The Phenomenology of Long-Term Meditation Experiences and Interpretation of the Nature of Human Consciousness

Fabio Mattiussi, Patrizio Tressoldi

Forty-five long-term meditators with a minimum of five years of continuous daily practice were requested to describe their highest meditative experiences using the micro-phenomenological self-inquiry method (MPSI) and to provide their interpretation of the nature of human consciousness. The first-person accounts of meditators consistently reported profound and stable experiences of body and identity transcendence, often describing non-dual states and a pervasive sense of unity. Most participants understood consciousness to be universal in nature and not reducible to a byproduct of the brain. These first-person accounts offer novel insights into the characteristics of long-term meditation experiences and the fundamental nature of consciousness.



Fabio Mattiussi is a psychologist specializing in neuroscience and meditation. His research interests include the cognitive and emotional processes involved in meditation practices, with particular attention to grief, vulnerability, and end-of-life issues.



Patrizio Tressoldi, PhD, is a senior scientist affiliated with the Studium Patavinum at Padova University in Italy. His primary research focus is investigating non-ordinary consciousness experiences, which he considers the best way to answer the existential question, "Who are we really?" His email contact is patrizio.tressoldi@unipd.it.

orcid.org

Received July 15, 2026
Revised August 17, 2026
Accepted August 18, 2026

Keywords
Meditation, long-term meditators, phenomenology, consciousness

← *Photography © 2026 Martin Dojčár*

1 Introduction

Meditation practices, originating from diverse spiritual and philosophical traditions across the globe, have increasingly become a focal point of scientific inquiry (Kabat-Zinn 1994; Lindahl *et al.* 2017). This growing interest is largely driven by the documented potential of these practices to confer various therapeutic benefits, including stress reduction, enhanced emotional regulation, improvements in cognitive function, and well-being (Nair *et al.* 2018; Álvarez-Pérez *et al.* 2022; Zheng *et al.* 2023). However, much of the existing research in this domain has predominantly focused on measurable outcomes, often employing quantitative methodologies, and has frequently centered on novice practitioners or those with relatively limited experience. This approach, while valuable for establishing efficacy and generalizable effects, leaves a significant gap in the comprehensive understanding of the rich, subjective experiences reported by long-term meditators (LTMs).

Phenomenology, as a qualitative research methodology, is uniquely positioned to address this gap by exploring first-person lived experiences (Ekici, Garip, and Van Gordon 2020). It provides deep insights into the "what" and "how" of subjective phenomena, moving beyond mere observable effects to understand the profound meaning-making processes and qualitative shifts in consciousness that occur through sustained practice.

While quantitative studies offer valuable data on the effects of meditation (e.g., Gamma and Metzinger 2021), they often fall short of capturing the ineffable and highly personal nature of advanced meditative experiences. Practitioners frequently describe these states as being beyond ordinary language or conceptual frameworks, making a direct descriptive approach essential; see, for example, the in-depth interview of Costines, Borghardt, and Wittmann (2021) with a Buddhist lama. Emphasizing the unique capacity of phenomenology to delve into these subjective realities sets the stage for a report that prioritizes deep qualitative understanding over broad statistical generalization, thereby providing a more holistic picture of advanced meditative experiences and their development.

A notable conceptual distinction is drawn between LTMs, whose expertise is typically assessed using duration-based metrics (e.g., total meditation hours), and advanced meditators (AMs), who are distinguished by qualitative shifts in skill enabling the practice of deeper states and traits. These include absorptive concentrative meditation states (e.g., *jhāna*; Sparby and Sacchet 2024), advanced investigative insight meditation states, and meditative endpoints such as non-dual awareness (Meling 2022) and cessation of consciousness (Laukkonen *et al.* 2023). Such shifts are marked by deep equanimity, refined sensory clarity, improved attention and self-regulation, and greater cognitive flexibility. Emerging evidence suggests that skill-based proficiency in experiencing these states correlates more strongly with well-being than simple duration-based expertise (Jones 2023).

