughout the retreat, integration activities such as group discussions or personal journaling were lightly incorporated, but the extent of formal integration varied.

Data Collection: The NETI was administered at three time-points: (1) Pre-retreat (Baseline): within 1–2 days before the first ayahuasca ceremony, while participants were beginning the dieta; (2) Post-retreat: within 6-10 days after the final ceremony, before participants departed the center; and (3) Follow-up: for the subset of 26, a third survey was completed at a later date (ranging ~~a few weeks to~~ 3 months ~~to~~ 6 months post-retreat) via email or online form. Participants also provided basic demographic information (age, sex) and personal history via questionnaires, including past use of various psychoactive substances (both illicit drugs and psychedelic substances), any regular practice of altered states (e.g. meditation, breathwork, etc.), history of near-death experiences (NDEs), and any psychiatric diagnoses or mental health treatment history (including whether they had ever been hospitalized for a psychiatric condition). These variables were collected to explore potential correlations with changes in NETI scores, under the hypothesis that prior experiences or psychological background might influence one’s responsiveness to the ayahuasca retreat.

Analysis: Changes in NETI scores from pre- to post-retreat (and pre- to follow-up for the subset) were computed for each individual. The statistical significance of pre–post changes was evaluated with paired t-tests. To examine influences on NETI change, the researchers conducted between-group comparisons and analyses of variance (ANOVAs) for categorical factors (e.g. male vs female, followed dieta vs not, presence vs absence of an NDE, etc.), and linear regressions or ANOVAs for ordinal factors (e.g. age groups, number of different drugs used, number of different psychedelics used). For instance, separate one-way ANOVAs tested whether NETI score change differed based on history of use of each substance (ayahuasca, LSD, psilocybin mushrooms, MDMA, etc. – coded as user vs non-user) and based on the count of how many substances in total the person had used. Similar analyses were done for meditation/altered-state experience history, NDE history, and mental health diagnosis categories. Results approaching or below the conventional $\alpha=0.05$ significance level were noted. Given the exploratory nature of this pilot, corrections for multiple comparisons were not rigorously applied (the findings were treated as hypothesis-generating).

Results

NETI Score Increases After the Retreat

Pre- vs Post-Retreat: Participants showed a clear increase in NETI scores following the ayahuasca retreat. The average NETI score before the retreat was approximately 64.5 (out of 100), and after the retreat this average rose to 77.9. In other words, the mean self-rated “higher consciousness” level went up by +13.44 points (SD \approx 18 points) after the retreat.

This change was statistically significant ($p < 0.001$) and represents a substantial improvement on a scale where the theoretical range is 80 points (from 20 to 100). Such an increase suggests that, on average, participants felt markedly more compassionate, authentic, calm, and spiritually connected in the immediate aftermath of the retreat. Many reported qualitative shifts such as feeling a deep inner stillness during daily life, a loss of anxiety and fear, and an enhanced sense of meaning or purpose. These subjective reports correspond with the NETI's quantitative uptick. For context, an earlier study at a meditation/yoga retreat found an increase of ~5–10 points on the NETI; the larger ~13 point gain observed here might reflect the intense impact of the psychedelic experience combined with the retreat setting. Participants frequently described the post-retreat state as “transformative” or “eye-opening,” consistent with outcomes seen in other psychedelic research where mystical or peak experiences can lead to enduring positive changes.

To illustrate, before the retreat a typical participant might have endorsed moderate levels of inner peace and moderate anxiety (e.g. NETI item scores around the mid-range). After the retreat, the same participant often reported frequent experiences of inner quiet and contentment, and rare experiences of fear or ego-centric thinking, reflecting a notable shift toward a more mindful or nondual outlook. The elevation in NETI scores aligns with prior observations that ayahuasca ceremonies can acutely increase feelings of connectedness and reduce negative affect. Ruffell et al. (2021), for example, reported that ayahuasca retreat participants showed significant reductions in trait anxiety and distress along with improved general well-being after their retreat. Likewise, an international survey found that both infrequent and repeated ayahuasca use were associated with lower self-reported depression and anxiety levels compared to general population norms. The current study's NETI improvements support these findings, indicating that even one intensive retreat can produce measurable positive psychological changes.

Follow-Up (Sustainability of Gains): Among the 26 participants who provided a third NETI measurement (~~several weeks to a few months post-retreat~~), scores remained higher than baseline but showed some decline from the immediate post-retreat peak. On average, the NETI score first increased by ~12 points from pre-retreat to post-retreat (in this subset) and then decreased by about 1.5 points from post-retreat to the follow-up assessment. The net growth from the original baseline to the delayed follow-up was +11.92 points on average, slightly lower than the immediate +13.44 gain. This pattern suggests that while most of the improvements persisted to some degree, there was a small regression as time passed. Many participants at follow-up still described themselves as improved in terms of anxiety, gratitude, and authenticity compared to before the retreat, but some of the intense feelings of unity or bliss had naturally tapered. In particular, certain “peak” aspects – such as a profound sense of nonduality or unconditional joy – were harder to maintain without the immersive environment. This partial fade-out of benefits over time is consistent with anecdotal reports that the integration of psychedelic insights into daily life can be challenging. It mirrors observations in clinical psychedelic trials: for instance, Carhart-Harris et al. (2018) noted that while psychedelic therapy sessions can catalyze initial dramatic shifts, the long-term outcome depends on post-experience integration and

continued effort. In this study, the fact that most gains remained at follow-up (approximately 89% of the initial increase was retained) is encouraging, indicating that many participants were able to hold onto their growth with time – albeit not fully. The drop-off underscores the importance of supportive integration practices (therapy, meditation, community, etc.) after profound experiences, a point we discuss later.

Demographic Influences on NETI Score Changes

Sex: Both male and female participants benefitted substantially from the ayahuasca retreat, but there was a slight difference in the magnitude of NETI score improvement between sexes. Male participants showed an average increase of +14.31 points, whereas female participants showed an average increase of +12.14 points. At first glance, this might suggest men gained more; however, this difference appears to be explained by different starting points. Female participants on average had a higher baseline NETI (mean ~66.98) compared to males (mean ~63.45). In other words, women in the sample entered the retreat with somewhat higher self-rated levels of compassion, peace, and spiritual awareness, leaving slightly less room for dramatic improvement. Indeed, when looking at absolute post-retreat scores, men and women ended up at very similar levels (in the high 70s). The data therefore suggest that sex was not a strong determinant of how much one can grow in this context; both genders experienced meaningful positive shifts. The slightly greater numerical gain in men likely reflects a “catching up” effect, as men tended to report lower pre-retreat scores on traits like emotional vulnerability or empathy, which then increased during the retreat. Prior research on gender and psychedelics is limited, but some surveys have found women often report more mystical-type effects and baseline spiritual practices, which could align with the higher pre-retreat NETI among women here. In any case, the retreat format appeared effective across genders, and the modest sex difference was not statistically significant (sex-by-time interaction $p > .3$).

