

The Flourishing Effects of a 3-day Psilocybin Retreat

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Abstract

Background and aims. Psychedelic research has experienced a striking resurgence in recent decades, with scientific studies and clinical trials increasingly exploring the potential applications of psychedelic substances including the possible benefits for wellbeing and optimum human functioning. Despite this, research into the psychological benefits of psychedelics for mentally healthy individuals in real-world settings is lacking. This study contributes to resolving this by investigating the hypothesis that a 3-day psilocybin retreat will enhance indicators of hedonic and eudaimonic wellbeing in healthy adults.

Methods. This quasi-experimental study relied on the collection of web-based data from a self-selected volunteer sample of 19 healthy adults taking part in legal psilocybin retreats. Questionnaires to self-assess the wellbeing effects of the retreat were completed at three key timepoints: 1 day before, 2 days after, and 3 weeks following the experience.

Results and conclusion. The findings indicated a significant increase in flourishing, wellbeing, gratitude and positive affect in the weeks following the psychedelic retreat, suggesting that psilocybin retreats can improve wellbeing for healthy people, thus becoming a potential intervention of interest to the field of positive psychology and wellbeing.

Keywords: Positive psychology; psychological wellbeing; psychedelic retreats; psilocybin; gratitude; flourishing

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INTRODUCTION

Employing theories of psychological wellbeing, this paper explores the knowledge gap concerning the relationship between participating in psilocybin retreats and psychological wellbeing in healthy people. As far as we know, the literature exploring psilocybin use in the positive psychology context is limited with few studies examining the impact of these experiences on human flourishing and wellbeing.

Mental health issues place significant social and economic costs at both personal and global levels (World Health Organization, 2021), making the promotion and maintenance of wellbeing a priority beyond the individual concern to national indices and global policy (Layard, 2021; United Nations Department of Economic and Social Affairs, 2023). Simultaneously, psychedelic therapy is emerging as a promising alternative paradigm for mental health interventions (Yehuda & Lehrner, 2023). In recent decades, interest and investment in psychedelics have surged, fuelling research (Andersen et al., 2021), pharmaceutical ventures (Phelps et al., 2022) and naturalistic use (Keyes et al., 2023).

Previous studies of clinical populations have already demonstrated psilocybin's efficacy in improving mental health outcomes (Carhart-Harris et al., 2016; Griffiths et al., 2008). This study goes beyond these important results by exploring a 3-day psychedelic retreat's potential psychological benefits on healthy individuals, a demographic seldom addressed in current psychedelic literature (Elsley, 2017). With the legislative landscape surrounding psychedelics changing, it is possible that retreats such as those studied here will increasingly become a popular option within the general population for experiencing these proven wellbeing effects of psychedelics, and are therefore of interest to the developing science of positive psychology (PP). This paper explores the question: To what extent does a 3-day psilocybin retreat affect wellbeing?

Wellbeing

While establishing a clear conceptualisation of wellbeing is made complex by the broad variety of approaches to and definitions of wellbeing in academic literature (Dodge et al., 2012), it is crucial for understanding the effects of a psilocybin retreat. In this paper, wellbeing is explored through the lens of PP. Originally conceived of as the science of authentic happiness (Seligman & Csikszentmihalyi, 2000), PP has evolved to become the scientific “study of the conditions and processes that contribute to the flourishing or optimal functioning of people, groups and institutions” (Gable & Haidt, 2005). Flourishing goes beyond wellbeing to encompass not just “feeling good”, but “functioning effectively” (Huppert & So, 2013).

The PP construct of flourishing is still in its early years. Seligman (2011), often regarded as the founder of PP, presents flourishing as a multi-dimensional construct integrating such facets as positive emotion, accomplishment and meaning. This is in line with a burgeoning body of research proposing that wellbeing is most effectively understood as a multifaceted construct comprising distinct elements (Longo et al., 2016). However, consensus is lacking regarding the critical components of this conceptualisation (Huppert, 2009) with no single definition being generally accepted (Mans, 2021).

Two important often discussed facets of flourishing are hedonia (subjective wellbeing) and eudaimonia (psychological functioning). Hedonia has been defined as consisting of emotion as well as the sense of satisfaction with life (Diener et al., 1999), while eudaimonia refers to how well people are functioning under the conditions of optimal living (Ryan et al., 2008). Therefore Seligman’s 2011 definition of flourishing is in line with most contemporary psychological models that suggest wellbeing includes both hedonic and eudaimonic elements (Wagner et al., 2020) and that flourishing can be most effectively enhanced through cohesive promotion of both hedonic and eudaimonic activities (Henderson et al., 2013).

In 2010, Diener et al. developed the flourishing scale (FS; Diener et al., 2010), which conceives flourishing as a state of optimal functioning and wellbeing comprising positive emotions, engagement, relationships, meaning and accomplishment. This aligns with the broader PP perspective, which emphasizes the importance of focusing on generating both hedonic and eudaimonic wellbeing, moving away from the traditional ‘deficit’ model of psychology that views psychological functioning through the lens of pathology, deficits and disorders (Ryff & Singer, 2008). Understanding wellbeing as a generative concept beyond the absence of psychopathology is an increasingly accepted position in psychological theory (Huppert, 2014). As Keyes (2016) explains, “even if we could find a cure for mental illness tomorrow, it does not mean that most people would necessarily be flourishing in life”.

Seligman (2011) further proposed that flourishing is the result of building and sustaining the five pillars of his PERMA model: Positive emotions, engagement, relationships, meaning and accomplishment. Scientific evidence supports these pillars, with resilience and life satisfaction both positively correlated with positive emotions (Cohn et al., 2009), which provide a buffer against symptoms of depression (Kiken et al., 2017) and help us to recover from stress faster (Ong et al., 2006). More recently, the importance of positive emotions in a range of health-enhancing functions has been demonstrated, including improved sleep quality (Pressman et al., 2019) and making healthier decisions that indirectly contribute to better health such as increased exercise (Boehm & Kubzansky, 2012) and healthier eating (Sirois et al., 2015). Seligman’s second pillar, engagement, develops the concept of “flow”, referring to “the holistic sensation that people feel when they act with total involvement” (Csikszentmihalyi, 1975). Engagement is frequently associated with wellbeing across a broad range of areas in the literature (Bryce & Haworth, 2002). Considering relationships, positive social connections are a key component of positive wellbeing (Ryff & Singer, 2001), with implications for life expectancy (Holt-Lunstad et al., 2010). Earlier research by Cohen et al. (1997) demonstrating the physiological impact negative social relationships can have has also been supported contemporarily (Song et al., 2021). Positive relationships are closely associated with experiencing

meaning in life (O'Donnell et al, 2014), a factor that has been empirically linked with happiness and wellbeing (Howell et al., 2012; Zhao et al., 2019). Lastly, recent literature associates a sense of accomplishment with increased wellbeing (Seligman, 2011; Seligman et al., 2004), with clear goals an important predictor of satisfaction with life (Fritz & Avsec, 2007).

While the PERMA model provides a framework for flourishing, it does not provide a comprehensive account of all factors that have been found to be positively related to wellbeing (Goodman et al., 2018). Other researchers argue for domains such as optimism, self-esteem, vitality, resilience (Huppert & So, 2013) and gratitude (Wood et al., 2009) to be included, while a 2016 review (Linton et al.) of self-report measures identified 196 dimensions of wellbeing.

It is understandable then that critics argue that the wide variety of measures for determining flourishing lack theoretical cohesion, over rely on psychometric validation and are questionable regarding their universality (Fowers et al., 2023), and that due to the cultural and temporal nature of flourishing no universal account can be reliably determined (Alexandrova, 2017). However, these criticisms are widely applicable to many areas of social science and are frequently levied at wellbeing research (Cook et al., 2016).

