

Psychological Growth and Long-Term Stability Following Ayahuasca Retreat Participation: A Naturalistic Observational Study Using the NETI Scale

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Abstract

This naturalistic observational study evaluated psychological growth among 216 participants attending traditional Amazonian ayahuasca retreats. Using the Nondual Embodiment Thematic Inventory (NETI), participants' psychological dimensions were assessed before and after the retreat, and at long-term follow-up for a subset. Results demonstrated significant improvements in inner peace, acceptance, authenticity, and reductions in defensive behavior, with large effect sizes observed across domains. Subgroup analysis revealed that individuals with prior psychiatric diagnoses, particularly anxiety-related disorders, exhibited greater psychological gains compared to participants without psychiatric history. Longitudinal follow-up confirmed the persistence of psychological improvements, albeit with slight regression during reintegration. The findings support the therapeutic potential of ayahuasca within ceremonial contexts and highlight the need for structured integration processes to maximize long-term benefits. Limitations include the observational nature of the study, reliance on self-reported measures, and absence of a control group. These results contribute to the growing literature on naturalistic psychedelic interventions.



Introduction

Ayahuasca is a traditional Amazonian decoction prepared from the *Banisteriopsis caapi* vine and other DMT-containing plants. It has historically been used for spiritual and medicinal purposes by indigenous communities of the Amazon basin. In recent years, research has

increasingly focused on the potential therapeutic applications of ayahuasca for conditions such as depression, anxiety, and PTSD (Labate & Cavnar, 2018; Frecska et al., 2016).

Controlled clinical studies have demonstrated significant antidepressant effects of ayahuasca in treatment-resistant depression (Palhano-Fontes et al., 2019). However, there remains a gap in understanding the outcomes associated with its use in naturalistic, traditional ceremonial settings where additional cultural, interpersonal, and environmental variables may contribute to the experience.

This study seeks to evaluate psychological outcomes associated with participation in Amazonian ayahuasca retreats, focusing on both short-term changes and longer-term psychological integration, using the Nondual Embodiment Thematic Inventory (NETI) as the primary measure.

Methods

Participants

Participants were 216 adults who attended ayahuasca retreats at the Paojilhuasca Amazonian Medicine Center in Peru between 2022 and 2024. Participation in the study was voluntary. All participants provided informed consent for the anonymous use of their psychological data.

Measures

Psychological states were measured using the Nondual Embodiment Thematic Inventory (NETI), a validated psychometric tool assessing domains such as inner peace, emotional authenticity, acceptance of experience, and defensive behaviors. Additional background information, including demographic data, psychiatric history, previous psychedelic use, and trauma exposure, was collected via an anamnesis questionnaire.

Procedure

Participants completed the NETI survey at three timepoints:

1. **Pre-Retreat:** Within one week prior to attending the ceremonies.
2. **Post-Retreat:** Within one week following the completion of ceremonies.

3. **Follow-Up:** Three to six months post-retreat (subset of participants).

Given the naturalistic setting, participants were not randomized, and no control group was established.

Statistical Analysis

Paired-sample t-tests were used to assess changes between pre- and post-retreat NETI scores. Pearson correlations examined the association between NETI growth and participant variables (sex, age, prior psychedelic use, psychiatric history, dieta participation, number of ceremonies). Subgroup analyses explored outcomes among participants with specific psychiatric diagnoses. Longitudinal stability was evaluated in participants who completed all three NETI assessments.



Results

Immediate Psychological Growth

Substantial psychological improvements were observed across NETI dimensions.

Table 1: Immediate Psychological Growth Across Key Subscales

Subscale	Mean Change (Δ)	p-value	Cohen's d
Total NETI Score	+15.71	<0.0001	1.75
Inner Stillness	+1.14	<0.0001	1.17
Acceptance of Experience	+0.84	<0.0001	1.01
Reality Clarity	+0.36	<0.0001	0.92
Reduction of Defensive Behavior	-0.98	<0.0001	-1.06

Large effect sizes indicate robust psychological improvements across the sample.

Influence of Participant Variables

- **Sex:** No significant difference in NETI growth between male and female participants ($p = 0.76$).
- **Age:** No significant correlation with NETI growth ($r = -0.18$, $p = 0.20$).
- **Previous Psychedelic Use:** No significant influence ($p = 0.48$).
- **Dieta Participation:** No significant difference ($p = 0.53$).
- **Number of Ceremonies:** A small but significant positive correlation was observed ($r = 0.19$, $p = 0.009$).

Psychiatric Disorder Subgroup Analysis

Participants with prior psychiatric diagnoses exhibited greater psychological improvements.

Table 2: NETI Growth Among Participants with Psychiatric Disorders

Disorder	Mean NETI Growth	Standard Deviation	Participants
Anxiety	+18.3	8.9	13
Anxiety + Depression	+12.2	16.3	12
Anxiety + Depression + PTSD	+19.0	0.0	2
Anxiety + Depression + Substance Use Disorder	+14.0	16.2	4
Anxiety + PTSD	+32.0	-	1

Participants with anxiety-only profiles exhibited the highest mean growth, followed by comorbid anxiety and depression cases.

Longitudinal Stability (Three-Test Participants)

Among the 25 participants who completed pre-, post-, and follow-up assessments:

Table 3: NETI Score Evolution Across Three Assessments

Transition	Average Change
Pre- to Post-Retreat	+12.1 points
Post-Retreat to Follow-up	−2.7 points
Total Growth (Pre to Follow-up)	+9.4 points

A majority of the psychological improvements observed immediately after the retreat persisted months later, with a mild decline during reintegration.

Discussion

This study supports the hypothesis that traditional ayahuasca retreats foster substantial psychological growth. Significant improvements were observed in inner peace, emotional authenticity, and reduction of defensive behaviors, with gains largely maintained at follow-up.

Participants with pre-existing psychiatric conditions, especially those with anxiety-related diagnoses, exhibited greater psychological improvements, aligning with previous research suggesting enhanced psychedelic therapy efficacy among emotionally vulnerable populations (Mithoefer et al., 2016).

Although mild declines in NETI scores were observed during integration, most participants retained significant benefits. These results emphasize the importance of structured post-retreat integration to stabilize and sustain psychological transformation (Gorman et al., 2021).

Limitations

- Absence of a control group and randomization.
- Reliance on self-report measures, which may introduce bias.
- Limited follow-up duration; long-term effects beyond six months were not evaluated.
- Naturalistic setting precluded control over confounding variables.



Conclusion

Participation in traditional ayahuasca ceremonies appears to facilitate profound and lasting psychological growth. Individuals with psychiatric vulnerabilities particularly benefited, suggesting potential for therapeutic applications. Future controlled studies are recommended to further validate and expand upon these findings.



References (APA)

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