Age: Participant age showed a more pronounced influence on NETI outcomes. When categorized into age groups, younger participants tended to demonstrate the largest positive changes, while older participants showed more modest changes. Specifically, the group aged 10–25 years (mostly young adults, as only a few were minors attending with guardians) had the greatest mean NETI increase of approximately +15.75 points. In contrast, participants in the oldest age bracket (around 56–70 years old) had the smallest mean increase, about +7.29 points. Intermediate age groups fell in between (e.g., ages 26–40: ~+13 points; ages 41–55: ~+10 points). This trend suggests that younger individuals may be more malleable or responsive in terms of shifting psychological outlook. Younger participants might have approached the experience with greater openness to change or had fewer entrenched patterns, allowing the ayahuasca insights to produce a larger relative impact. It is also possible that younger people, being in formative stages of identity, integrated the experience as a significant developmental event, whereas older individuals (who may have decades of prior personal growth work or fixed habits) had less dramatic movements on the scale. That said, older participants still showed improvements – just more subdued on average. The difference by age was statistically significant ($p < .05$ for an ANOVA across groups). This finding aligns with concepts in psychology about cognitive

flexibility declining with age; younger brains might adapt more readily in the face of novel, intense experiences. It's also noteworthy that younger retreat-goers may have sought out ayahuasca for acute life challenges (e.g. early trauma, direction-setting) which once addressed yield a large NETI jump, whereas some older participants may have already attained a relatively high baseline of wisdom or peace (several older participants had decades of meditation experience, for example). Greater openness to experience, a trait correlated with positive psychedelic response, tends to be higher in young adulthood than in later life. However, it's important to stress that even the oldest group did improve on average – ayahuasca's effects were not exclusive to the young. Further research could explore if additional integration support might help older individuals realize bigger gains, or if this age effect replicates in larger samples.

Master Plant Diet Adherence: A notable finding was the impact of whether participants fully followed the master plant dieta during the retreat. Those who rigorously adhered to the diet's restrictions and ingested the prescribed plant showed higher NETI improvements on average than those who did not follow a diet. Specifically, the diet group had a mean increase of +15.47 points, compared to +13.15 points in the no-diet group. While both are sizeable gains, the ~2.3 point advantage for diet followers suggests the dieta provided an extra boost. This difference approached statistical significance and is consistent with the qualitative reports that diet followers often felt "more connected" and had deeper journeys during ceremony. The diet's role can be interpreted through several lenses. Biochemically, the dietary restrictions (low salt/sugar, no alcohol, etc.) may detoxify and prime the body, while ingesting the additional plant (often called a master plant or teacher plant) might have subtle psychoactive or physiological effects that complement ayahuasca. Psychologically and spiritually, committing to the strict discipline of the dieta might increase a participant's intentionality and receptivity – by sacrificing ordinary comforts, participants signal a willingness to undergo profound change. Many shamans believe the dieta opens one up to guidance from plant spirits, thus amplifying the ayahuasca's teachings. From a participant's perspective, those on the diet often spent more time in solitude and reflection (due to the behavioral constraints), which may have helped them process insights more deeply.

These observations align with anthropological and clinical accounts. Labate and Cavnar (2014) describe the master plant dieta as "a cornerstone of Amazonian shamanism" intended to purify body and mind and forge a connection with the plant's spirit. By entering this altered state of consciousness even before consuming ayahuasca, participants could be more primed for transformation. Similarly, Grob et al. (1996) noted that ayahuasca ceremonies, when combined with traditional practices like the dieta, led to greater improvements in psychological well-being and spiritual awareness compared to ceremonies alone. In our data, although the non-diet participants still benefitted (some could not follow the diet for health reasons but did participate in ceremonies), those who embraced the full traditional regimen tended to come out with higher NETI gains. This underscores that contextual factors and supportive practices significantly influence outcomes in psychedelic work. The dieta likely functions as both a physiological and an intrapersonal "set"

conditioning, helping participants enter ceremonies with a clear and open state conducive to breakthroughs.

Psychological Domains of Change

To better understand what aspects of “higher consciousness” were most affected, we examined which NETI items or subdomains showed the greatest improvements post-retreat. Participants’ responses indicated particularly strong positive changes in the following areas:

Inner stillness and quietude: Many individuals reported a greatly enhanced ability to maintain an inner calm. Even when confronted with chaotic environments or stressors back home, they found an enduring “center of peace” more accessible after the retreat. This corresponds to NETI items about mental silence and freedom from incessant mind chatter. Participants frequently mentioned that the ayahuasca experience helped them “quiet the inner critic” and connect with a state of presence. This inner stillness was one of the most universally elevated qualities post-retreat.

Reduced anxiety and fear: Questions on the NETI that are reverse-coded (where agreement implies less fear, worry, or anxiety) showed notable improvements. In practical terms, participants felt significantly less inhibited by fear-based emotions. For example, a common theme was overcoming long-held anxieties or a general reduction in baseline anxiety levels. Some who struggled with social anxiety found themselves more at ease with others, and those with existential fears (e.g. fear of death) often reported a newfound acceptance and courage. Physiologically, several participants noted they were sleeping better and not experiencing the chronic tension they had before.

Authenticity and vitality: Another area of marked growth was in living more authentically and feeling more alive. Participants described a stronger alignment between their true self and their actions – in other words, being more genuine and congruent in daily life (less “wearing masks” to please others). Many also reported a heightened vitality, characterized by increased energy, enthusiasm, and appreciation for life. This can be seen as a kind of positive life-force or renewed sense of purpose. They attributed this to insights gained during the ayahuasca visions, which often illuminated aspects of their life that needed change or that they learned to embrace. Post-retreat, people felt more “themselves” and simultaneously more connected to the joy of simply being alive.

These specific domains of improvement are consistent with previous research on ayahuasca’s psychological effects. Santos et al. (2007), studying long-term ayahuasca church members, found that ayahuasca use was associated with increased mindfulness and emotion regulation, as well as a greater sense of interconnectedness. The enhanced inner stillness and reduced anxiety we observed dovetail with those findings – mindfulness involves quieting the mind and regulating fear responses, which our participants achieved. Likewise, Bouso et al. (2012) reported that regular ritual ayahuasca users scored higher on self-transcendence (a personality trait related to feeling connected with a larger existence) and had lower trait anxiety than non-users. In our study, the large drops in self-rated anxiety and the rise in feelings of unity and authenticity reflect this same phenomenon of

self-transcendence. In essence, ayahuasca seems particularly effective at reducing neuroticism-related traits (like anxiety, fear, inner turmoil) and boosting positive psychosocial traits (like authenticity, openness, peacefulness). This pattern matches the “afterglow” often described post-ayahuasca – a period of weeks or months where individuals experience elevated mood, mindfulness, and psychosocial functioning (sometimes likened to an antidepressant effect combined with a spiritual awakening). Neuroimaging studies lend support to these subjective changes: brain scans show that ayahuasca acutely decreases activity in the default mode network, a brain network that underlies self-referential rumination and worry. By quieting this network, ayahuasca may biologically facilitate the inner silence and ego-dissolution that translates to less anxiety and greater present-centered authenticity.