Regardless of the lack of consensus about what makes up flourishing, improving wellbeing has many positive implications, and therefore it is of interest to further investigate routes towards it.

Psychedelics

Psychedelics are “powerful psychoactive substances that alter perception and mood and affect numerous cognitive processes” (Nichols, 2016). Naturally occurring psychedelics such as ayahuasca and psilocybin have a rich history and have long been integral to spiritual ceremonies in indigenous cultures (Fotiou, 2020). In contrast, synthetic psychedelics such as lysergic acid diethylamide (LSD) were formulated by Western scientists in the early 20th century primarily for psychotherapeutic research (Sessa, 2016).

From the 1950s to the 1970s, studies were conducted on various psychiatric conditions (Jensen, 1962; Johnson, 1969; Ludwig et al., 1969; Cohen, 1959; Kast & Collins, 1964). However, a concurrent surge in recreational usage prompted the United States to enact the Controlled Substances Act while the United Nations established the Convention on Psychotropic Substances, which categorized many psychedelics as Schedule 1 drugs, substances with “high abuse potential with no accepted medical use” (Drug Enforcement Administration, n.d.).

However, we are currently witnessing a "psychedelic renaissance", marked by a recent surge in research that has contributed to the growing popularity and movement towards decriminalisation of some psychedelic compounds. The psychedelic relevant to this study is psilocybin, a psychedelic compound found in more than 200 species of mushrooms (Nutt, 2023). It is one of the most used hallucinogens in human studies (Johnson et al. 2008), with the most favourable safety profile (Hendricks et al., 2015), with no significant negative outcomes (Roscoe & Lozy, 2022) or reported deaths (Hodge et al., 2023).

Psilocybin is illegal in most countries, however, often creating difficulties for advancing research (Howard et al., 2021). However, in 2020 the United States Food and Drug Administration granted psilocybin “breakthrough therapy” status for treatment-resistant depression, followed by Australia in 2023, suggesting that it may soon be the first psychedelic to become a licensed medicine (Nutt, 2023).

Despite the barriers to accessing approval for research, emerging data is showing the potential of psilocybin in producing both rapid and sustained effects in treating several indicators of psychiatric disorders (van Amsterdam & van den Brink, 2022). A 2023 systematic review (Hodge et al., 2023) of the use of psilocybin found positive outcomes for conditions including depressive (Carhart-Harris et al., 2016; Li et al., 2022) and anxiety disorders (Grob et al., 2011; Goldberg et al., 2020), OCD

(Maloney et al., 2024), and substance addiction involving nicotine (Johnson et al., 2017) and alcohol (Bogenschutz, et al., 2015).

These findings must be considered preliminary, however, as the studies that met the eligibility criteria for analysis were of variable quality, limiting the reliability of observed effects, while studies with negative results may not have been published resulting in publication bias (Walker et al., 2008).

While clinical research on psilocybin's potential to improve diagnosed mental disorders is expanding, studies exploring its potential benefits for healthy human functioning remain scarce (Wiepking et al., 2023), despite claims that it may promote wellbeing alongside remedying illness (Elsley, 2017). A scoping review of contemporary research on psilocybin use in healthy individuals and its effects on wellbeing and related sub-concepts of interest to PP, found that in all 13 eligible studies psilocybin use led to mostly positive outcomes including positive emotions, life satisfaction and overall wellbeing (Wiepking et al., 2023), while a cross-sectional survey study into users' perceptions of psilocybin found 87% attributed a positive or very positive effect on wellbeing; only 2.4% attributed a negative effect (Carhartt-Harris & Nutt, 2010).

In a prominent clinical study of psilocybin's impact on wellbeing (Griffiths et al. 2006), 30 healthy volunteers received high-dose psilocybin, completing questionnaires before, immediately after, and 2 months later, with additional assessments published 2 years later. At the final assessment, nearly 64% sustained positive wellbeing and attitudes towards life, with 58% ranking the experience as one of the most significant of their lives (Griffiths et al., 2008). In contrast, in an online survey of 1,993 individuals, 39% ranked it among their top 5 most challenging experiences, yet despite this, 84% reported benefiting from it with 76% attributing increased wellbeing or life satisfaction to the experience (Carbonaro et al., 2016).

Supporting these findings, a recent longitudinal survey study found a significant increase in mental wellbeing as evaluated using 14 measures that the researchers clustered into 3 factors: "Being

well” (e.g., optimism, mood, meaning in life); “Staying well” (e.g., mindfulness, psychological flexibility, resilience); and “Spirituality”. Positive changes in the first two factors but not the third remained statistically significant up to 2 years later (Mans et al., 2021), albeit with high participant attrition rates of 91%.

These findings indicate that psychedelics may exert a comprehensive, resilient, and enduring positive influence on mental wellbeing. However, psychedelic research is not without its limitations. As many studies are open label, limited conclusions can be drawn about treatment efficacy (Muthukumaraswamy et al., 2021). A major limitation is the discernible effects of psychopharmaceuticals, which renders blinding of participants and researchers ineffective, an issue that is well discussed in psychiatric literature (Baethge and Baldessarini, 2013).

Alongside this, the current hype in the media surrounding psychedelics (Kamin, 2021; Siebert, 2020) may introduce expectation and selection bias in a population that is already intrigued by psychedelics (Hovmand, 2023). Overall, without further longitudinal or controlled studies, there are significant challenges in applying current findings to the general population.

Retreats

Rahmani (2023) conceptualises the ‘retreat’ as an experience that aims “at balancing, maintaining, improving, and developing an individual’s body, mind, and spirit in a relaxing and supportive context”, with retreat centres providing programs of classes, activities or therapies “for the purpose of learning or improving a body–mind–spirit activity” (Smith & Puckzkó, 2017). All share the common theme of wellbeing (Kelly, 2010). The retreat industry is rapidly growing (Global Wellness Institute, 2023), and within that sector the popularity of the psychedelic retreat is on the rise (Kamin, 2021). The focus of these retreats is not on psychotherapeutic interventions or spiritual practices (Ferenstein, 2018), but on the healing, transformative or recreational experience of the psychedelic itself.

As psychedelic retreats grow in popularity with people traveling from countries where they are not accessible legally, ethical concerns have been raised about the lack of industry regulation, long-term follow ups and presence of medically trained professionals (Osterhold & Fernandes-Osterhold, 2023), making further research into best industry practice essential.

Hypotheses

Based on the literature documented and the research question proposed above, the following hypotheses were declared.

1. A 3-day psilocybin retreat will increase self-reported wellbeing in healthy people.
2. A 3-day psilocybin retreat will increase self-reported flourishing in healthy people.
3. A 3-day psilocybin retreat will increase self-reported positive mood in healthy people.
4. A 3-day psilocybin retreat will increase self-reported gratitude in healthy people.

The motivation for this study was to explore the potential of psilocybin retreats within the context of the PP conceptualisation of wellbeing, while adding to the body of research informing future legislation and application of psilocybin in a wellbeing context.

METHOD

Data collection

This naturalistic, quasi-experimental study relied on the collection of web-based data using the Qualtrics XM secure online platform to create, host and automate delivery of self-report surveys consisting of four measures theoretically linked to the concept of wellbeing: The Flourishing Scale (FS; Diener et al., 2010; see Appendix B); Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS; Tennant et al., 2007; see Appendix C); Gratitude Questionnaire (GQ-6; McCullough et al., 2002; see Appendix D); and the Positive Affect Score (PAS) subscale of the Positive and Negative Affect

Schedule (PANAS; Watson et al., 1988; see Appendix E). A pre-intervention survey collected demographic data including participants' ages, genders and mental health statuses.

