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LGBTQ+ Ayahuasca Retreat Experience is Associated with Benefits to Mental Health, Quality of Life, and Spiritual Well-Being: A Prospective, Naturalistic Study

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ABSTRACT

Sexual and gender minority (SGM) individuals experience disproportionately high rates of depression, anxiety, trauma, and discrimination, yet remain underrepresented in psychedelic research. This prospective, naturalistic study explored the impact of an ayahuasca retreat experience on mental health, quality of life, and spiritual well-being among SGM participants. Participants attended a seven-day ayahuasca retreat and completed assessments across six time points from 2–4 weeks pre-ceremony to 2–3 months post-ceremony. Findings revealed significant reductions in depression and anxiety scores, alongside increases in spiritual well-being and quality of life, particularly within the first month following the retreat. Participants consistently described the experience as highly meaningful and spiritually significant, with many identifying the ceremony as among the most meaningful of their lives. Benefits were further supported by reports of positive behavioral changes, including improved interpersonal relationships and reduced substance use. Adverse effects were minimal and transient. Importantly, this study addresses the historical gap in the literature and highlights the need to reconceptualize psychedelic spaces as inclusive and reparative for queer communities. Given the historical misuse of psychedelics in conversion therapy, these findings mark a critical step in reclaiming psychedelics for SGM healing, empowerment, and identity affirmation.

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Ayahuasca; community-based healing; hallucinogen; LGBTQ+; psychedelic; sexual and gender minority

Introduction

Minority stress-related mental health conditions disproportionately impact sexual and gender minority (SGM) individuals. Population-based sampling methods encompassing SGM individuals consistently demonstrate that sexual minorities are at least twice as likely as heterosexuals to experience major depressive disorder, anxiety disorders, and substance use disorders (King et al. 2008) due to pervasive, targeted, and systematic marginalization and discrimination of SGM people at a structural level (Drabish and Theeke 2022; Puckett et al. 2020). Elevated comorbidity rates among sexual minorities, relative to heterosexual individuals, suggest a more severe clinical presentation, increased treatment-resistance, and chronic mental disorders (Cochran, Sullivan, and Mays 2003). Among gender minority populations, it is well established that mental health disparities are more severe due to discrimination and social rejection (Bouman et al. 2016). Sexual minority groups similarly show elevated mental health burdens (Platt et al. 2017), further highlighting that these burdens stem from discrimination rather than inherent pathology (Lee et al. 2016). Nevertheless, there remains a major gap in population-based research that adequately examines mental health outcomes for SGM people (Pachankis 2018; White Hughto, Reisner, and Pachankis 2015).

Psychedelics, like ayahuasca, are increasingly being explored as promising tools for various mental health challenges. Somatic effects of ayahuasca are strongly associated with psychotherapeutic processes of healing (Espinoza 2014; Kaufman 2015; Shanon 2002, 2014) and have been likened to intense psychotherapy (Naranjo 1979). Ayahuasca is a natural plant-based psychoactive brew traditionally used by Indigenous South Americans in ceremonies throughout the Western Amazon basin for centuries (Schultes 1979). Traditional ceremonial uses are rooted in spiritual and overall well-being and a strong reverence for Mother Earth (Celidwen et al. 2023; Winkelman 2014). Though ayahuasca has recently gained attention in Western medicine for the therapeutic relief of treatment-resistant depression (Palhano-Fontes et al. 2019), trauma (Nielson and Megler 2014), suicidality (Zeifman et al. 2019), and grief (González et al. 2017, 2020), it is paramount that ayahuasca's therapeutic success be considered with direct acknowledgment of its traditional history and Indigenous

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pioneers (George et al. 2020). Group-based, community-hosted ayahuasca retreat experiences are associated with significant and persistent improvements in mental health, well-being, and psychological functioning (Lowe et al. 2024), offer reduced clinician costs and increased treatment capacity (Marseille et al. 2023), and allow for ceremonial practices to remain in the hands of local practitioners when used within Indigenous context (George et al. 2020).

Despite renewed interest in psychedelics' therapeutic potential for mental health conditions that disproportionately affect SGM individuals, the influence of gender or sexual orientation on outcomes in psychedelic research remains overlooked (Tolbert 2003), with representation of queer identities being limited (Bartlett et al. 2024). This gap is troubling given the ethically and scientifically problematic history of psychedelics within conversion therapy, a practice aimed at altering the sexual orientation of homosexual individuals. In the early 20th century, leading psychoanalytic thinkers in the United States framed homosexuality as a disorder that needed to be cured (Bieber et al. 1962; Socarides 1968). Following the publication of the American Psychological Association's (APA) First Diagnostic and Statistical Manual of Mental Disorders (DSM-I), homosexuality was classified as a "sexual deviation" alongside pedophilia, fetishism, and sexual sadism. This pathologization of homosexuality coincided with the increasingly important role played by psychedelics during biological psychiatry's development (Sessa 2016). Throughout the 1960s, early implementations of psychedelics within conversion therapy were common (Abramson 1955; Blumenfield and Glickman 1967; Cavnar 2014). Leading influential figures like Richard Alpert, Stanislav Grof, and Timothy Leary practiced psychedelic conversion therapy and promoted SGM rejecting practices (Belser and Keating 2022; Dubus 2022; Grof 1988, 2000, 2009; Jones 2023). Leary, a renowned psychedelics research scientist, once stated in a Playboy interview "LSD is a specific cure for homosexuality" (Belser and Keating 2022; Playboy 1966, 5). Martin (1962) and Stafford and Golightly (1967) recommended psychedelics to treat homosexuality, claiming that many gay men achieved heterosexuality after psychedelic administration. SGM adolescents were also involuntarily subjected to psychedelic "shock therapies," where they were locked in psychiatric units and given extremely high doses of Lysergic acid diethylamide (LSD; up to 800 μg) and mescaline (1,200 mg) (Dubus 2022).