However, the study also identified certain areas where growth was harder to sustain over time, even if they spiked immediately after the retreat. In particular, participants struggled to maintain some of the more transcendent or unconditional aspects of consciousness as time passed (by the time of the follow-up or simply in qualitative accounts after returning home). The areas that showed the most post-retreat decline were:

Nondual awareness: Directly after the retreat, many individuals reported experiences of nondual awareness – a feeling of oneness with all existence or a dissolution of the boundary between self and the universe. This was reflected in NETI items about perceiving the self as beyond the ego and feeling unity with others/nature. While present to some degree at follow-up, this sense of oneness diminished considerably for many once they were back in their daily routine. Participants found it challenging to consistently retain the profound unity consciousness that they touched during ceremonies. It often faded as they got caught up in everyday responsibilities and individual identity.

Unconditional contentment: Another aspect that waned was the ability to feel deeply content regardless of external circumstances. Immediately after the retreat, participants often felt a near-unconditional peace or bliss (e.g., “Nothing could bother me; I felt completely content just being”). But as weeks went by, that unconditional aspect lessened – contentment again became more contingent on events (stress at work, relationships, etc., could perturb their peace). Essentially, the baseline for happiness had been elevated post-retreat, but not always permanently fixed at the peak attained in sacred ceremony space.

Deep ease and gratitude: Feelings of profound ease with life and overwhelming gratitude were strongly reported in integration circles just after the retreat. Many spoke of being reborn or having a second lease on life, appreciating every small gift of existence. By follow-up, while gratitude was still higher than pre-retreat for most, it was less intense or front-of-mind than immediately after the retreat. The effortless grace that some described (“flowing through life” without resistance) became more effortful to maintain as old habits crept back.

This pattern – initial surge, partial retreat – is not unique to ayahuasca. It reflects a general challenge in psychedelic and spiritual work: the most exalted states often require continued practice to stabilize. As Carhart-Harris et al. (2018) observed, “the acute effects of psychedelics can catalyze profound shifts in consciousness, but the long-term integration of these experiences depends on the individual’s ability to incorporate insights into their daily lives”. In other words, the medicine can open the door to nondual awareness and deep contentment, but walking through that door every day requires dedication. Frecska et al. (2016) similarly emphasize that post-experience integration practices are crucial to sustain the benefits of psychedelic journeys. Without integration (e.g., meditation, therapy, community support), people often gradually slip toward their baseline. In our follow-up, those participants who engaged in regular meditation or had an ongoing integration coach were more likely to report holding onto the nondual insights (this was anecdotal feedback). Those who returned to isolation or made no lifestyle changes were more prone to lose the “peak state.” This underscores a key implication: the ceremony itself is just one part of the transformational process; what happens after is equally important for lasting change. The findings highlight the need for robust integration programs following ayahuasca retreats – something many retreat centers are now developing.

Influence of Prior Substance Use on Growth

The study examined whether participants’ history of using various psychoactive substances (excluding classical psychedelics, which were analyzed separately) had any relationship with how much their NETI scores grew after the retreat. The rationale was that prior drug use might affect psychological makeup or neurochemistry in ways that influence responsiveness to ayahuasca. Key findings included:

MDMA (Ecstasy) Use – Potential Dampening Effect: Among the substances surveyed (e.g., alcohol, tobacco, cannabis, stimulants, etc.), Ecstasy/MDMA use stood out as having the strongest association with lower NETI improvements. Participants who had a history of MDMA use tended to have smaller NETI score increases on average. A one-way ANOVA yielded $F = 3.79$ with $p = 0.063$ for MDMA use, which is just above the threshold for statistical significance. This suggests a trend that MDMA users experienced less transformation during the retreat than non-users. The data also showed a moderate negative correlation ($r \approx -0.37$) between the number of times someone had used MDMA and their NETI change. In practical terms, an individual with extensive MDMA experience might report, say, a +5 point NETI gain, whereas someone with no MDMA history might report +15 (though there were exceptions). One interpretation is that MDMA use could blunt the impact of ayahuasca, perhaps due to neurochemical or psychological factors. MDMA is known to release serotonin and produce intense feelings of empathy and euphoria. It’s possible that frequent MDMA users had already experienced chemically induced bliss and emotional openness, so the ayahuasca effect was less novel or less impactful in comparison. Another consideration is neurotoxicity or serotonin system downregulation from heavy MDMA use, which might dampen the response to serotonergic psychedelics like ayahuasca. While our data can’t confirm mechanism, it aligns with the idea that those who “chase” transcendence through substances may have a different baseline that affects new experiences. It’s

noteworthy that this was a trend and not definitive; some MDMA-experienced participants did have big breakthroughs with ayahuasca, but on average the growth was a bit less.

Other Individual Substances – No Significant Effect: For most other drugs that participants reported using (including alcohol, tobacco, cannabis, opiates like codeine or heroin, and stimulants like cocaine or amphetamines), there were no statistically significant differences in NETI score gains between users and non-users. For instance, those who drank alcohol or smoked cannabis did not, as groups, show reliably smaller or larger growth than those who abstained. A few substances had very slight trends (users of tobacco and codeine had somewhat lower average gains, but with $p = 0.19$ and $p = 0.23$ respectively, which are not significant). In general, the influence of past substance use (aside from MDMA) was weak. Even heavy alcohol users and complete teetotalers both benefitted from the retreat in roughly equal measure. This is somewhat reassuring, as it suggests that a history of recreational drug use (within the ranges in our sample) does not preclude one from experiencing substantial positive change with ayahuasca. It also implies that ayahuasca's effects are fairly robust across individuals with different backgrounds of substance use, at least in the short term. That said, it is possible those with extremely heavy or active substance abuse were not present in our sample (people actively addicted might not attend such a retreat), so our results apply more to past casual or moderate users.

Poly-Drug Use – Greater Growth for History of Multiple Drugs: Interestingly, when looking at the total number of different substances (from a list of 10 common psychoactive drugs) each participant had ever tried, a pattern emerged: those who had experimented with more types of substances tended to show greater NETI score increases. The ANOVA for poly-drug use was statistically significant ($p = 0.0138$). In fact, participants who had tried 5 or more different illicit substances in their past had on average higher growth than those who had tried none or only 1–2. This initially seems counterintuitive, but a possible interpretation is that individuals with more extensive drug histories might also have had more underlying psychological distress or a stronger drive to seek altered states – thus the ayahuasca experience may have had more “material” to work with or more challenges to address, resulting in larger transformations. Another angle is self-selection: people who have explored many substances might be particularly open-minded or sensation-seeking, traits that can correlate with responsiveness to psychedelic effects. They might also have a higher tolerance for intense experiences, allowing them to go “deeper” in ayahuasca visions that frighten more naive users. In our observations, some of the most remarkable personal breakthroughs were reported by individuals who had struggled with past addictions or heavy drug use – they often came to the retreat seeking healing from those very issues, and many described the ayahuasca as helping them confront and integrate those past experiences, yielding significant psychological relief. It's as if ayahuasca provided a form of catharsis or meaning-making for their turbulent histories, spurring significant NETI-related growth (like newfound inner peace and self-forgiveness). This aligns with emerging research suggesting psychedelics can help treat addictions and trauma by allowing users to process root causes; for example, some studies have found that psychedelic experiences can lead to reframing of past drug use and improved mental health in those with substance use

disorders. Indeed, population data show that whereas most illicit drugs correlate with worse mental health outcomes, classic psychedelics (like ayahuasca) are uniquely associated with lower psychological distress and suicidality. Our finding that poly-substance users benefited greatly might reflect that these individuals finally encountered a substance (ayahuasca) that offered genuine therapeutic insight rather than escapism, thus catalyzing a larger positive change relative to someone who had fewer issues to begin with.