Participants were invited to join the study by the retreat provider, the Essence Institute (EI; www.essence.nl) via email containing a link to the research aims and consent form. Following this, participants received emails containing links to the surveys 1 day pre-retreat, 2 days post-retreat, and at 3 weeks follow-up. To match the individuals' responses across timepoints, email addresses were collected. Otherwise, data were processed anonymously. Confidentiality was contracted between the researchers and retreat provider.

Measures

The Flourishing Scale

A brief 8-item measure of “self-perceived success in areas such as relationships, self-esteem, purpose, and optimism” (Diener et al., 2010) containing 8 statements (e.g., “I lead a purposeful and meaningful life”, “I am competent and capable in the activities that are important to me”) for which participants indicate their agreement. Scores range from 7 (“Strongly agree”) to 1 (“Strongly disagree”), giving a potential single score of 8 to 56. Higher scores indicating greater flourishing. The FS has a high internal consistency (Cronbach's alpha = 0.89) and validity (Hone et al., 2014).

Warwick-Edinburgh Mental Wellbeing Scale

A 14-item scale for monitoring mental wellbeing containing 14 statements about feelings and thoughts (e.g., “I've been feeling optimistic about the future”, “I've had energy to spare”).

Participants indicate which best describes their experience over the last 2 weeks. WEMWEBS is scored by summing the 14 items, which range from 1 (“None of the time”) to 5 (“All of the time”).

Total scores range from 14 to 70. Higher scores indicating greater positive mental wellbeing.

WEMWBS shows high internal consistency (Cronbach's $\alpha = 0.89$) and good validity (Stewart-Brown et al., 2011).

Gratitude Questionnaire

A short 6-item measure of the experience of gratitude consisting of 6 statements (e.g., "If I had to list everything that I felt grateful for, it'd be a very long list", "I am grateful to a wide variety of people") which are answered on a 1 ("Strongly disagree") to 7 ("Strongly agree") scale. Two items are reverse-scored to inhibit response bias. The score is computed by the mean across the item ratings, including the two reverse-scored items. The GQ-6 has good internal reliability and validity (Wood et al., 2009).

Positive Affect Score

PAS is one subscale of the PANAS. The PAS consists of 10 words describing positive feelings and emotions (e.g., "Enthusiastic", "Inspired"). Respondents determine to what extent a concept applies with scores ranging from 10 ("Very slightly") to 50 ("Extremely"). Higher scores represent higher levels of positive affect. PAS has high reliability (Cronbach's $\alpha = 0.90$) and good validity (Watson, 1988).

Participants

Convenience sampling was used to select participants with the collaboration of the retreat provider. Participants were invited via email (see Appendix A) once they had paid for the retreat. 38 adults (20 females, 17 males, 1 non-binary) registered for participation via the study website. Participants were aged between 32 and 61 years of age ($M = 44$), from Europe ($n = 34$), United States ($n = 3$), and Saudi Arabia ($n = 1$). Anyone under 21 without a good level of English was excluded prior to registration. Non-completers ($n = 11$) and those self-reporting as psychologically unhealthy ($n = 8$) were excluded. 19 participants completed all requirements of the study and were included.

Retreat procedure

Participants joined 3-day legal psychedelic retreats between December 2023 and April 2024 in the Netherlands. Prior to all retreats participants completed screening for mental and physical fitness and psychological readiness. Retreat activities included: Group exercises to foster a supportive and friendly environment; preparation and integration exercises (e.g., mindfulness, breathwork and yoga); personal reflection time; and the psychedelic session itself. (See Appendix F for full retreat itinerary.) Participants consumed between 20mg and 75mg of psilocybin in a “magic truffle” tea. “Magic truffles” are the sclerotia of the hallucinogenic fungi commonly known as “magic mushrooms”.

Participants then lay on mattresses voluntarily blindfolded, while music was played through speakers. Perceptual effects are usually noticed approximately 20-40 minutes following a high dose of psilocybin, peaking at around 60-90 minutes and then lasting for another 60-120 minutes. Effects are usually completely worn off at 6 hours post intake (Hasler, 2004).

Ethics

Fully informed, written consent was given prior to acceptance on the study, confirming that any psychedelics taken were done so with prior intention, without influence by invitation to the study. Ethical approval for the study was granted by the University of East London School of Psychological Research Ethics Committee.

RESULTS

No scores were identified as significant outliers. Shapiro–Wilks testing for normality resulted in significant differences for the variables PAS and GQ-6 ($p < .05$), while normality was assumed for WEMWBS and FS ($p > .05$). Therefore, a parametric one-way repeated measures analysis of variance (RM-ANOVA) with planned contrasts was performed to check for statistically significant differences

between the means pre-test, post-test and follow-up related to WEMWBS and FS variables, while the non-parametric Friedman Test with pairwise comparisons was applied to assess differences in means for variables PAS and GQ-6. Mauchly's test of sphericity indicated that the assumption of sphericity had not been violated for the variable WEMWBS, $\chi^2(2) = 3.24$, $p = .850$, nor FS, $\chi^2(2) = 2.148$, $p = .342$.

Means, standard deviations (SD) and output values from RM-ANOVA and Friedman Tests for all variables are presented in Table 1. RM-ANOVA testing showed a statistically significant change in wellbeing mean scores over time $F(2, 36) = 7.604$, $p < .002$, $\eta^2 = .297$, with wellbeing increasing from pre-intervention ($M = 45.00$, $SD = 9.787$) to follow-up ($M = 51.53$, $SD = 8.289$). RM-ANOVA testing showed a statistically significant change in flourishing mean scores pre-test compared to scores post-test and follow-up, indicating an increase in flourishing over time, $F(2, 36) = 7.465$, $p < .002$, partial $\eta^2 = .389$, with flourishing increasing from pre-test ($M = 44.47$, $SD = 7.813$) to follow-up ($M = 48.26$, $SD = 8.51$).

Planned contrasts for variables WEMWBS and FS are reported in Table 2. Planned contrasts showed that wellbeing statistically significantly increased from pre-test ($M = 45.00$, $SD = 9.787$) to follow-up ($M = 51.53$, $SD = 8.289$), a mean difference of 6.53, 95% $CI [1.747, 11.306]$, $p < .008$, $\eta^2 = .382$. In addition, there was a statistically significant increase in wellbeing from pre-test ($M = 45.00$, $SD = 9.787$) to the average of the post-test ($M = 52.47$, $SD = 6.535$) and follow-up ($M = 51.53$, $SD = 8.289$), a mean difference of 7.00, 95% $CI [2.598, 11.402]$, $p < .001$, $\eta^2 = .456$. Planned contrasts showed that flourishing statistically significantly increased from pre-test ($M = 44.47$, $SD = 7.813$) to post-test ($M = 48.26$, $SD = 8.51$), a mean difference of 3.789, 95% $CI [1.051, 6.528]$, $p < .005$, $\eta^2 = .389$. In addition, there was a statistically significant increase in flourishing from pre-test ($M = 44.47$, $SD = 7.813$) to the average of the post-test ($M = 48.26$, $SD = 8.51$) and follow-up ($M = 48.26$, $SD = 8.51$), a mean difference of 4.053, 95% $CI [1.962, 6.143]$, $p < .001$, $\eta^2 = .555$.

Friedman Tests indicated that median follow-up scores of the non-normally distributed variable PAS changed significantly statistically at the different time points during the study, $\chi^2(2) = 26.000, p < .001$, with Kendall's coefficient of concordance (Kendall's W) used to measure the effect size ($W = .684$). Friedman Testing indicated that median follow-up scores of the non-normally distributed variable GQ-6 changed significantly statistically at the different timepoints during the study, $\chi^2(2) = 24.609, p < .001, W = .647$.