Though conversion therapy grew controversial following homosexuality's removal from the DSM-II in 1973 (Drescher and Zucker 2006), conversion therapy remains prevalent. Since the reemergence of psychedelics research after over two decades of dormancy, few quantitative studies have reevaluated the intersection between psychedelics and SGM individuals. There is a deliberate call for inclusion of queer voices in therapy models to address stigma and discrimination and to ensure that psychedelic therapies become equitable, safe, effective, affirming, and inclusive (Desrochers 2024; Hanshaw et al. 2024; Miceli Mcmillan et al. 2025). Gender-diverse and trans-affirming psychedelic studies could indicate tools to decrease gender dysphoria and provoke self-acceptance, a sense of life-saving relief, and reduce internalized transphobia (Carmel 2022), and identity integration and alignment (Gaughan et al. 2025; Katkar et al. 2025). Existing evidence is retrospective and anecdotal, with narratives from SGM communities regarding their psychedelic encounters as positive rather than negative in naturalistic settings (Cavnar 2014). Recent quantitative findings link psychedelic use among SGM communities to reduced trauma and mood symptoms, greater psychological flexibility, and meaningful identity-related shifts (Lancelotta et al. 2025). Nevertheless, there remains a lack of prospective quantitative literature on the intersection of ayahuasca and queer health outcomes.

To address this gap, this longitudinal survey study was conducted to gather prospective data on ceremonial ayahuasca use in SGM individuals and to provide insight into outcomes surrounding that use. Specifically, study aims were to: (1) prospectively assess self-reported changes in mental health, spiritual well-being, and quality of life (QoL) from before to after ceremonial ayahuasca use; (2) characterize participant intentions and aspects of set and setting associated with ayahuasca use; and (3) characterize risks and challenging experiences during and after ceremonial use of ayahuasca.

Materials and methods

Study design

This prospective, naturalistic survey study enrolled participants who self-identified as LGBTQ+ community members who were willing to attend a group-based retreat in Costa Rica and consume ayahuasca. Recruitment took place independently through the Qasa retreat center. Study design consisted of six total sequential web-based surveys assessing mental health, lifestyle, mind-set, and behavioral outcomes, as well as experience characteristics (i.e., dosage, ingestion method, intention, and setting). Longitudinal measures were assessed weeks before and after ayahuasca sessions

and were administered through Qualtrics survey software. The study was approved by the Western Institutional Review Board Copernicus Group (WCG IRB; IRB Tracking ID: 20,241,590). Participants completed surveys over 4 months (June 8, 2024 to October 11, 2024).

Survey 1: consent and demographic information

Participants were invited to participate in the study if they affirmed the following criteria: (1) 21+ years old; (2) English fluent; (3) identify as a member of the LGBTQ+ community; (4) were willing to complete five follow-up surveys and share an e-mail address for study communications; (5) were willing to participate in an on-site interview; and (6) were planning to attend the group-based ayahuasca retreat experience held in Costa Rica. Additional screening criteria, such as suicidality, were overseen by retreat organizers. Participants reviewed a waiver of documentation of informed consent that explained study procedures, confirmed inclusion criteria, prompted basic demographic information, and an intended date for the planned ayahuasca experience.

Survey 2: 2 weeks pre-ceremony (baseline)

Primary outcome measures assessed mental health, QoL, sleep quality, and spiritual well-being. Measures included a modified 20-item Beck Depression Inventory II (BDI-II) to assess depressed mood (suicidality item excluded due to inability to respond adequately to potential risk in setting) (Beck, Steer, and Brown 1996); the 20-item Short State-Trait Anxiety Inventory (STAI) assessed state and trait anxiety (Bergua et al. 2016; Spielberger 1983); the 5-item World Health Organization Quality of Life-BREF (WHOQOL-BREF) measured QoL (The Whoqol Group 1998); and the single-item Sleep Quality Scale (SQS) assessed sleep quality (Snyder et al. 2018). The 12-item Functional Assessment of Chronic Illness Therapy Spiritual Well-Being (FACIT-Sp) with two subscales assessed spiritual well-being (Peterman et al. 2002).

Survey 3: same day prior to ceremony

Participants reported planned dosage, intent of the session, emotional outlook regarding the session, as well as physical indications such as current ailments, diet, sleep quality, and substance use. Participants also reported trust in the facilitator and detailed session intentions.