This study aims to delve into the rich, subjective phenomenology of advanced meditation experiences and explore how these experiences inform the understanding of human consciousness. By examining the first-person accounts of LTMs, we seek to provide insights that go beyond traditional objective measures, thus contributing to a more comprehensive phenomenological understanding of consciousness.

2 Methods

2.1 Participants

Forty-five long-term meditators (LTMs), 24 females and 21 males, mean chronological age = 56.5; SD = 12.2; range 28–80, were recruited by the first author, contacting many meditation centers and organizations in Italy.

The sample size was not planned but determined by the participants' availability by the end of the investigation planned for the 2025 summer if a satisfactory level of thematic saturation was observed in the participants' reports, that is, if the description of the experiences was quite similar (Hennink, Kaiser, and Marconi 2017; Ahmed 2025). The recruiting period started on September 1, 2024, and ended on September 9, 2024. The only criterion for inclusion as LTMs was that of practicing any form of daily meditation over a minimum of five years following the Ehmann *et al.* (2025) suggestion. Their mean years of practice was 17.6; SD = 12.2; range 5–59, with an estimated mean of hours of practice of 4,207; SD = 2,964.

Their meditation backgrounds included various Buddhist traditions such as *Vipassanā* (Mahāsi, Goenka), Zen (Rinzai, Sōtō), Tibetan Buddhism (Karma Kagyü, Nyingma, Vajrayāna Ganden Nyengyu), and secular mindfulness-based approaches (Mindfulness-Based Stress Reduction, Mindfulness Oriented Meditation), as well as other spiritual traditions like Vedic, Gnostic Anthropology, and Satyananda's Bihar Yoga.

2.2 Ethics Approval

All procedures were performed in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. This study was approved by the Ethics Committee of the Science of Consciousness Research Group.

2.3 Procedure for Data Collection

1. Initial Contact and Informed Consent. Meditators were contacted individually via telephone or video call to explain the aims and procedures of the investigation. Upon acceptance, they received a written description of the procedure and informed consent forms to sign.

2. Description of Highest Meditative State. By referring to the *micro-phenomenological self-inquiry* (MPSI; Sparby 2023), participants were invited to describe their perceptual and mental experiences during or immediately after meditation sessions where they believed they were in their "best psycho-physical condition" and had reached their "highest meditative state," following these instructions:

Of your highest meditative state, please describe every detail inherent:

- *variations and state of the perception of your body;*
- *variations and state of the perception of your identity;*
- *variations and state of the ability to control the body and mental contents;*
- *variations and state of the perception of time;*
- *variations and types of mental contents, if any, e.g., images, thoughts, sensations;*
- *variations and states of emotions, if any, e.g., fear, joy, wonder, etc.;*
- *any other state/sensation induced by the practice;*
- *any other notable experiences.*

All participants carried out this task for the first time.

Methodological Clarification. The *micro-phenomenological self-inquiry* (MPSI) protocol used here differs from the classic, interviewer-guided micro-phenomenological interview, in which a trained facilitator poses a structured sequence of questions in real time to help participants access pre-reflective aspects of an experience and to limit retrospective cognitive rationalization. MPSI was developed by Sparby (2023) specifically as a self-administered adaptation of this method, in which the same guiding structure is applied by participants to their own experience without a facilitator present. In the present study, participants used the written prompts reproduced above to compose a first-person account, in written or audio form, independently. This choice made it possible to collect data from a geographically dispersed sample of forty-five long-term meditators, but as noted in the Limitations section, it also means that the real-time verification and redirection a trained interviewer would normally provide were not available.

Additional Information. Beyond the meditative state itself, the self-inquiry protocol also sought to understand some broader contextual factors:

- Meditation Cultural References: The philosophical, religious, or spiritual traditions from which their meditation practices are derived.
- Their personal opinions on consciousness responding to the question, "What are your personal opinions on the nature of consciousness, e.g., deriving from brain neurobiology, deriving from Universal Consciousness, etc.?"