Pairwise comparisons for variables GQ-6 and PAS are reported in Table 3. Pairwise comparisons were performed with a Bonferroni correction for multiple comparisons on variable GQ-6, showing statistically significant differences in gratitude from pre-test ($Mdn = 26$) to post-test ($Mdn = 29$) ($p < .005$), and pre-test to follow-up ($Mdn = 29$) ($p < .001$), but not post-test to follow-up ($p = .433$). Pairwise comparisons were performed with a Bonferroni correction for multiple comparisons on variable PAS, showing statistically significant differences in positive affect from pre-test ($Mdn = 27.00$) to post-test ($Mdn = 33.00$) ($p = .000$), and pre-test to follow-up ($Mdn = 31.00$) ($p = .001$), but not post-test to follow-up ($p = .671$).

SPSS version 29 was used for data analysis.

DISCUSSION

This study aimed to assess to what extent a 3-day psilocybin retreat affects the wellbeing of healthy individuals. Results supported all the prior hypotheses, as we observed significant improvements in wellbeing and flourishing post-retreat and at the week 3 follow-up compared to baseline measures. Additionally, increased gratitude and positive emotions also persisted over the 3-weeks post-retreat. The data presented here suggest that attending a psilocybin retreat such as that offered by the EI has a statistically significant positive impact on these facets of wellbeing in healthy individuals.

These findings support results from previous clinical studies involving psilocybin that have shown improvements in wellbeing factors after combining psilocybin and psychological therapy

(Carhart-Harris et al., 2016; Li et al., 2022). Correspondingly, other contemporary studies show improvements in wellbeing measures of healthy participants in clinical settings (Barrett et al., 2020) and in naturalistic settings (Raison et al., 2022) following psilocybin consumption.

Alongside improvements in flourishing, and in line with a 2023 scoping review which found that psilocybin enhanced mood in all included and relevant studies (Wiepking et al.), we detected 3-week improvements in self-reported positive emotions. This reflects the findings of an earlier study that found improvements in positive mood persisted in healthy volunteers up to one month post dose (Barrett et al., 2020).

Additionally, and consistent with a previous study that found that elevated gratitude in healthy individuals persisted up to 6 months following high-dosage psilocybin administration (Griffiths et al., 2018), we also found increases in gratitude at follow-up compared to baseline. As no other published studies report the outcome of the effect of psilocybin on gratitude, this study contributes importantly to a gap in the literature.

The findings of this study of adults who have self-reported as psychologically healthy, in a naturalistic setting, complement previous studies (Raison et al., 2022; Kiraga et al., 2022), by demonstrating improvements in a range of wellbeing outcomes. Studying this population is relevant and important, as while psychologically healthy people can experience indicators of mental illness regardless of the diagnosed presence of mental illness (Lasello et al., 2020), their symptoms do not fulfil the criteria required for clinical diagnosis and therefore often go un-treated. This population is not well represented in clinical trials. Moreover, there is growing evidence indicating that enhancing mental wellbeing serves as a path to preventing disease (Keyes, 2017; Keyes, 2005), offering an 8.2% reduction in the risk of developing mental illness over a 10-year period in people without mental illness (Wood & Joseph, 2010).

Given the current scale of the global mental illness burden (Arias et al., 2022), this highlights the importance of addressing mental wellbeing in non-clinical populations such as that considered in this study. Consequently, it underscores the need for further exploration of interventions and therapeutic strategies centred on promoting mental wellbeing as a primary outcome regardless of physical or mental diagnoses. This aligns with the discourse suggesting that long-term reduction in the incidence of common mental disorders necessitates not only early intervention (Marin, 2016) but also interventions at the general population level (Huppert, 2009).

Thus, the results presented here offer initial indications that participation in a 3-day psilocybin retreat could serve as a viable therapeutic avenue for individuals experiencing sub-optimal mental wellbeing without reaching clinical thresholds, should they choose to look for ways to alleviate their symptoms or to prevent future mental health issues.

While previous studies of psilocybin taken in a retreat setting have focused on only the pharmacological element of the experience (Kiraga et al., 2022; Lutkajtis, 2021) as a means of assessing the potential wellbeing benefits of psilocybin, these results consider the retreat as a whole and invite future development of a standardised retreat format recognising the need to consider not only pharmacological but also extra-pharmacological factors (e.g., the music playlist, meditation and breathwork models, group-work exercises). Although a detailed analysis of how each of these factors may influence participants' experiences is outside the scope of this paper, this should be considered in future research, including how the psychedelic experience is affected by set and setting (Hartogsohn, 2016) in order to optimize therapeutic strategies. By considering the synergy of the different elements involved in retreats they could be harmonised in the same way that psychotherapeutic practices and psychedelics have been (Walsh & Thiessen, 2018; Luoma et al., 2020)

This study, however, has several significant limitations that need to be acknowledged. While employing a naturalistic design to test the objectives boasts strong ecological validity (Schmuckler,

2001) given that the retreat has many characteristics typical to real-world psychedelic usage (Hartogsohn, 2016), this approach also introduces considerable confounding variables.

While the psilocybin tea was measured out between participants equally, the percentage of the offered dosage that was actually consumed was not recorded. Consequently, comparing the results of our study with those of controlled studies is problematic.

Additionally, the small sample size carries a risk of having falsely demonstrated the effectiveness of the intervention (Button et al., 2013). Alongside this, the lack of a control group presents a significant limitation, hindering the capacity to firmly interpret the data and draw conclusive findings. Furthermore, the retreats were held across three different retreat centres with different facilitation teams, which may have had different impacts on the experience of the attendees (Uthaug et al., 2021), as the retreat environment itself can affect outcomes of the experience (Ashton, 2020). Another limitation to consider is the propensity for longitudinal studies to experience high rates of attrition (Young et al., 2006). As this was also true for our study, this raises concerns regarding potential biases in the data, where individuals who perceive benefits from the retreat may be more inclined to continue engaging with the study and those who do not dropping out, thus skewing the results. A further potential source of bias in psychedelic research, and in this study, is being unable to control for expectancy (Olson et al., 2020) and confirmation bias, as the population consisted of people already intending to attend the retreat and take psilocybin. Participants were also predominantly western (95.7%), limiting generalisability beyond this population. And finally, the nature of self-reported data which cannot be verified and are subject to recall bias is problematic (Richter et al., 2020).

To allow for a better assessment of the retreat's effects on wellbeing, future research should endeavour to increase the sample size and include a control group of participants who attend the retreat centre under the same conditions without partaking in the activities. Additionally, recording the

quantity of tea consumed would provide useful data, and qualitative feedback regarding the supplementary retreat activities would give rich data for any future considerations around retreat planning. Finally, extending the observation period to six weeks would introduce more robust results longitudinally. Importantly, future research should consider the relationship between the pharmacological and extra-pharmacological factors to create suggestions for optimum wellbeing promotion and to better replicate the methodological rigour of psychedelic clinical trials (Aday et al., 2022). However, the findings of this paper show the relevance and importance of further research into psilocybin retreats as wellbeing interventions.

CONCLUSION

This is the first study to consider the wellbeing outcomes of a psilocybin retreat as a complete experience within the context of wellbeing as seen through the lens of positive psychology as a potential positive psychology intervention, showing that taking psilocybin in a group setting that includes additional supportive activities can improve participants' well-being. It stresses the importance of designing psilocybin retreats in a way to optimise the scientifically validated psychological health benefits of psilocybin given the rising interest and importance globally in wellbeing interventions. For this to be useful, there is a need to formalise the retreat process to create a structure that can be replicated.