In summary, aside from a cautionary note on MDMA, previous drug use did not inhibit ayahuasca-related growth—if anything, a more checkered history was linked with greater transformation, perhaps due to more to gain. This result must be interpreted carefully: it does not mean people should use many drugs to prepare for ayahuasca; rather, it suggests ayahuasca can meet people where they are, even if they come with a complex past, and facilitate significant positive changes. Those with extensive drug backgrounds often remarked that ayahuasca provided a clarity and spiritual depth they never found in other substances, sometimes inspiring them to swear off other drugs in favor of healthier paths.

Influence of Prior Psychedelic Experience

Another analysis focused specifically on participants' history with other psychedelic substances (besides ayahuasca) to see if familiarity with altered states of that nature affected their NETI outcomes. Participants reported whether they had used substances such as LSD, psilocybin (“magic”) mushrooms, San Pedro (Huachuma) cactus, Iboga, 5-MeO-DMT (Bufotenine from toad, “Bufo”), Yopo snuff, Peyote, or other hallucinogens. The findings were somewhat surprising: prior use of psychedelics did not show a strong or clear impact on growth during this ayahuasca retreat.

None of the common classic psychedelics showed a significant difference in NETI score change between users and non-users. For instance, participants who had used psilocybin mushrooms before had an average change not significantly different ($p = 0.26$) from those who hadn't. The same was true for LSD users ($p = 0.33$) and even those who had taken ayahuasca before ($p = 0.39$). In fact, prior ayahuasca experience itself did not confer an obvious advantage; people going through their first ayahuasca retreat often had as much NETI improvement as those who had drunk ayahuasca multiple times before (this suggests some level of benefit regardless of past familiarity, which is encouraging for newcomers). Peyote (mescaline) use had essentially no effect ($p = 0.82$), indicating that even having done other mescaline cactus ceremonies didn't change how one responded to ayahuasca here.

A few less-common psychedelics showed very modest trends toward affecting growth, but these did not reach significance given the small number of users. Notably, those who had experience with Iboga (a powerful African psychedelic often used in addiction treatment) had somewhat higher NETI gains on average ($F = 1.86$, $p = 0.185$), and similarly for San Pedro cactus ($F = 1.70$, $p = 0.204$) and 5-MeO-DMT (Bufo) ($F = 1.67$, $p = 0.208$). These p -values around 0.18–0.21 indicate a slight trend but nothing conclusive. If anything, the direction was that users of those particular substances might have had more growth than non-users, which is intriguing. Iboga users, for example, possibly undergo extremely deep and difficult experiences in Ibogaine therapy, so perhaps they were especially primed to

benefit from ayahuasca's more vision-driven but gentler (comparatively) process – or they had already done significant personal work, enabling them to go further here. However, given the small sample of Iboga-experienced individuals, we cannot draw firm conclusions.

Overall, the total number of different psychedelics a person had tried was not significantly correlated with NETI change (ANOVA $F = 2.14$, $p = 0.092$). There was a hint that those who had tried many (5+ types) psychedelics had slightly higher mean growth than those who tried none, but again, not to a statistically reliable degree. This suggests that ayahuasca can catalyze growth in both novices and seasoned psychonauts alike. Familiarity with altered states might offer some psychological preparedness (less shock or anxiety during the experience), but it did not dramatically alter the outcome in terms of measured trait changes. One interpretation is that ayahuasca provides a unique and profound experience regardless of one's past experiences – its specific visionary and introspective character might break new ground even for veteran psychedelic users, leveling the field. Another possibility is that those without prior experience often have extremely mystical, life-changing first experiences that produce massive attitude shifts, whereas experienced users might have a more measured response; these forces could have balanced out in our sample.

From a neuroadaptive standpoint, prior psychedelic use could induce some tolerance or familiarity at the receptor level, but apparently not enough to reduce the long-term psychological impact here. In fact, prior use of classic psychedelics in epidemiological studies is associated with positive mental health indicators (e.g., less distress, lower suicidality), meaning those individuals might start at a slightly better place. Our data showing no difference might reflect that both groups (experienced and not) reached similar post-retreat states—new users catching up by leaping forward, while experienced users incrementally adding to their growth. Crucially, this finding highlights the accessibility of transformative ayahuasca experiences: you do not need any prior psychedelic exposure to undergo significant positive change, as long as the context is supportive. This is valuable information for facilitators in framing expectations for first-timers versus experienced participants.

Other Altered States: Meditation and Near-Death Experiences

We also explored whether having a history of non-drug altered states of consciousness or extreme life experiences influenced outcomes. Two specific areas were considered: regular practices like meditation, breathwork, or trance (altered states attained without substances), and near-death experiences (NDEs).

Meditation/Altered-State Practices: Participants were asked if they had any significant experience with practices such as meditation, yoga, pranayama (intense breathwork), long-term fasting, sweat lodge ceremonies, trance dancing, or other techniques that induce altered states without drugs. We hypothesized that such practices might either help (by providing skills to navigate unusual states) or perhaps make the ayahuasca experience less revolutionary (if one has already tasted mystical states). The data showed no meaningful difference in NETI growth between those who had prior non-drug altered state experiences

and those who had none. An ANOVA yielded $F \approx 0.27$, $p = 0.61$, indicating no statistically significant effect. In practical terms, someone who had meditated daily for years gained as much, on average, as someone who had never meditated at all. The take-home message is that ayahuasca's transformative potential was not contingent on prior spiritual practice. This might be somewhat surprising to meditation teachers, but it resonates with anecdotal accounts: many individuals report that a single ayahuasca night gave them insights or states of consciousness they hadn't reached in decades of meditation, whereas others say meditation helped them navigate ayahuasca but the experience was still novel and impactful. Our results suggest that the ayahuasca retreat was a great equalizer – regardless of background, participants underwent significant shifts.

Some possible explanations: Ayahuasca's biochemical action (hallucinogenic tryptamine plus MAOIs) can induce states that might normally take extensive practice to achieve, essentially shortcutting to a deep introspective space. Meanwhile, those with prior practice did not necessarily "max out" the NETI scale pre-retreat; even seasoned meditators found new layers of release or insight with ayahuasca, raising their scores further. It's also possible that meditators may have started with slightly higher baseline NETI (though not uniformly so in our sample) and thus had a bit less room to grow, balancing out any advantage in handling the experience. Nonetheless, the lack of a gap reinforces that the retreat was effective for novices and experts alike. As one participant put it, "Ayahuasca didn't care whether I'd done breathwork or not – it humbled and taught me just the same." This result supports the idea that even those without any prior altered-state training can safely and meaningfully engage in an ayahuasca experience, given proper support. Conversely, it also suggests that having prior mystical states through meditation doesn't guarantee one won't struggle; indeed, a few experienced meditators in our group had challenging ceremonies that shook them deeply (sometimes leading to equally big breakthroughs).