Survey 4: 1 to 3 days after ceremony

Survey 4 was completed 1–3 days after the second, final, ayahuasca ceremony. Participants indicated how many doses were taken on each day of the ceremony and the timing of initial and subsequent doses, if any. Participants rated how aspects of the ceremony shaped their experiences (i.e., facilitator/guide, group, setting, safety, music, etc.). Open-ended questions assessed subjective experiences including brief narratives of their experiences, experienced challenges, and any insights gained. Additionally, participants completed measures of the subjective qualities of the psychedelic experience.

Surveys 5 and 6: follow-ups at 2–4 weeks and 2–3 months post-ceremony

In Surveys 5 and 6, completed approximately 2–4 weeks and 2–3 months after the ayahuasca ceremony, participants rated the meaningfulness, insightfulness, and spiritual significance of the experience. All longitudinal measures (i.e., BDI-II, STAI, WHOQOL-BREF, SQS, FACIT-Sp) were re-administered in these surveys.

Ceremony setting and facilitators

The ceremony took place at the Qasa retreat center in Costa Rica, within a group-based hybrid indoor/outdoor space. All participants attended the same seven-day retreat for the ayahuasca ceremony. Efforts to create a safe and identity-affirming environment in the set and setting of the ayahuasca ceremony were handled by the retreat organizers and facilitators. In the 2 days before the ceremony optional group activities (i.e., discussion, journaling, nature walk, meditation, sound bath, etc.) were available. Four ceremonial guides/facilitators led the ceremony (two female, two male). The lead guide/facilitator had 28 years of experience with facilitation and plant medicine work, with a focus on traditional and contemporary music practices. Additionally, two "ceremonial guardians" attended each ceremony (one male and one female).

Additional data

Participants also took part in a structured on-site interview that was recorded and transcribed. This data will be published in subsequent accompanying manuscripts.

Data analysis

Descriptive statistics were performed for demographic variables. For longitudinal measures, repeated analysis

of variance (ANOVA) identified differences across time points. Comparisons of longitudinal outcomes (i.e., BDI-II, STAI, WHOQOL-BREF, SQS, FACIT-Sp) were performed using *a priori* paired samples t-tests with Holm's correction for multiple comparisons. All statistical analyses were performed using JASP (Version 0.19.3) statistical software. Effect sizes were reported using eta squared (η^2) and 95% confidence intervals.

Results

Participant demographics

Nineteen participants ($N = 19$) provided informed consent (Survey 1) for the study. All participants completed all follow-up surveys. See Table 1 for a summary of demographic characteristics, health conditions, and substance history.

Ayahuasca familiarity and intention

Participants characterized their individual community's familiarity with ayahuasca. Participants were also asked to select all intended purposes for the ayahuasca session and were directed to select one primary purpose (Survey 1) (see Supplemental Table S1). On the same day prior to the first ayahuasca ceremony (Survey 3), all participants ($N = 19$) reported a specific intention for the experience (see Supplemental Table S2).

Set: preparation, physical indications, and emotional outlook before the ceremony

On the same day, before the ceremony, participants reported sleep time from the previous night. Participants were asked to refrain from consuming solid food and to remain hydrated prior to the ceremony. Emotional outlook was assessed by having participants rank the strength of experienced emotions and list all current emotional states (see Supplemental Table S3).

Facilitator, ceremony, and experience observations

The ceremony began at approximately 7:00 PM each night, and darkness was used as a sensory limiting tool. In the 1–3 days post-session survey, participants reported live instrumentals, curated live vocals, curated soundtracks, performance music, non-curated background music, shamanic or ritualistic music, and nature sounds during the ceremony. Participants were asked to describe the impact of the guide/facilitator in their own words (e.g., "The guide was wholly able to enable our own individual journeys, while cultivating a common thread for the group that emphasized the natural relationship with nature, with our community, and with the medicine."). For a summary of results on facilitator trust before the ceremony, observations of facilitator and setting impact, and experience observations, see Supplemental Table S4.

Dosing

Ayahuasca was administered as a brew. Traditional ayahuasca is variable in appearance, taste, and effects, with considerable variation in alkaloid profiles dependent on source (Callaway et al. 1999). Compound analysis was not performed, and no standard dose was administered. Participants reported the number of doses ingested and the approximate ingestion time of each dose. Most participants ($n = 18$) reported taking more than one dose on Day 1 of the ceremony (mean doses = 2.2 ± 0.4). Most participants ($n = 15$) reported taking more than one dose on Day 2 of the ceremony (mean doses = 2.5 ± 0.5). The average time in hours between the initial and second doses was 2.3 ± 0.5 hours on Day 1 and 2.3 ± 0.6 hours on Day 2.

Self-reported outcomes in symptoms of depression

BDI-II scores are commonly classified as "no depression" (0–13), "mild depression" (14–19), "moderate depression" (20–28), and "severe depression" (29–63). At baseline, participants reported BDI-II mean (SD) scores of 10.2 (8.9). At 2–4 weeks and 2–3 months post-session, BDI-II mean (SD) total scores were 2.6 (2.5) and 4.6 (4.7), respectively. An ANOVA comparing BDI-II total scores across time revealed a significant main effect, $F(2, 36) = 10.89$, $p < .001$, with a large effect size ($\eta^2 = 0.38$). *A priori* paired-sample *t*-tests revealed a significant reduction in BDI-II scores from baseline to 2–4 weeks ($t = 4.40$, $p < .001$), a significant reduction in BDI-II scores from baseline to 2–3 months ($t = 2.64$, $p = .017$), and no difference between BDI-II scores from 2–4 weeks to 2–3 months ($t = -1.95$, $p = .067$). See Figure 1.