While primary avenues for legally accessing psychedelics is through clinical trials, these are often extremely narrow in their criteria for eligibility, so for healthy people access remains through illegally obtaining them or travelling to one of the countries where legislation makes them available. Therefore, the consideration of this demographic is essential as more people look for safe and supportive environments for the benefits of taking psychedelics.

With data revealing a 62.5% increase in magic mushroom usage in people aged between 16 and 59 between 2020 and 2023 (Office for National Statistics, 2023) and legislation making access to

psilocybin easier, more retreat centres may become established. As the findings and discussion of this paper add to the evidence of the feasibility and outcomes of this type of experience for those looking to flourish, it could therefore be useful for establishing a replicable concept for these retreat centres.

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Tables

Table 1

Means, Standard Deviations (SD) and One-Way Analyses of Variance in Variables Wellbeing and Flourishing, and Friedman Test output for Variables Gratitude and Positive Affect

Variable	Pre-test		Post-test		Follow-up		RM-ANOVA		
	Mean	SD	Mean	SD	Mean	SD	$F(2, 36)$	p	η^2
Wellbeing	45.00	9.787	52.47	6.535	51.53	8.289	7.604	<.002	.297
Flourishing	44.47	7.813	48.79	6.303	48.26	8.51	7.465	<.002	.389

Variable	Pre-test		Post-test		Follow-up		Friedman Test		
	Mean	SD	Mean	SD	Mean	SD	Z	p	W
Gratitude	26.58	2.987	29.00	2.357	30.89	3.828	24.609	<.001	.647
Positive Affect	24.74	6.081	32.00	3.172	29.26	6.323	26.000	<.001	.684

Note. N = 19

Table 2

Mean Differences and Planned Contrast Tests on Variables Wellbeing and Flourishing

Variable	Pre-test vs Follow-up			Pre-test vs Post-test & Follow-up			Post-test vs Follow-up		
	Mean difference	p	η^2	Mean difference	p	η^2	Mean difference	p	η^2
Wellbeing	6.53	<.008	.382	7.00	<.005	.456	.947	.675	.011
Flourishing	3.789	<.005	.389	4.053	<.001	.555	.526	.714	.008

Note. N = 19

Table 3*Pairwise Comparisons on Variables Gratitude and Positive Affect*

Variable	Pre-test vs Post-test		Pre-test vs Follow-up		Post-test vs Follow-up	
	p	W	p	W	p	W
Gratitude	.005	.789	<.001	.801	.433	.211
Positive Affect	.000	.947	.001	.801	.671	.136

Note. N = 19

Appendix A

Study Invitation Email

As an upcoming attendee of a legal psilocybin retreat facilitated by the Essence Institute, you are invited to participate in a scientific study investigating the effects of the retreat on mental wellbeing.

This is an opportunity for you to be involved in a growing body of research providing statistical data about the effects of psychedelics on mental wellbeing, that could support further clinical research into medical and therapeutic treatment using psilocybin.

This study is being carried out independently of the Essence Institute, with its full permission and support. Participation, or not, in the study has no impact upon your attendance or experience at the retreat.

You are in no way obligated to participate.

The study itself consists of answering four short online surveys at three different timepoints: before, just after, and two to three weeks after the retreat.

To find out more, we hope that you will visit the study webpage where all information is provided for you:

[\[Link to Participant Information Sheet hosted on the study website\]](#)

The study is being conducted by postgraduate student Victoria Ward at the University of East London, as part of a Masters in Applied Positive Psychology and Coaching Psychology. Any questions about the study can be made directly to Victoria at U2192420@uel.ac.uk.

Appendix B

The Flourishing Scale (FS)

The Flourishing Scale is a brief 8-item summary measure of the respondent's self-perceived success in important areas such as relationships, self-esteem, purpose, and optimism. The scale provides a single psychological well-being score. Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

1. Strongly disagree
2. Disagree
3. Slightly disagree
4. Mixed or neither agree nor disagree
5. Slightly agree
6. Agree
7. Strongly agree

I lead a purposeful and meaningful life.

My social relationships are supportive and rewarding.

I am engaged and interested in my daily activities.

I actively contribute to the happiness and well-being of others.

I am competent and capable in the activities that are important to me.

I am a good person and live a good life.

I am optimistic about my future.

People respect me.

Scoring: Add the responses, varying from 1 to 7, for all eight items. The possible range of scores is from 8 (lowest possible) to 56 (highest PWB possible). A high score represents a person with many psychological resources and strengths.

(Diener et al., 2010)

Appendix C

Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks.

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

(Tennant et al., 2007)

Appendix D

The Gratitude Questionnaire (GQ-6)

The Gratitude Questionnaire-Six-Item Form (GQ-6) is a six-item self-report questionnaire designed to assess individual differences in the proneness to experience gratitude in daily life.

Instructions: Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

- 1 = strongly disagree
- 2 = disagree
- 3 = slightly disagree
- 4 = neutral
- 5 = slightly agree
- 6 = agree
- 7 = strongly agree

- ___ 1. I have so much in life to be thankful for.
- ___ 2. If I had to list everything that I felt grateful for, it would be a very long list.
- ___ 3. When I look at the world, I don't see much to be grateful for.
- ___ 4. I am grateful to a wide variety of people.
- ___ 5. As I get older, I find myself more able to appreciate the people, events, and situations that have been part of my life history.
- ___ 6. Long amounts of time can go by before I feel grateful to something or someone.

Scoring: Compute a mean across the item ratings; items 3 and 6 are reverse-scored.

(McCullough et al., 2002)

Appendix E
Positive and Negative Affect Schedule (PANAS-SF)

Indicate the extent you have felt this way over the past week.		Very slight or not at all	A little	Moderately	Quite a bit	Extremely
PANAS 1	Interested	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 2	Distressed	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 3	Excited	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 4	Upset	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 5	Strong	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 6	Guilty	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 7	Scared	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 8	Hostile	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 9	Enthusiastic	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 10	Proud	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 11	Irritable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 12	Alert	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 13	Ashamed	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 14	Inspired	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 15	Nervous	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 16	Determined	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 17	Attentive	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 18	Jittery	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 19	Active	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 20	Afraid	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

PANAS-SF Scoring:

Positive Affect Score: Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect. Mean Scores: 33.3 (SD±7.2)

Negative Affect Score: Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect. Mean Score: 17.4 (SD ± 6.2)

Your scores on the PANAS: Positive: _____

Negative: _____

(Watson et al., 1988)

Appendix F

The Essence Institute 3-day Psilocybin Retreat Itinerary

The below program is intended as a general outline. The program may vary depending on the temperature, group dynamics and the team of facilitators.

1st Day: Opening

When arriving at Essence Institute, you'll be welcomed by the facilitators and meet other participants at the retreat. You'll have the opportunity to ask questions and get familiar with the grounds. In addition, there will be time for discussing your intention(s), get clear on what you're seeking from the retreat experience, and get all questions answered.

4:00 PM – Welcome, get to know each other, focus on intention, set, setting

7:00 PM – Dinner

8:00 PM – Explanation ceremony and preparation

2nd Day: Deep Dive

On your second day, you'll experience the psilocybin ceremony. In the morning, yoga and/or a body/breathwork session can be offered so you can ground yourself in your body. Then, you'll get to experience a sacred ceremony where you'll be given a high dose of psilocybin-truffles. You'll be in a safe and serene setting, so you'll be able to relax and let go. The actual psilocybin experience will last around 6 hours. Then, you'll head off to a late dinner.