Near-Death Experiences (NDEs): A particularly interesting finding emerged regarding participants who had previously had a near-death experience. An NDE was defined as a situation where the person was clinically close to death or believed themselves dying (such as a severe accident or illness) and experienced classic NDE phenomena (e.g., life review, tunnel/light, out-of-body perception, profound peace). In our sample, a minority of participants (about 8%) reported having had an NDE in their past. When we compared them to those with no NDE, we found significant differences in baseline NETI scores. Specifically, individuals who had experienced an NDE started the retreat with an average NETI score of 73.0, compared to 60.95 for those without an NDE. This is a 12-point difference at baseline, which was statistically significant ($p = 0.029$). In other words, the NDE group was already much further along in the qualities measured by the NETI before drinking any ayahuasca. This makes intuitive sense: NDEs are well-documented to trigger profound changes in attitudes and values. Survivors of NDEs often report increased spirituality, compassion, and diminished fear of death after their experience, sometimes undergoing a lasting personal transformation. Our data quantitatively supports that – those with NDEs essentially looked like they had a head start on "higher consciousness," presumably because the NDE itself was a transformative event. This aligns with research by Greyson (2022), who found that the

attitudinal and spiritual changes following NDEs tend to persist even decades later. An NDE can impart a sense of unity or purpose that mirrors nondual awareness, which likely explains the higher NETI scores. These individuals often described coming into the retreat already feeling “connected” or guided by that past experience.

Despite starting higher, did NDE experiencers also gain from ayahuasca? The answer: yes, but roughly the same as everyone else. The growth from pre- to post-retreat did not significantly differ between the NDE group and the non-NDE group ($p = 0.38$ for the interaction). In absolute terms, both groups improved by about 12–14 points on average. This means the NDE group ended up with very high post-retreat scores (~85), and the non-NDE group around ~75, but the increment was similar. The lack of difference in growth indicates that ayahuasca was equally effective at facilitating transformation regardless of an NDE in one’s history. One might have thought those with NDEs had “less to gain” (since they were already elevated), but they still showed significant increases – suggesting ayahuasca can add even more insight on top of an NDE foundation. On the flip side, those without prior NDEs caught up part of the way, but not completely to the level of the NDE group (in the short term). The key takeaway is that near-death experiences shape one’s baseline spiritual outlook, but do not limit or enhance the additional growth from an ayahuasca experience. Ayahuasca seems to work its magic regardless of whether someone has already been “to the other side” or not. However, it’s worth noting qualitative differences: some NDE-experienced individuals commented that ayahuasca felt familiar or reaffirming (“I recognized the light again”), whereas for non-NDE folks it was utterly novel. The similar NETI gains suggest both types gained what they personally needed—ayahuasca might have given NDE people more tools to integrate that prior event, and given non-NDE people a first taste of such profound perspective. Ultimately, the combination of an NDE life event and ayahuasca might be especially powerful: one participant with a past NDE had one of the highest NETI scores post-retreat, exemplifying a person who may be far along in what some call the path of self-actualization or enlightenment.

Influence of Mental Health Background

Given the growing interest in psychedelic therapy for mental health, our study also looked at how participants’ psychological history or diagnoses related to their outcomes. Participants were categorized into groups: those with no known psychiatric diagnosis, those with a diagnosed condition (e.g. depression, anxiety, PTSD, etc.) but no hospitalization, and those who had a history of psychiatric hospitalization (for severe conditions). We further examined specific conditions like depression, PTSD, etc., to see if some diagnoses were associated with greater or lesser NETI changes. The findings were illuminating:

Severity of History – Greater Distress, Greater Growth: Participants who had ever been hospitalized for a psychiatric condition (indicating a history of very severe mental health crises, such as suicide attempts, psychotic breaks, or acute episodes requiring inpatient care) showed the largest NETI improvements of any subgroup. Their average NETI increase was +26.0 points, which is almost double the overall average and suggests a dramatic transformation. This group’s baseline scores tended to be relatively low (some in the 50s),

reflecting significant distress or disconnection prior to the retreat. Ayahuasca's impact on them was often life-changing: many in this group described the retreat as a turning point in their recovery, helping them confront deep trauma or find hope after years of darkness. There are a few plausible explanations: (1) Those with severe mental health challenges had more room for improvement – they started in a state of significant suffering, so an effective intervention could yield large gains. (2) Ayahuasca might directly help process and alleviate core issues (like unresolved trauma) that underlie many severe conditions, leading to outsized healing effects. (3) This group might have been exceptionally motivated for change – having exhausted other options, they may have surrendered fully to the process, yielding greater benefit. It's encouraging that, in our naturalistic setting, even individuals with very difficult histories (who would typically be excluded from clinical trials) experienced positive outcomes. However, caution is warranted: this was a self-selected group in a supportive context; such individuals must still approach psychedelics carefully due to risks.

Those with a psychological diagnosis but no hospitalization (e.g., people managing depression, anxiety, or PTSD with therapy/meds but never in acute crisis) also showed strong gains, averaging +14.63 points. This was significantly higher than the gains of those with no diagnosis. It indicates that even moderate mental health struggles can be substantially ameliorated – the ayahuasca retreat provided a noticeable boost in well-being and perspective. Many in this category reported that the experience helped them break through where conventional treatments had plateaued, such as releasing long-held grief or understanding their anxiety from a spiritual perspective. This resonates with preliminary clinical research that psychedelics (including ayahuasca) can benefit conditions like depression and PTSD that are otherwise treatment-resistant. Notably, a recent randomized trial found a single ayahuasca session led to significant reductions in depression severity in patients with treatment-resistant depression, with rapid effects observed within a week. Our observational data mirror these findings – participants with depression often showed major mood and outlook improvements post-retreat, some moving from despair to a hopeful, connected state.

In contrast, participants with no formal psychological diagnosis (essentially “healthy” individuals or those with only mild everyday stress) showed the smallest NETI increases, averaging only +7.40 points. While they still benefitted (7 points can be meaningful), their transformations were less dramatic. This could be because they started relatively high (many came for spiritual curiosity rather than to fix a problem) – indeed some had baseline NETI in the 70s. It could also be that without a pressing emotional issue, the changes were more subtle or focused on insight rather than measurable trait shifts. These folks often reported beautiful experiences but more on the order of “affirmation” or “mystical insight” rather than drastic life changes. In summary, it appears that those who needed healing the most (diagnosed groups) got the most, whereas those coming from a place of relative stability had a gentler boost. This suggests a kind of ceiling effect – you can only go so high on NETI if you're already near the top, whereas if you start low, there's huge potential upside.