Self-reported outcomes in symptoms of anxiety

STAI scores are commonly classified as "no or low anxiety" (20–37), "moderate anxiety" (38–44), and "high anxiety" (45–80). At baseline, participants reported STAI state mean (SD) scores of 35.1 (11.2). At 2–4 weeks and 2–3 months post-session, STAI state mean (SD) total scores were 26.3 (6.6) and 32.5 (9.7),

Table 1. Sociodemographic characteristics, substance, and health history of participants.

Characteristic	Sample *n*	Sample %
Gender Identity		
Female	2	10.5
Male	12	63.2
Non-binary	4	21.1
Male & Non-binary	1	5.3
Sex		
Female	5	26.3
Male	14	73.7
Sexual Identity		
Homosexual	13	68.4
Bisexual	3	15.8
Fluid/Queer	3	15.8
Religious/Spiritual		
Believer	15	78.9
Agnostic	2	10.5
Atheist	2	10.5
Marital status		
Single	12	63.2
Committed Relationship	3	15.8
Married	2	10.5
Divorced	2	10.5
Highest educational level		
Some college credit	1	5.3
University or postgraduate degree	18	94.7
Race		
Asian	1	5.3
Mixed Race	4	21.1
White	10	52.6
Arab/Middle Eastern/ North African	1	5.3
Latino/x	2	10.5
Black/African American	1	5.3
Country of Residence		
USA	11	57.9
Canada	4	21.1
Costa Rica	3	15.8
UK	1	5.3
Previous psychedelic/substance usea		
Psilocybin	13	68.4
LSD	8	42.1
Ayahuasca	6	31.6
Mescaline/Peyote/San Pedro	4	21.1
DMT	3	15.8
Cannabis	17	89.5
GHB/GBL/1,4-BDO	6	31.6
MDMA	14	73.7
Poppers	13	68.4
Ketamine	9	47.4
Cocaine	12	63.2
2C-B	4	21.1
Crystal/Meth	6	31.6
Current substance useb		
Caffeine	15	78.9
Alcohol	10	52.6
Cannabis	12	63.2
Poppers	6	31.6
Ketamine	4	21.1
Tobacco/Nicotine	4	21.1
Stimulants	4	21.1
Hallucinogens	2	10.5
GHB/GBL/1,4-BDO	1	5.3
Other = "Psilocybin microdose"	1	5.3
Diagnosed Health Disorder History		
Anxiety Disorder	7	36.8
Mood Disorder	6	31.6
Substance-Related Disorder	1	5.3
ADHD	1	5.3
Chronic Pain	3	15.8
Current Health Disorder		
Anxiety Disorder	3	15.8
Mood Disorder	1	5.3
Substance-Related Disorder	0	0.0
ADHD	1	5.3
Chronic Pain	2	10.5
Comorbid Active Conditions		
Anxiety & Mood Disorder	1	5.3
Mood Disorder & ADHD	1	5.3

respectively. An ANOVA comparing STAI state total scores across time revealed a significant main effect, $F(2, 36) = 6.61$, $p = .004$, with a large effect size ($\eta^2 = 0.27$). *A priori* paired-sample t-tests revealed a significant reduction in STAI state scores from baseline to 2–4 weeks ($t = 4.25$, $p < .001$). No change in STAI state scores from baseline to 2–3 months ($t = 0.91$, $p = .377$) was observed. STAI state scores increased from 2–4 weeks to 2–3 months ($t = -2.52$, $p = .024$).

At baseline, participants reported STAI trait mean (*SD*) scores of 40.1 (12.1). At 2–4 weeks and 2–3 months, STAI trait mean (*SD*) total scores were 32.4 (7.6) and 35.1 (9.8), respectively. An ANOVA comparing STAI trait total scores across time revealed a significant main effect, $F(2, 36) = 7.11$, $p = .003$, with a large effect size ($\eta^2 = .28$). *A priori* paired-sample t-tests revealed a significant reduction in STAI trait scores from baseline to 2–4 weeks ($t = 3.21$, $p = .005$) that remained from baseline to 2–3 months ($t = 2.29$, $p = .035$). No change was observed from 2–4 weeks to 2–3 months ($t = -1.75$, $p = .097$). See Figure 2.

Self-reported outcomes in quality of life

At baseline, participants reported a QoL mean (*SD*) score of 64.4 (19.5). At 2–4 weeks and 2–3 months, QoL mean (*SD*) total scores were 77.3 (11.3) and 68.8 (18.1), respectively. An ANOVA comparing QoL scores across time revealed a significant main effect, $F(2, 36) = 4.33$, $p = .021$, with a large effect size ($\eta^2 = 0.19$). *A priori* paired-sample t-tests revealed a significant increase in QoL scores from baseline to 2–4 weeks ($t = -3.20$, $p = .005$) followed by a significant decrease in QoL scores from 2–4 weeks to 2–3 months ($t = 2.69$, $p = .015$). No significant changes in QoL scores from baseline to 2–3 months post-session ($t = -0.77$, $p = .452$) were found. See Figure 3.