8:00 AM – Morning practice

9:00 AM – Breakfast

10:00 AM – Bodywork & breathwork

12:00 PM – Truffle ceremony

1:00 PM – Essence ceremony

8:00 PM – Dinner

3rd day: Integration

No doubt you'll have a profound experience when you go through the Ceremony, likely tapping into more creativity, clarity, mind expansion and non-duality. Because we don't want you to lose sight of what insights and experiences you had, we'll spend extensive time on your third day processing and integrating all that occurred. We want you to carry your breakthroughs and transformations with you when you return home, so we'll provide guidance on how to maintain these changes long-term.

8:00 AM – Morning practice and breakfast

10:00 AM – Integration

13:00 PM – Lunch

2:00 PM – Goodbye

(The Essence Institute, www.essence.nl)

Appendix G

Justification for Journal Choice

The philosophy of the Journal of Psychedelic Studies is grounded in biology and psychology. It seeks to provide an interdisciplinary forum for the exchange of information about psychedelic substances and the biological, neurochemical and psychological changes they facilitate, as well as their social implications. The journal includes research reports on psychedelic experiences as well as examining the therapeutic potential of the substances.

This paper was chosen as the findings have social implications in the future promotion of psilocybin retreats as wellbeing interventions in a global environment of worsening mental health.

This journal has previously reported on integration challenges at psilocybin retreats, the use of psychedelics in naturalistic settings, as well as the links between psilocybin and wellbeing.

Appendix H

Journal of Psychedelic Studies Author Submission Guidelines

Manuscripts should be written in English and should be typed in double spacing with wide margins. Please upload one single main document edited and formatted according to the following instructions.

TITLE PAGE The title page should contain the title of the paper, a short running title, the name, the affiliation and the email address of each author, and an indication of which author will be responsible for correspondence. All contact details (address with postal codes and countries, phone, and e-mail) of the corresponding author are required. Abbreviations in the title should be avoided. Title page should also contain the date when the manuscript is submitted. The title page should include statements regarding Funding sources, Authors' contribution, and Conflict of interest. Following the blind review process and the acceptance of the manuscript, these statements will be added to the published paper.

ABSTRACTS should not exceed 250 words and should be presented on a separate sheet. Abstracts should be structured with specific sections describing the background and aims, methods, results, and conclusions.

KEY WORDS Abstracts should be accompanied by three to six key words or phrases that characterize the contents of the paper. These will be used for indexing and data retrieval purposes.

MAIN TEXT The body of research reports will generally include introduction, methods, results, and discussion sections. Further subheadings are acceptable. Review papers should also use section headings and subheadings. Sections should not be numbered. Please, avoid footnotes.

TEXT HEADINGS All headings in the text should be set over to the left-hand margin, and the text should begin on the next line. Type first level (sectional) HEADINGS ALL IN CAPITALS.

For second and third level headings, only the first letter of the first word should be a capital. Use bold letters for second level headings and italic for third level headings.

REFERENCES Style, statistical reporting, and reference citations should conform to the American Psychological Association's guidelines, from the APA Publication Manual, fifth edition. To conform with the APA Publication Manual, 7th edition, references should be alphabetized at the end of the manuscript text. DOI links should be added to the references when available.

FIGURES should be numbered with consecutive Arabic numerals, have descriptive captions, and be mentioned in the text. Figures should be kept at the end of the manuscript text (after references) and an approximate position for each should be indicated in the margin. It is the author's responsibility to obtain permission for any reproduction from other sources. Photographs should be submitted electronically in TIF or JPG format in separate files.

TABLES should be clearly typed with double spacing. Number tables with consecutive Arabic numerals and give each a clear descriptive heading. Avoid the use of vertical rules in tables. Table notes should be typed below the table, designated by superior lower-case letters. Tables should be kept at the end of the manuscript text (after figures) and an approximate position for each table should be indicated in the margin.

Appendix I
Ethics Approval

School of Psychology Ethics Committee

NOTICE OF ETHICS REVIEW DECISION LETTER

For research involving human participants
BSc/MSc/MA/Professional Doctorates in Clinical, Counselling and Educational Psychology

Details

Reviewer:	Please type your full name Matthew Boardman
Supervisor:	Please type supervisor's full name Glynis Freeman
Student:	Please type student's full name Victoria Ward
Course:	Please type course name MAPPCP
Title of proposed study:	Exploring the effects of a 3-day legal psilocybin retreat on four positive psychology measures

Decision on the above-named proposed research study

Please indicate the decision:	APPROVED
--------------------------------------	-----------------

Minor amendments

Please clearly detail the amendments the student is required to make

--

Major amendments

Please clearly detail the amendments the student is required to make

--

Assessment of risk to researcher

Has an adequate risk assessment been offered in the application form?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
	If no, please request resubmission with an <u>adequate risk assessment.</u>	
If the proposed research could expose the <u>researcher</u> to any kind of emotional, physical or health and safety hazard, please rate the degree of risk:		
HIGH	Please do not approve a high-risk application. Travel to countries/provinces/areas deemed to be high risk should not be permitted and an application not be approved on this basis. If unsure, please refer to the Chair of Ethics.	<input type="checkbox"/>
MEDIUM	Approve but include appropriate recommendations in the below box.	<input type="checkbox"/>

LOW	Approve and if necessary, include any recommendations in the below box.	<input checked="" type="checkbox"/>
Reviewer recommendations in relation to risk (if any):	Please insert any recommendations	

Reviewer's signature

Reviewer: (Typed name to act as signature)	Matthew Boardman
Date:	18/12/2023

This reviewer has assessed the ethics application for the named research study on behalf of the School of Psychology Ethics Committee

RESEARCHER PLEASE NOTE

For the researcher and participants involved in the above-named study to be covered by UEL's Insurance, prior ethics approval from the School of Psychology (acting on behalf of the UEL Ethics Committee), and confirmation from students where minor amendments were required, must be obtained before any research takes place.

For a copy of UEL's Personal Accident & Travel Insurance Policy, please see the Ethics Folder in the Psychology Noticeboard.

Appendix J
Participant Consent Form

Exploring the effects of a 3-day legal psilocybin retreat on four positive psychology measures

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Contact person: Victoria Ward

Email: U2192420@uel.ac.uk

	Please check
I confirm that I have read the participant information sheet dated 02/11/2023 (version 1) for the above study and that I will be emailed a copy to keep.	
I have had the opportunity to consider the information, ask questions via email and have had these answered satisfactorily.	
I understand that my participation in the study is voluntary and that I may withdraw at any time, without explanation or disadvantage.	
I understand that there is no reward for participating in the study.	
I understand that if I withdraw during the study, my data will not be used.	
I understand that I have 3 weeks from the date of the final survey to withdraw my data from the study.	
I understand that the study will be conducted via online surveys.	
I can read and understand English.	
My decision to take psychedelics is in no way influenced by my invitation to this study.	
I understand that my personal information and survey responses from the research will be securely stored and remain confidential. Only the research team will have access to this information, to which I give my permission.	
It has been explained to me what will happen to the data once the research has been completed.	
I understand that the data I contribute to the study by completing the surveys may be used in material such as conference presentations, reports, articles in academic journals resulting from the study and that these will not personally identify me.	
I agree to take part in the above study.	

Signed

Date

.....

By typing your name here, you confirm this as your digital signature.

Appendix K
Participant Information Sheet 02/11/2023 (version 1)

Exploring the effects of a 3-day legal psilocybin retreat on four positive psychology measures

Contact person: Victoria Ward

Email: u2192420@uel.ac.uk

You are being invited to participate in a research study. Before you decide whether to take part or not, please carefully read through the following information that outlines what your participation would involve. Feel free to talk with others about the study (e.g., friends, family, etc.) before making your decision. If anything is unclear or you have any questions, please do not hesitate to contact me on the above email.