Differences by Diagnosis Type: We further broke down the diagnosed participants by their primary condition to see if some diagnoses were particularly associated with greater growth:

Post-Traumatic Stress Disorder (PTSD) and trauma-related disorders: Participants with PTSD or significant trauma history showed above-average NETI growth. Many in this group had gains well over +15 points. Ayahuasca's capacity to facilitate confronting and healing traumatic memories likely played a role. Indeed, anecdotal and initial research suggest ayahuasca (and related psychedelics) can help individuals process trauma by revisiting memories in a safe context and releasing stored fear. In our study, several trauma survivors described experiencing a form of catharsis: re-living their trauma during ceremony but with a new perspective of compassion and forgiveness, which drastically reduced the trauma's grip on their lives afterward. This aligns with the hypothesis that ayahuasca, via neurobiological mechanisms (e.g., sigma-1 receptor activation and neuroplasticity), may allow "extinction" or reconsolidation of traumatic fear memories. These individuals often went from highly anxious/hypervigilant at baseline to much calmer and more trusting post-retreat – a huge qualitative shift captured by NETI items on fear and inner peace.

Depression (Moderate to Severe): Those suffering from major depression (especially treatment-resistant cases) experienced significant growth, often confirming what prior studies have found about ayahuasca's antidepressant effects. On the NETI, these participants showed big increases in items related to hope, gratitude, and self-worth (which are low in depression). The study results support growing evidence that ayahuasca can rapidly alleviate depressive symptoms and instill a sense of meaning. For example, one year-long follow-up study found sustained decreases in depression after even one dose of ayahuasca, partly attributing it to the "mystical" or insightful nature of the experience. Our participants with depression commonly reported that the retreat "lifted a weight" or allowed them to see beauty in life again, which naturally would raise their NETI scores in areas like contentment and vitality.

Anxiety Disorders (Generalized Anxiety, Social Anxiety, Panic): Participants with significant anxiety disorders showed strong post-ayahuasca transformations as well. Ayahuasca's ego-dissolving and perspective-shifting effects can reduce pathological anxiety by addressing its root (often fear of losing control or deep existential fear). Many anxious individuals in the study found that facing the intense but ultimately enlightening ayahuasca journey taught them there was nothing to fear – subsequently their daily anxiety dropped. NETI questions on inner quiet and reduced fear saw big jumps for these individuals. This finding resonates with reports that classic psychedelic therapy can dramatically reduce anxiety, even in severe cases like end-of-life cancer patients (though those studies used psilocybin, the principle is similar). Our naturalistic data suggest ayahuasca in a retreat setting might similarly help reframe or release anxieties. Notably, participants described the supportive setting and the dieta as also calming their nervous system, which likely aided the effect.

Bipolar Disorder (mostly type II or controlled type I cases): A smaller number of participants had a history of bipolar disorder. Those who did were generally stable on medication or in remission (severe bipolar cases typically wouldn't attend due to risk of mania). These individuals showed moderate NETI growth – positive, but less pronounced than PTSD or depression groups. Some bipolar participants reported that while ayahuasca helped them gain insights and emotional release, they had to be careful as the stimulation of the experience could be a bit destabilizing. One person noted it was cathartic but followed by a mild hypomanic period that required grounding. Overall they did benefit (e.g., feeling more self-acceptance and forgiveness of past actions), but it wasn't as large an average jump. This suggests ayahuasca's intensity and unpredictability might make it a less straightforward fit for mood disorders, or that the gains are more balanced by challenges. Careful screening and preparation is advised for bipolar individuals.

Obsessive-Compulsive Disorder (OCD): A few participants with OCD tendencies showed moderate improvements. Ayahuasca sometimes helped them “loosen” rigid control and confront underlying emotions driving their compulsions, but integration might be longer. The NETI increases for OCD were present but not as high as for anxiety or PTSD. They did report feeling more spontaneous and trusting after the retreat, which is a positive sign. It may be that multiple retreats or continuous practice would yield greater gains for OCD, as unwinding deeply ingrained patterns can take time. Still, even moderate progress here is notable given OCD's resistance to change.

Psychotic Disorders (e.g. Schizophrenia) or Psychotic Spectrum: It's important to note that participants with active psychotic disorders were rare (and generally contraindicated for ayahuasca). A couple of individuals had histories of transient psychosis or were on the schizophrenia spectrum (likely attracted to alternative healing). These cases showed the least growth and in rare instances adverse effects. One individual with a past psychotic episode had a difficult time with reality testing during and after the retreat; their NETI score did not improve and may have worsened slightly as they felt more disoriented. This aligns with clinical wisdom that psychedelics can aggravate psychotic conditions – the sensory intensification and flood of unconscious material can be destabilizing. Indeed, our findings reinforce that ayahuasca (and psychedelics broadly) are not recommended for individuals with schizophrenia or similar disorders, as they may worsen hallucinations or delusions. Such participants in our study needed considerable grounding and follow-up care; they did not experience the kind of clear benefit others did. This cautionary note is consistent with most research protocols that exclude those with a personal (or even family) history of psychosis, due to risk of exacerbation.

No Diagnosis / Mild Issues: As mentioned, those without any specific mental health condition showed the smallest changes. They often started relatively high on the NETI and ended high. Their experience was generally positive but more in the realm of spiritual exploration than therapeutic healing. Many in this group said the retreat reaffirmed their path or gave them insight into life questions, but it did not necessarily resolve a pathology (since they didn't have a defined one). They still became more compassionate or mindful as

indicated by modest NETI rises, but not to the dramatic extent of someone shedding PTSD symptoms.

In summary, the greatest NETI growth was observed in participants dealing with PTSD, depression, and anxiety, suggesting ayahuasca's particular efficacy in addressing trauma-related and mood disorders. Bipolar and OCD individuals showed moderate, more controlled improvements. Those on the psychosis spectrum generally did not benefit and may risk adverse outcomes, echoing the need for exclusion and caution in such cases. Finally, people without diagnosable mental health issues had the least dramatic transformations—while they certainly can gain profound insights (and many did), the measurable change in qualities like fearlessness or contentment was understandably less, as there was less dysfunction to rectify. These findings imply that ayahuasca might serve as a powerful therapeutic catalyst, especially for those carrying heavy emotional burdens, but it also highlights the necessity of careful screening: certain conditions (psychotic disorders) should be contraindicated, and others (bipolar, OCD) require careful consideration and support. Encouragingly, where it was used by individuals with considerable suffering (even those who had attempted suicide in the past or been hospitalized), it often led to substantial positive changes – a testament to its therapeutic potential when respected and integrated properly. Indeed, separate analyses in our data (not detailed here) indicated that those with a history of suicide attempts also showed greater-than-average improvements, aligning with population studies that classical psychedelic use is associated with reduced suicidality and psychological distress. This suggests that for individuals on the brink, a well-facilitated psychedelic experience coupled with support might offer a path away from despair – though of course this should be approached with extreme care by professionals.

Discussion and Implications

The results of this pilot study provide compelling evidence for the transformative potential of ayahuasca retreats in fostering positive psychological and spiritual growth. Participants, on average, exhibited significant enhancements in traits associated with higher consciousness – notably, increased inner peace, reduced fear and anxiety, greater authenticity, and a deeper sense of connection – as measured by the NETI survey. These changes align with what one would expect from a shift toward a more nondual or spiritually awakened perspective. Importantly, the improvements observed are not just anecdotal but quantified, lending empirical support to countless personal testimonies of ayahuasca's benefits.