Self-reported outcomes in sleep quality

SQS scores did not reveal changes in sleep quality from baseline (6.6 ± 2.0) to 2–4 weeks (7.1 ± 2.0) or from baseline to 2–3 months (6.7 ± 2.1) using two-way paired sample t-tests ($p < .05$).

Self-reported outcomes in spiritual well-being

The two-dimensional FACIT-Sp assessed total spiritual well-being and dimensions of Peace and Meaning and Faith. Participants reported an average total score of 32.2 (10.3), 38.4 (7.0), and 37.5 (8.7) at baseline, 2–4 weeks, and 2–3 months, respectively. Mean (*SD*) scores for Meaning & Peace subscale were 22.2 (6.5), 27.4 (3.8), and 26.0 (5.9) for baseline, 2–4 weeks, and 2–3 months, respectively. Mean scores for Faith subscale were 10.0 (4.3), 11.0 (4.4), and 11.5 (4.1) for baseline, 2–4 weeks, and 2–3 months, respectively.

An ANOVA comparing FACIT-Sp total scores across time found a significant main effect, $F(2, 36) = 5.41$, $p = .009$, with a large effect size $\eta^2 = 0.231$. *A priori* paired sample t-tests revealed a significant increase in scores from baseline to 2–-4 weeks ($t = -3.08$, $p = .006$) and from baseline to 2–3 months ($t = -2.30$, $p = .033$). No changes were observed from 2–4 weeks to 2–3 months ($t = 0.51$, $p = .616$).

An ANOVA comparing Meaning & Peace FACIT-Sp subscale total scores across time revealed a significant main effect, $F(2, 36) = 7.33$, $p = .002$, with a large effect size ($\eta^2 = 0.289$). *A priori* paired-sample t-tests revealed a significant increase in Meaning & Peace FACIT-Sp scores from baseline to 2–4 weeks ($t = -3.91$, $p = .001$) and from baseline to 2–3 months ($t = -2.42$, $p = .026$), but not from 2-–4 weeks to 2–3 months ($t = 1.07$, $p = .301$).

An ANOVA comparing Faith FACIT-Sp subscale scores revealed no significant main effect, $F(2, 36) = 1.70$, $p = .197$, $\eta^2 = 0.086$. See Figure 3.

Subjective Ratings of experiences, attributions, and behavioral changes

At 2–4 weeks post-session, participants rated how personally meaningful, spiritually meaningful, psychologically challenging, and psychologically insightful their ayahuasca experience was compared to other life experiences. Participants also reported notable post-session behavioral changes (see Table 2).

Symptoms & adverse effects

1–3 days post-session no participants reported seeking medical attention during the ayahuasca ceremony. Nearly all participants ($n = 18$) reported multiple adverse events during and within 24 hours after the ayahuasca ceremony. Few adverse events were reported in follow-up surveys (see Supplemental Table S5).

Discussion

We investigated mental health, quality of life (QoL), and spiritual well-being outcomes associated with a ceremonial ayahuasca retreat experienced in a sexual and gender minority (SGM) sample. Results demonstrated statistically significant reductions in depression and anxiety symptoms and

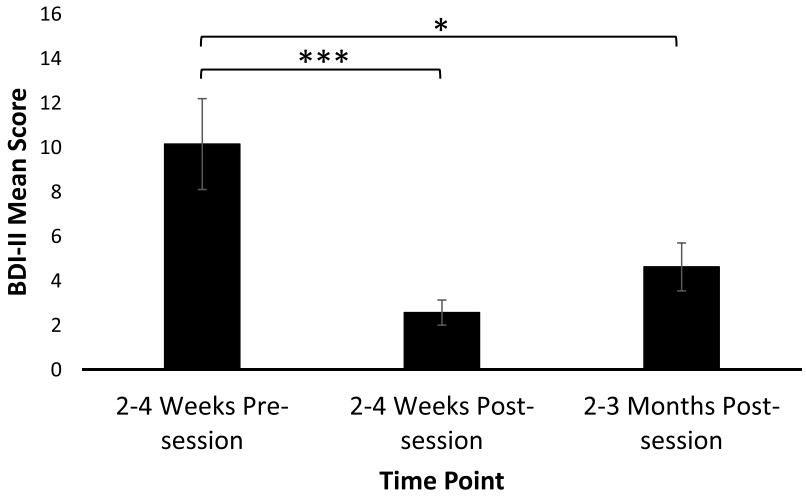

Figure 1. Longitudinal changes in depression (BDI-II), from baseline (2–4 weeks pre-session) to 2–3 months post-session. * = <0.05; **<0.01. ***<0.001.