This study should not be viewed as advocacy of psychedelic use. Its aim is to sample people whose intent to take a psychedelic is already established.

Your requirement in brief

You will be required to answer four short online questionnaires (approximately 5-10 minutes in total) at three different points in time: 1 day before your retreat, 2 days after your retreat, and 3 weeks after your retreat.

Who am I?

My name is Victoria Ward. I am a postgraduate student in the School of Psychology at the University of East London (UEL), studying for a Masters in Applied Positive Psychology and Coaching Psychology.

As part of my studies, I am conducting the research that you are being invited to participate in.

What is the purpose of the research?

I am conducting research into the wellbeing effects of attending a legal psilocybin retreat. The study will collect data on the effects of taking part in a legal psilocybin retreat, investigating any correlation between attending a retreat and changes in mental wellbeing.

Psilocybin-assisted therapy for severe depression has already shown long-term efficacy of more than 70%, and early clinical trials have shown psilocybin to be a safe and effective treatment for other mental health issues, including substance misuse, trauma and anxiety. Findings from this study could be used to promote change in the legal status of psilocybin, allowing the potential stimulation of investment and innovation in research and healthcare.

Why have I been invited to take part?

To address the study aims, I am inviting participants at the Essence Institute's legal psilocybin retreats to take part in my research. If you are over the age of 25 and speak a good level of English and are planning to attend a retreat at the Essence Institute before April 1st 2024, you are eligible to take part in the study. Thus, if you have already signed up for a legal psilocybin retreat at the Essence Institute, we would like to use the opportunity to better understand the effects of attending on wellbeing.

It is entirely up to you whether you take part or not, participation is voluntary. If you do decide to take part, you will be given a copy of this information sheet (in your sign-up confirmation email) to keep and be asked to give consent to participate. Such consent is given once you sign up for the

study by entering your email and agreeing to the terms outlined in the consent section. If you decide to take part, you are still free to withdraw at any time and without giving a reason.

You must also be willing to provide us with a correct email address and be willing to receive a small number of email reminders, to remind you to complete the relevant questionnaires at the appropriate times. No other personal data is collected, and your email address will be permanently deleted at the end of the data collection period.

Will I receive a reward for taking part?

There are no rewards for taking part.

What will I be asked to do if I agree to take part?

If you take part in this research, you will not be asked to do anything else besides answering four short questionnaires asking about your current mental wellbeing before, after, and two to three weeks after your retreat.

All questionnaires will be available online and you can access them on your own device within your own environment.

What happens at the different time points:

Time-point 1: 1 day prior to the planned legal psilocybin retreat.

Activity: Demographic data collection, and four short questionnaires about your mental wellbeing up

to one week prior to the retreat.

It is important that you plan to attend the retreat within 1 day of completing this first set of questionnaires.

If after completing this stage, you later decide to change your plans and either delay or cancel your planned retreat, this is fine. Completing the questionnaires at this time point does not oblige you to attend a retreat in any way.

It will take approximately 5-10 minutes in total to complete the questionnaires online.

Time-point 2: 2 days after your planned retreat.

Activity: Four short questionnaires about your mental wellbeing in the days following the retreat.

The questionnaires at Time-point 2 should be done 2 days after your retreat.

The questionnaire will be completed online and will take about 5-10 minutes to complete in total.

Time-point 3: 3 weeks after your planned retreat.

Activity: Four short questionnaires about your mental wellbeing two weeks after the retreat.

The questionnaires at Time-point 3 should be done 3 weeks after your retreat.

The questionnaire will be completed online and will take about 5-10 minutes to complete in total.

Can I change my mind?

Yes, you can change your mind at any time and withdraw without explanation, disadvantage or consequence. If you would like to withdraw from the research, you can do so by not continuing with the questionnaires. You do not need to inform me. If you withdraw by not completing the questionnaires at all three time-points, your data will not be used as part of the research.

Separately, you can also request to withdraw your data from being used even after you have taken part in the study, provided that this request is made within 3 weeks of the data being collected (after which point the data analysis will begin, and withdrawal will not be possible).

Are there any disadvantages to taking part?

There are no expected or known risks to taking part in answering the questionnaires within this study. Any potential risks to participating in the retreat are not connected with this study and will have been communicated to you by the Essence Institute.

Although unlikely, there is a possibility of psychological distress when answering questions about mental wellbeing. If for any reason you feel distressed during the assessment, you may withdraw at any moment without penalty. If you feel uncomfortable and would like additional support, please contact your doctor or one of these free mental health services:

Shout crisis text service, text SHOUT to 85258 (UK); Mind Infoline, 0300 123 3393 (UK); Turn2me, Turn2me.ie (Ireland); Foundation 113Online, <https://www.113.nl> (Netherlands); TelefonSeelSorge, Mental Health Helpline and Support, <https://www.telefonseelsorge.de>, 0800 111 0 111 (Germany); SOS Amitie, <https://www.sos-amitie.com>, 09 72 39 40 50 (France); Telefono de la Esperanza, <https://www.telefonodelaesperanza.org>, 717 003 717 (Spain). For other countries, support services can be found at Safe In Our World, <https://safeinourworld.org/find-help>.

You can also contact your retreat facilitator for any issues arising due to participation in the retreat.

Appendix L

Participant Debrief Sheet

Exploring the effects of a 3-day legal psilocybin retreat on four positive psychology measures

Contact person: Victoria Ward

Email: u2192420@uel.ac.uk

Thank you for participating in my research study on the effects of a legal psilocybin retreat on wellbeing. This document offers information that may be relevant in light of you having now taken part.

How will my data be managed?

The University of East London is the Data Controller for the personal information processed as part of this research project. The University will ensure that the personal data it processes is held securely and processed in accordance with the GDPR and the Data Protection Act 2018. More detailed information is available in the Participant Information Sheet, which you received when you agreed to take part in the research.

What will happen to the results of the research?

The research will be written up as a dissertation and submitted for my Masters in Applied Positive Psychology and Coaching Psychology and may be published in an academic journal. In all material

produced, your identity will remain anonymous, in that, it will not be possible to identify you personally as no personally identifying data will remain connecting you to this study. The only personal information I collected from you was your email address, which will be deleted from all files and records on your completion of the study.

You will be able to request a summary of the research findings once the study has been completed, by contacting me directly on U2912420@uel.ac.uk.

This anonymous research data will be securely stored by Glynis Freeman, my supervisor, for a maximum of 3 years, following which all data will be deleted.

What if I been adversely affected by taking part?

It is not anticipated that you will have been adversely affected by taking part in the research, and all reasonable steps have been taken to minimise distress or harm of any kind. Nevertheless, it is possible that your participation – or its after-effects – may have been challenging, distressing or uncomfortable in some way. If you have been affected in any of those ways, you may find the following resources/services helpful in relation to obtaining information and support:

Shout crisis text service, text SHOUT to 85258 (UK); Mind Infoline, 0300 123 3393 (UK); Turn2me, Turn2me.ie (Ireland); Foundation 113Online, <https://www.113.nl> (Netherlands); TelefonSeelSorge, Mental Health Helpline and Support, <https://www.telefonseelsorge.de>, 0800 111 0 111 (Germany); SOS Amitie, <https://www.sos-amitie.com>, 09 72 39 40 50 (France); Telefono de la Esperanza, <https://www.telefonodelaesperanza.org>, 717 003 717 (Spain).