Core Findings: On average, a single retreat boosted NETI scores by over 13 points, a substantial jump given the scale's range. This magnitude of change suggests that in a supportive setting, ayahuasca can rapidly catalyze growth that might otherwise take years of traditional practices to achieve. Participants' most improved areas – inner stillness, fearlessness, and authenticity – highlight ayahuasca's capacity to engender what might be described as a "heart-opening and mind-quieting" effect. These mirror outcomes from other contexts: for example, our findings that anxiety and neurotic tendencies markedly decreased are consistent with prior longitudinal studies of ritual ayahuasca users showing lasting

reductions in trait anxiety and neuroticism. Likewise, the increase in authenticity and vitality resonates with qualitative research on psilocybin therapy where patients report heightened connectedness and acceptance of self, others, and the world. Watts et al. (2017) termed this outcome “increased connectedness”, noting that after psychedelic therapy for depression, individuals felt re-engaged with life, other people, and nature in a meaningful way. We observed a similar phenomenon – participants often spoke of feeling reconnected: to their true self (authenticity), to their loved ones (compassion), and even to nature or a higher power (spiritual connection). This suggests that ayahuasca – like psilocybin in clinical settings – can facilitate a corrective experience of reconnection where there was disconnection (a hallmark of many mental health struggles).

The role of the master plant dieta appears to be significant. Those who underwent the diet had enhanced outcomes, supporting the notion that traditional adjunct practices can amplify the therapeutic effect. The dieta likely acted on multiple levels: physically detoxifying, psychologically focusing intention, and perhaps spiritually invoking the aid of plant allies. The synergy between ayahuasca and the diet is well-noted in ethnographic literature, and our data empirically back up those claims. For practitioners, this implies that incorporating elements of traditional preparation (when safe and feasible) might improve client outcomes. Clinically, it raises interesting questions: are there analogs to the dieta in modern settings (such as pre-retreat mindfulness training or dietary optimization) that could similarly prime participants for deeper experiences? Our findings encourage further exploration of set and setting optimization, as even relatively simple additions (like diet restrictions) seemed to matter.

At the same time, the study highlights some challenges, particularly in sustaining the gains over time. While immediate post-retreat improvements were impressive, there was evidence of regression in certain profound aspects (nondual awareness, unconditional bliss) once individuals returned to daily life. This underscores a crucial point echoed in psychedelic research: integration is key. Without deliberate integration practices, the lofty insights and states attained can gradually fade as old habits reassert themselves. Participants who maintained or continued building on their gains often had an integration plan—be it regular meditation, joining an ayahuasca community or sharing circle, creative expression of their insights, or ongoing therapy. Those who didn’t often expressed that they “slid back” into prior patterns after a few months, illustrating that the journey to higher consciousness is not a one-off event but an ongoing process. This finding is in line with Frecska et al. (2016)’s emphasis that post-session support (like counseling or community) is vital to translate acute psychedelic benefits into long-term change. Integration helps in “walking through the door that ayahuasca opened.”

Another salient implication of our results is how participant characteristics modulate the experience. Younger individuals and those with more to heal (trauma, depression) gained the most, which suggests that psychedelics may have especially high impact in populations that are either developmentally flexible or in significant distress (or both). From a therapeutic standpoint, this means that carefully selected younger adults or those with

certain treatment-resistant conditions could be priority groups to offer such interventions, as the payoff might be greatest. On the other hand, the relatively smaller changes in older or already-healthy individuals implies there might be a natural ceiling or diminishing returns for those who have less openness or less need – important to manage expectations for those groups.

The influence of prior drug use and psychedelic experience led to some reassuring conclusions. The fact that even those with extensive substance use histories experienced strong positive transformations is encouraging; it suggests that ayahuasca can be a healing agent even for people who have been through the gamut of other drugs, and it may even help them break those patterns (several participants reported losing interest in recreational substances post-retreat, finding them superficial in comparison). This aligns with reports of ayahuasca being used to treat addictions, where it often induces reflection on the causes of addiction and fosters self-compassion and hope (e.g., in addiction treatment programs in Peru and Canada). Furthermore, prior psychedelic use not altering outcomes significantly indicates that ayahuasca can be impactful regardless of a person's psychedelic résumé. This is an important point for demystifying: one need not be a long-time psychonaut to benefit; first-timers can do as well as anyone if well-prepared. Conversely, it also implies that those who have done many psychedelics shouldn't assume ayahuasca will do less for them – it might still take them to new levels. Essentially, each psychedelic journey is unique and can contribute new growth, no matter one's prior experiences.

Our mental health subgroup findings carry implications for psychedelic therapy. The remarkable improvements in PTSD, depression, and anxiety groups suggest that ayahuasca (and by extension similar psychedelics) could be a powerful therapeutic option for these often stubborn conditions. Modern clinical trials are indeed exploring this: for example, ayahuasca has shown rapid antidepressant effects in a controlled trial, and there is observational evidence of PTSD symptom reductions after ayahuasca retreats (e.g., ongoing studies in veterans). Our data add to this evidence base in a naturalistic setting, showing not just symptom relief but broader enhancements in life perspective (e.g., authenticity, contentment). This whole-person growth is consistent with the notion that psychedelics, unlike some symptom-targeted treatments, can induce holistic changes – affecting one's outlook, values, and sense of self, not merely reducing a checklist of symptoms. Patients often describe it as addressing the root of their suffering rather than surface manifestations. For instance, someone with depression may say that through ayahuasca they healed a core trauma or forgave themselves, which then lifted the depression; this is a deeper resolution than just mood elevation. The NETI, capturing traits like compassion and inner peace, is a good tool to see these holistic changes beyond symptom remission.

However, a note of caution from our findings: individuals with psychotic disorders did not fare well, reinforcing standard exclusion criteria for psychedelic therapy. This serves as an important reminder that these powerful tools are not universally safe or beneficial – careful screening is essential. The last thing the field needs is a triggered psychotic episode due to inappropriate administration, which could be harmful to the individual and set back public

perception of psychedelic treatments. Therefore, while advocating for the potential of ayahuasca, we also underscore that it must be applied judiciously: certain diagnoses and conditions remain contraindications until we know more.

Another intriguing insight from our data is that the number of ceremonies attended during the retreat did not correlate in a straightforward way with outcomes. Some participants partook in all possible ceremonies (e.g., four ceremonies in a week), while others skipped one or two due to fatigue or personal choice. We found no clear linear relationship that “more ceremonies = more improvement.” This aligns with what Ruffell et al. (2021) reported: in their 6-month follow-up study, the number of ayahuasca sessions did not significantly predict the magnitude of psychological improvement. It appears that quality and depth of experience matter more than quantity. One or two well-integrated ceremonies might be as beneficial as five for a given person. Indeed, some participants had one huge breakthrough night that fundamentally shifted them, whereas additional nights were more about processing or even physically exhausting. This suggests a diminishing return beyond the first transformative experience, or that once a certain insight is gained, repeating the process doesn’t amplify the insight unless a new one is to be had. This is consistent with anecdotes that one powerful psychedelic experience can be “enough for now,” and integration work should follow before seeking another. It also resonates with the idea expressed by some shamans that “Ayahuasca opens the door, but you must walk through it yourself” – implying that the onus is on the individual to do the work after the door is opened, rather than repeatedly going back to the medicine for more openings. In practical terms, retreat centers might focus on ensuring each ceremony is as meaningful and safe as possible, rather than maximizing the count of ceremonies. Future research might explore what specific factors during a ceremony (e.g., dose, music, therapeutic guidance, group dynamics) contribute most to lasting outcomes, since it’s not simply the number of exposures. The lack of cumulative effect from multiple ceremonies in a short span reinforces that integration and context are key: one needs time and support to consolidate any realizations between sessions, otherwise experiences can blur together without additional benefit.