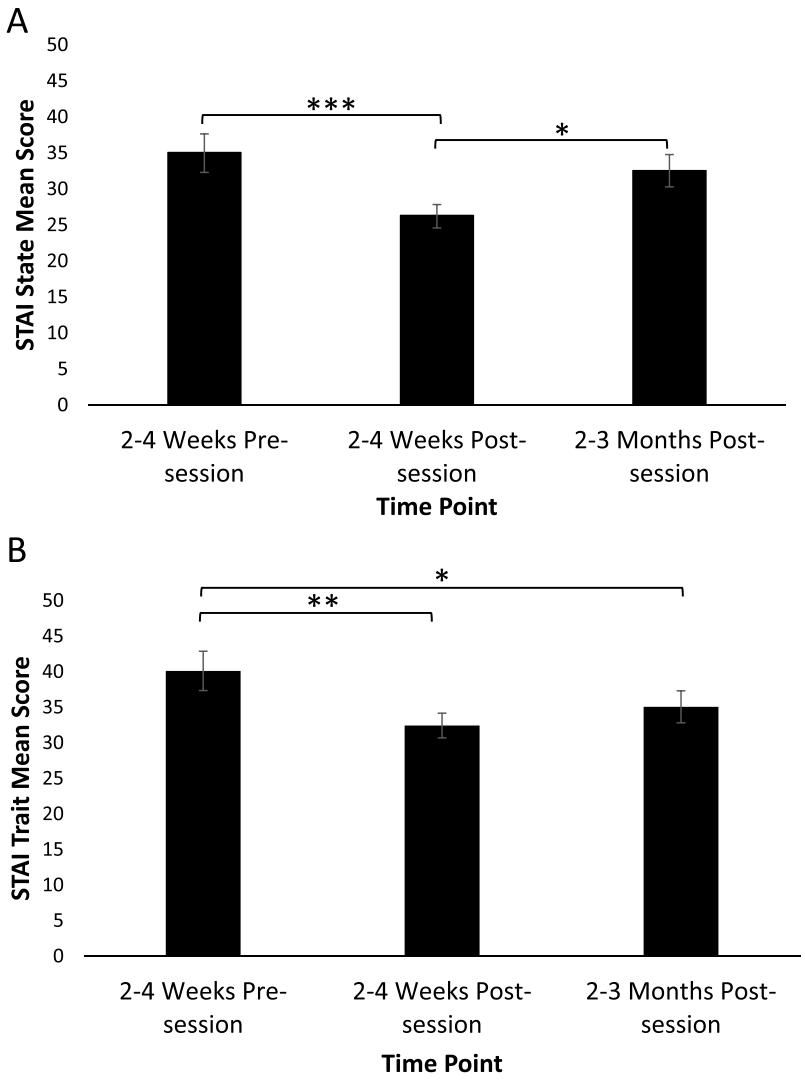

Figure 2. Longitudinal changes in (A) state (STAI-S) and (B) trait (STAI-T) anxiety from baseline (2–4 weeks pre-session) to 2–3 months post-session. * = <0.05; **<0.01. ***<0.001.

increases in QoL and spiritual well-being alongside behavioral improvements. Effects were most pronounced within the first month following the retreat.

Mental health outcomes

Baseline depression scores fell within the classification "no depression," but depressive symptoms nevertheless decreased by over 70% from baseline to the 2–4 weeks follow-up and remained significantly lower at 2–3 months (>50% decrease). This reduction may indicate mood enhancement rather than reflecting a clinical reduction in depressive symptoms. These findings are consistent with prior clinical research suggesting that ayahuasca has fast-acting and durable antidepressant effects (Lowe et al. 2024; Palhano-Fontes et al. 2019).

Similarly, participants reported low-to-moderate scores for state/trait anxiety at baseline. Significant reductions in both state and trait anxiety occurred within 2–4 weeks follow-up. However, state anxiety increased from 2–4 weeks to 2–3 months post-session, indicating limitations to the sustained effect of ayahuasca on state anxiety. For trait anxiety, these reductions were sustained throughout the study period, indicating ayahuasca has stronger therapeutic potential for trait anxiety than state anxiety. These outcomes suggest sustained improvement in anxiety symptoms even in individuals with low-to-moderate anxiety. This potential for relief in mood and anxiety symptoms could be instrumental for SGM populations, who experience disproportionately high rates of mood disorders, trauma, and suicidality (Cochran, Sullivan, and Mays 2003; King et al. 2008). Participants also noted desirable