For other countries, support services can be found at Safe In Our World, <https://safeinourworld.org/find-help>.

Who can I contact if I have any questions/concerns?

If you would like further information about my research or have any questions or concerns, please do not hesitate to contact me.

Victoria Ward, U2192420@uel.ac.uk

If you have any questions or concerns about how the research has been conducted, please contact my research supervisor Glynis Freeman via the School of Psychology, University of East London, Water Lane, London E15 4LZ,
Email: g.freeman@uel.ac.uk

or

Chair of School Research Ethics Committee: Dr Trishna Patel, School of Psychology, University of East London, Water Lane, London E15 4LZ.
(Email: t.patel@uel.ac.uk)

Thank you for taking part in my study

Appendix M

Sample: SPSS Output for Variable Wellbeing

Tests of Between-Subjects Effects

Measure: Wellbeing

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	140606.333	1	140606.333	1129.872	<.001	.984
Error	2240.000	18	124.444			

Custom Hypothesis Tests

Contrast Results (K Matrix)

Contrast ^a		Transformed Variable		
		Post vs pre	Pre vs mid&post	
L1	Contrast Estimate	6.526	7.000	
	Hypothesized Value	0	0	
	Difference (Estimate - Hypothesized)	6.526	7.000	
	Std. Error	1.955	1.800	
	Sig.	.004	.001	
	97.5% Confidence Interval for Difference	Lower Bound	1.747	2.598
		Upper Bound	11.306	11.402

a. Estimable Function for Intercept

Multivariate Test Results

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.457	7.142 ^a	2.000	17.000	.006	.457
Wilks' lambda	.543	7.142 ^a	2.000	17.000	.006	.457
Hotelling's trace	.840	7.142 ^a	2.000	17.000	.006	.457
Roy's largest root	.840	7.142 ^a	2.000	17.000	.006	.457

a. Exact statistic

Univariate Test Results

Source	Transformed Variable	Sum of Squares	df	Mean Square	F	Sig.
Contrast	Post vs pre	809.263	1	809.263	11.147	.004
	Pre vs mid&post	931.000	1	931.000	15.118	.001
Error	Post vs pre	1306.737	18	72.596		
	Pre vs mid&post	1108.500	18	61.583		

Appendix N

Sample: SPSS Output for Variable Flourishing

Descriptive Statistics

	Mean	Std. Deviation	N
Flo pre	44.47	7.813	19
Flo mid	48.79	6.303	19
Flo post	48.26	8.510	19

Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df	Sig.
time	Pillai's Trace	.558	10.717 ^b	2.000	17.000	<.001
	Wilks' Lambda	.442	10.717 ^b	2.000	17.000	<.001
	Hotelling's Trace	1.261	10.717 ^b	2.000	17.000	<.001
	Roy's Largest Root	1.261	10.717 ^b	2.000	17.000	<.001

Multivariate Tests^a

Effect		Partial Eta Squared
time	Pillai's Trace	.558
	Wilks' Lambda	.558
	Hotelling's Trace	.558
	Roy's Largest Root	.558

a. Design: Intercept
Within Subjects Design: time

b. Exact statistic

Mauchly's Test of Sphericity^a

Measure: Flourishing

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^b Greenhouse-Geisser
time	.881	2.148	2	.342	.894

Mauchly's Test of Sphericity^a

Measure: Flourishing

Within Subjects Effect	Epsilon ^b	
	Huynh-Feldt	Lower-bound
time	.986	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept
Within Subjects Design: time

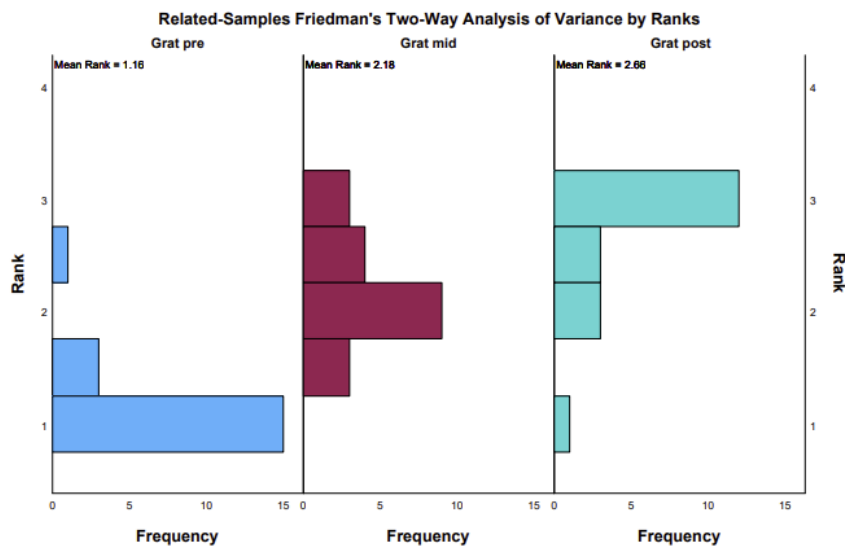
b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Appendix O

Sample: SPSS Output for Variable Gratitude

Related-Samples Friedman's Two-Way Analysis of Variance by Ranks Summary

Total N	19
Test Statistic	24.609
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	<.001



Pairwise Comparisons

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
Grat pre-Grat mid	-1.026	.324	-3.163	.002	.005
Grat pre-Grat post	-1.500	.324	-4.623	<.001	.000
Grat mid-Grat post	-.474	.324	-1.460	.144	.433

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

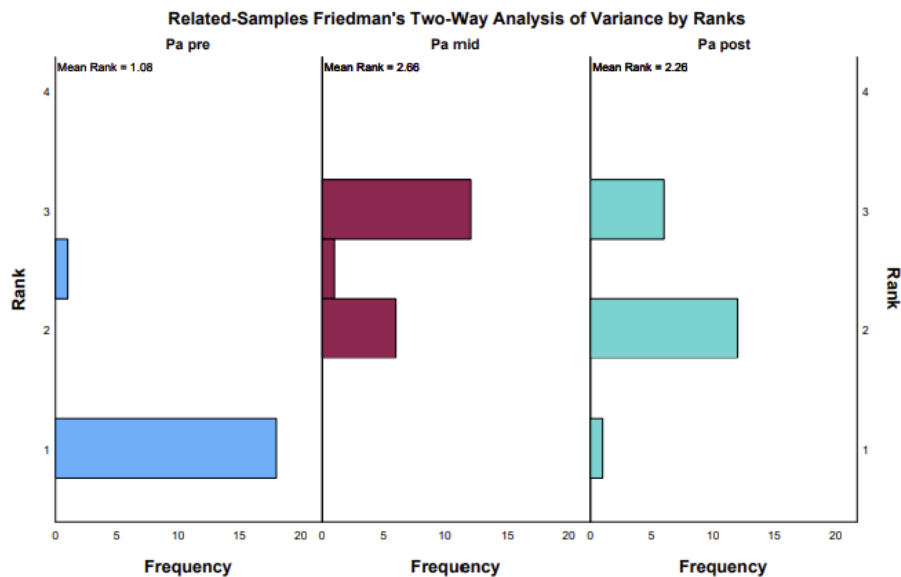
a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Appendix P

Sample: SPSS Output for Variable Positive Affect

Related-Samples Friedman's Two-Way Analysis of Variance by Ranks Summary

Total N	19
Test Statistic	26.000
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	<.001



Pairwise Comparisons

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
Pa pre-Pa post	-1.184	.324	-3.650	<.001	.001
Pa pre-Pa mid	-1.579	.324	-4.867	<.001	.000
Pa post-Pa mid	.395	.324	1.217	.224	.671

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.