Limitations: It is important to acknowledge the limitations of this pilot study. It was an open-label, uncontrolled design in a specific retreat context, which means we cannot conclusively attribute all changes to ayahuasca alone – factors like group support, expectation (placebo effect), or the master plant diet might have contributed. However, the large magnitude of change and consistency with other studies suggests a genuine effect of the ayahuasca experience itself. Our sample may have had selection biases (individuals seeking spiritual growth or healing, able to travel to retreats, etc.), and the results might not generalize to all populations or clinical settings. The follow-up rate was low (only 26 of 216 for long-term data), so our insights on sustainment are preliminary. Additionally, self-report measures like NETI, while useful for subjective qualities, could be complemented by more objective assessments or reports from friends/family about changes in participants. Despite these limitations, the study offers valuable preliminary data. The naturalistic setting arguably enhances ecological validity – these outcomes reflect what actually happens in

real-world ayahuasca retreats, outside of laboratory constraints. The integration of traditional practices (dieta, shamanic setting) is both a strength (authentic context) and a confound (multiple variables at play), but it provides a holistic picture of the retreat effect.

Future Directions: These findings raise many avenues for further inquiry. Controlled studies (e.g., comparing ayahuasca to a placebo brew, or dieta vs no dieta) could isolate specific factors. Long-term follow-ups with larger samples would help determine how permanent these changes can be and what predicts maintaining them. It would also be worthwhile to examine more closely the role of integration activities – for instance, does attending integration circles or therapy post-retreat correlate with higher sustained NETI scores? Additionally, exploring biological correlates (such as neuroimaging or epigenetic markers) could deepen understanding; interestingly, Ruffell et al. (2021) looked at epigenetic changes in the SIGMAR1 gene after ayahuasca and found modest changes, which might relate to trauma processing. Our data, combined with mechanistic hypotheses like Inserra's (2018) sigma-1 receptor model for trauma memory reconsolidation, suggest a fruitful intersection of psychological and biological research questions.

From a practical perspective, these results reinforce some best practices for ayahuasca use in growth or therapeutic contexts: careful screening of participants (exclude psychotic disorders, be cautious with bipolar), thorough preparation (possibly including dietary measures and mindset coaching), and strong post-experience integration support. When these elements are in place, as at Paojilhuasca Center, individuals can undergo substantial positive transformation in a short time frame. The study also illustrates the value of quantitative measures like NETI in psychedelic research. While much of the psychedelic experience is ineffable, having numerical scores for things like “unconditional contentment” allowed us to capture changes that might otherwise only be described narratively. This blending of data and story strengthens the case for broader acceptance of these therapies by the scientific and medical community.

Conclusion

This pilot study at the Paojilhuasca Ancestral Medicine Center provides empirical support for what many have intuitively felt: ayahuasca, especially when used in a structured retreat with traditional practices, can facilitate marked positive changes in individuals' psychological and spiritual well-being. Participants showed significant enhancement of traits associated with higher consciousness – in effect, moving closer to what some spiritual traditions might call self-realization or enlightenment. However, the findings also serve as a sober reminder that such spiritual growth is a journey, not a single event or destination. Ayahuasca may act as a powerful catalyst, opening the door to profound insight and inner liberation, but it does not do the entire work for an individual. As Amazonian shamans often emphasize, “Ayahuasca does not perform miracles without personal effort.” The onus is on participants to actively integrate and sustain the transformations initiated. Without ongoing practice – whether meditation, therapy, or other forms of inner work – the profound changes catalyzed can gradually fade, as we observed in some measures over time.

Conversely, with continued effort and supportive community or mentorship, the initial breakthrough can be converted into lasting change in outlook and behavior.

In practical terms, the study's results encourage a model of care that pairs peak experiences with integration. Retreat centers and facilitators might consider bolstering their integration programs, knowing that initial gains can slip without reinforcement. For example, offering follow-up webinars, support groups, or one-on-one coaching in the weeks and months after a retreat could help participants continue the momentum. The data showing no added benefit from simply piling on more ceremonies underscores that more is not necessarily better – instead of chasing additional psychedelic sessions, the focus should be on depth and integration of a few powerful experiences. Quality over quantity is key: one deeply engaged ceremony with thorough integration may yield more long-term growth than multiple ceremonies that a participant doesn't fully process.

For individuals contemplating ayahuasca, this study offers an informed and hopeful perspective. It suggests that, under the right circumstances, an ayahuasca retreat can indeed be a “reset” or catalyst toward a more compassionate, peaceful, and authentic self. Yet it also sets realistic expectations: the retreat is the beginning of a journey, one that requires courage not only in facing the visions of the night but in making changes in one's daily life thereafter. Those who approached the medicine with humility and readiness to work on themselves tended to benefit the most. Many participants emerged feeling empowered – realizing that the true healer was, ultimately, within themselves, with ayahuasca acting as a teacher or guide to reveal that inner capacity.

In conclusion, ayahuasca, when respected and integrated, can be a potent tool on the path toward what some might term becoming “metahuman” – a term meaning beyond ordinary human limitations – characterized by liberation from fear, genuine authenticity, and a profound connectedness to others and the world. The pilot data here show glimpses of that potential. Participants who experienced dramatic healing of trauma, or a fundamental shift in self-concept, indeed started to embody those metahuman qualities of being deeply connected and present. Yet, as highlighted, maintaining that state is an ongoing practice. The journey toward higher consciousness is thus a collaborative effort between the medicine, the individual, and their community or support system. Each plays a vital role: the ayahuasca opens the door and shows what's possible, the individual must walk the path and do the personal work, and the community provides the encouragement and context to reinforce the new ways of being. When all three converge – powerful medicine, personal commitment, and supportive context – the path to liberation or enlightenment (however one frames it) becomes not just a fleeting peak experience but a lived reality that can gradually spread into the fabric of everyday life.

Ultimately, this study contributes to a growing scientific understanding of how psychedelic sacraments like ayahuasca can serve as transformational catalysts. With appropriate safeguards, these ancient medicines might find a place in modern therapeutic frameworks, offering relief and growth where conventional methods fall short. More research will further illuminate how to best harness their potential. For now, the pilot results are promising: even

in a diverse, real-world group, ayahuasca facilitated significant strides toward the ideals of higher consciousness that the NETI aims to measure. As one participant eloquently summarized, “Ayahuasca opened my mind and heart in a way I didn’t imagine possible. But it also made it clear that I have to continue opening them myself, day by day.” The door has opened – now the walking through is in our hands.

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