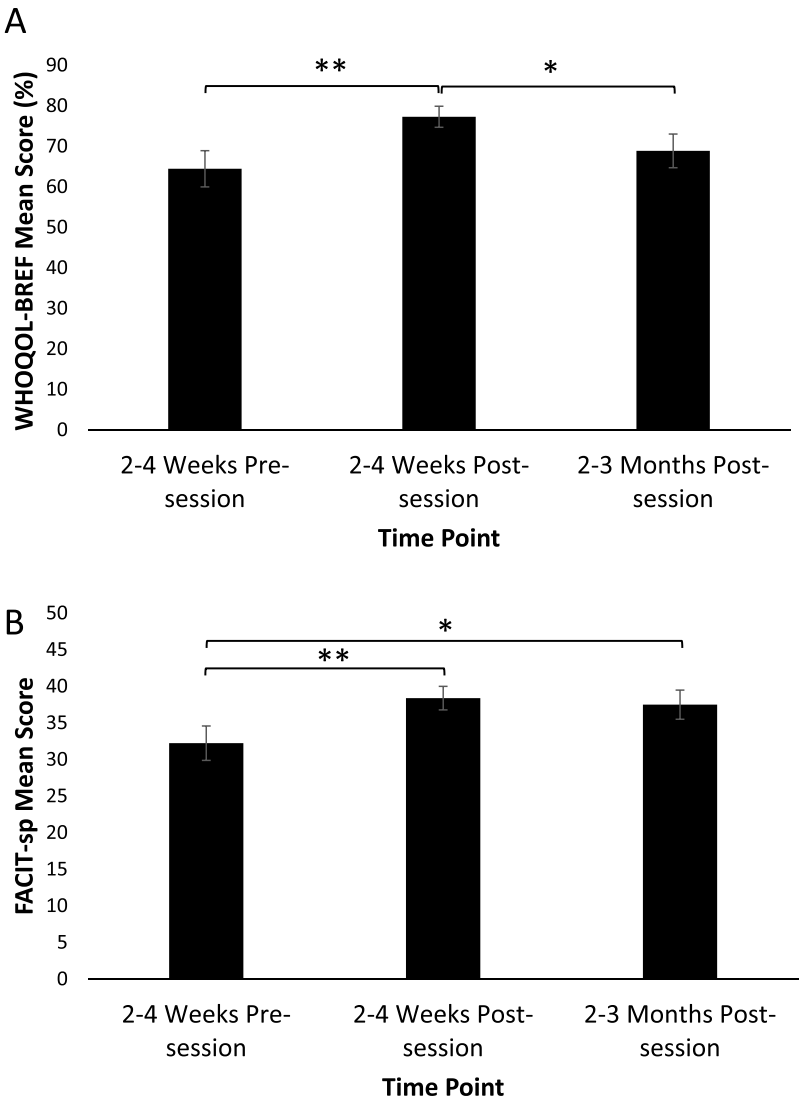

Figure 3. (A) Longitudinal changes in quality of life (WHOQOL-BREF) from baseline (2–4 weeks pre-session) to 2–3 months post-session. (B) Longitudinal changes in spiritual well-being (FACITsp) total mean scores from baseline (2–4 weeks pre-session) to 2–3 months post-session. * = <0.05; **<0.01. ***<0.001.

behavioral changes, including improved interpersonal relationships and reduced substance use.

Spiritual well-being outcomes

Most participants identified as religious or spiritual. Significant increases were observed for FACIT-Sp total scores and Peace and Meaning subscales. This increase was sustained across follow-up assessments, indicating that ceremonial ayahuasca allowed participants to experience stronger feelings of spiritual well-being, peace, and meaning post-session. Spirituality, a personal experience of connection or transcendence beyond the self, is important in the lives of many individuals including LGBTQ ±identifying individuals (Halkitis et al. 2009). These findings are notably in tune with ayahuasca's rich history as a spiritual tool/teacher (Ruffell et al. 2023).

Quality of life outcomes

QoL scores significantly increased from baseline to 2–-4 weeks. However, the scores significantly decreased from 2–4 weeks to 2–3 months. This temporal pattern suggests that ayahuasca may catalyze a short-term boost in perceived life satisfaction and functional well-being. The lack of any sustained effect could be explained by other factors such as lack of sustained support or return of daily stressors.

Table 2. Retrospective ratings on ayahuasca experience and subsequent use (surveys 5 and 6).

Question	2–4 weeks, mean (SD)	3–4 months, mean (SD)
How personally meaningful was your ayahuasca experience and your contemplation of that experience? [1]	5.6 (1.5)	5.7 (1.6)
How spiritually significant was your ayahuasca experience and your contemplation of that experience? [1]	5.8 (1.8)	5.7 (2.0)
How personally psychologically insightful was your ayahuasca experience and your contemplation of that experience? [1]	5.6 (1.7)	5.5 (1.7)
How psychologically challenging was the most psychologically challenging portion of the ayahuasca experience? [1]	3.9 (2.1)	4.6 (1.7)
Do you believe that the ayahuasca experience and your contemplation of that experience has led to long-term and persisting changes in your current sense of personal well-being or life satisfaction? [2]	1.7 (0.9)	1.5 (1.0)
Have you experienced any persisting negative effects from your ayahuasca experience, which lasted beyond the duration of the drug's effects?	**2–4 weeks, n (%)**	**3–4 months, n (%)**
None	16 (84.2)	19 (100.0)
Mood fluctuations	1 (5.3)	0 (0.0)
Confusion	0 (0.0)	0 (0.0)
Loneliness	1 (5.3)	0 (0.0)
Lowered motivation	0 (0.0)	0 (0.0)
Depressive notions	0 (0.0)	0 (0.0)
Persisting hallucinations	0 (0.0)	0 (0.0)
Dizziness	0 (0.0)	0 (0.0)
Nausea	1 (5.3)	0 (0.0)
Physical pain (That didn't already exist)	0 (0.0)	0 (0.0)
Have you experienced any notable behavioral changes since this ayahuasca session?	**2–4 weeks, n (%)**	**3–4 months, n (%)**
Reduced or stopped using other drugs	5 (26.3)	7 (36.8)
Started using other drugs more often/heavily	0 (0.0)	1 (5.3)
Reduced craving or use of alcohol	5 (26.3)	2 (10.5)
Increased craving or use of alcohol	0 (0.0)	0 (0.0)
Improved diet/nutrition	5 (26.3)	5 (26.3)
Worsened diet/nutrition	0 (0.0)	0 (0.0)
Increased physical activity/exercise	3 (15.8)	6 (31.6)
Decreased physical activity/exercise	0 (0.0)	0 (0.0)
Improved relationships with others	12 (63.2)	16 (84.2)
Worsened relationships with others	0 (0.0)	0 (0.0)
Improvements in career/work life	9 (47.4)	8 (42.1)
Worsening of career/work life	0 (0.0)	0 (0.0)
Other (please describe)	6 (31.6)	3 (15.8)
None of these	3 (15.8)	1 (5.3)

[1]Ratings were provided on an 8-point scale wherein higher scores represent stronger attributed meaningfulness to the ayahuasca experience. Response options were the following: No more than routine, everyday personally meaningful/spiritually significant/psychologically insightful/challenging experiences = 1; Similar to experiences that occur on average once or more a week = 2; Similar to experiences that occur on average once a month = 3; Similar to experiences that occur on average once a year = 4; Similar to experiences that occur on average once every 5 years = 5; Among the 10 most personally meaningful/spiritually significant/psychologically insightful/challenging experiences of my life = 6; Among the 5 most personally meaningful/spiritually significant/psychologically insightful/challenging experiences of my life = 7; The single most personally meaningful/spiritually significant/psychologically insightful/challenging experience of my life = 8.

[2]Ratings provided on the following 7-point scale wherein lower scores indicate a positive change and high scores indicate a negative change: Strong positive change that I consider desirable = 1; Moderate positive change that I consider desirable = 2; Slight positive change that I consider desirable = 3; No change = 4; Slight negative change that I consider undesirable = 5; Moderate negative change that I consider undesirable = 6; Strong negative change that I consider undesirable = 7.

Adverse effects

Although the overall risk profile of ayahuasca is low and ayahuasca is considered relatively safe (Dos Santos and Hallak 2025), several participants reported acute adverse effects following ayahuasca ingestion. Acute somatic and psychological reactions following ayahuasca ingestion are common (Bouso et al. 2022). Most common in-session reactions included hallucinations, nausea and vomiting, and physical discomfort. These reactions were transient, with only fatigue persisting 24 hours post-session. At 2–4 weeks few lingering symptoms were reported, and no persistent adverse effects were reported for 2–3 months.

Reclaiming psychedelics in queer healing contexts

This study holds particular significance to SGM communities because of the fraught history between psychedelics and SGM populations. Historically, with leading expert support, psychedelic compounds became regularly used alongside conversion therapy under the guise of medical treatment (Dubus 2022). By observing self-identifying SGM volunteers of an ayahuasca ceremony within an identity-affirming, community-organized setting, the current research represents advancement in a paradigm shift for SGM populations in centering psychedelics around queerness (Desrochers 2024; Hanshaw et al. 2024; Miceli Mcmillan et al. 2025). Rather than viewing psychedelics as tools for identity correction, psychedelics

may act as a catalyst for positive changes to spiritual wellbeing, mental health, and QoL, and allow greater self-acceptance, healing, and empowerment for SGM individuals. These findings complement a growing body of evidence that psychedelics have benefits to wellbeing for SGM individuals (Carmel 2022; Desrochers 2024; Gaughan et al. 2025; Hanshaw et al. 2024; Katkar et al. 2025; Lancelotta et al. 2025; Miceli Mcmillan et al. 2025).

Study limitations

The small, predominantly white and college-educated sample group limits the ability to generalize to the LGBTQ+ population more broadly, but could be considered alongside other minority high-stress populations (see Lowe et al. 2024). Self-selection biases are expected. Expectancy and social desirability biases may also be present due to the group-oriented nature of the experience. Because data were gathered online and in different settings prior to and after the ceremony, it was not possible to verify participant responses or determine the influence of response biases. Ayahuasca dosing was not standardized, and the biochemical composition of the brew was not verified. Varying doses and individual responses could have influenced outcomes independently of the setting, and improvements could be transient. Further clinical controlled trials and longer naturalistic observations are needed to verify the potential therapeutic effects of ceremonial ayahuasca for SGM populations and the general population.

Conclusion

This naturalistic study is the first to prospectively examine the psychological and spiritual effects of an ayahuasca retreat-experience in SGM populations. Our findings suggest that participation in a ceremonial ayahuasca retreat may lead to meaningful and sustained improvements in mood, improved spiritual well-being, and positive behavioral changes. By amplifying SGM perspectives, this research not only fills a critical literature gap but also sets a course for what psychedelic-induced healing can look like for LGBTQ+ populations. Future therapeutic psychedelic work for SGM individuals must honor diversity, prioritize inclusion, and integration-support.

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