Recording Method. Participants were given the option to describe their experiences verbally, recorded on a device (e.g., smartphone) to ensure sufficient audio quality, or to provide written descriptions. The research team was available to transcribe the audio material if preferred.

Data Availability. All anonymized meditators' reports are available open access for independent analyses at zenodo.org.

Phenomenological Analysis and Characterization. The collected textual data were subjected to the phenomenological thematic analysis by the two authors following the APA guidelines for qualitative research (Levitt *et al*. 2018). This analysis involved:

Thematic Organization. Structuring the data based on the themes included in the interview:

- variations and state of the perception of the body;
- variations and state of the perception of the identity;
- variations and state of the ability to control the body and mental contents;
- variations and state of the perception of time;
- variations and types of mental contents, if any, e.g., images, thoughts, sensations;
- variations and states of emotions, if any, e.g., fear, joy, wonder, etc.;
- any other state/sensation induced by the practice.

Coding. Examining descriptions within each theme across participants to identify commonalities, abstracting them into short descriptive units, and clustering them into the experience subcategories described in the self-inquiry protocol. Both authors, expert in meditation, carried out this task independently and compared their results until an overall consensus was achieved.

Quantitative Characterization (where applicable). Assigning numerical values to subcategories that best reflected described experiences and opinions for each participant and condition (e.g., "consciousness deriving from brain activity" vs. "consciousness as a universal entity interacting with the brain").

3 Results

Qualitative accounts from long-term meditators consistently point to profound alterations in perception, self-awareness, and cognitive processing, often transcending ordinary experiences.

3.1 Body Perception

Meditators consistently describe a profound change of experience of their physical body. LTM 1 (35 years of practice) articulated his body as transcending the physical, becoming "*a field of energy and information, a part of the larger universe.*" LTM 10 (30+ years) reported a sensation of "*losing the boundaries*" and feeling the internal organs calm, while LTM 12 (20 years) noted awareness including the self and one's body, even with physical pain. LTM 15 (59 years) stated she could "*easily no longer perceive my body becoming only my psychic symbol or the void.*" LTM 37 (30+ years) described an "*absence of body perception,*" where the body is stable and comfortable, not a disturbance. LTM 3 (7 years) noted his body seemed "*very light*" and its contours "*not well defined.*" LTM 6 (7 years) described moments where "*the perception of some parts of the body such as hands, arms and legs disappears.*" This suggests a shift from merely relaxing the body to complete dissolution or integration into a larger energetic field.

3.2 Identity Perception

A recurring theme in the highest meditative states is the reduction or dissolution of the sense of a separate self or an ego. Participants described a shift from an explicit, autobiographical self to a more experiential, present-focused, and dereified sense of self. This can manifest as a feeling of lightness or the absence of bodily boundaries, where the physical form diminishes. LTM 1 (35 years) experienced "*the boundaries that define myself blur, and I experience a profound sense of unity with all that exists.*" LTM 4 (50 years) described how the "*sense of a separate self… begins to dissolve, leaving a sense of pure being, a consciousness that is not tied to any particular identity or role.*" LTM 16 (35 years) felt the perception of becoming one "*with everything, losing my identity.*" LTM 31 (25 years) had moments of "*no identity*" with a presence/absence. This indicates a fundamental shift in self-referential processing that moves beyond the individual ego.

Other meditators, while experiencing shifts, often retained a more defined sense of self or described more transient identity changes. LTM 14 (5 years) felt "*concentrated in my third eye chakra*" rather than a complete dissolution of identity. LTM 29 (10 years) stated she had "*never experienced variations in the perception of identity, unless one can consider brief suspensions in the perception of oneself as described above regarding a sort of state of diffuse consciousness.*" This suggests that the sense of personal identity, with its usual thoughts, feelings, and memories, can fade away, leading to a "transcendence of the ego" and a sense of "pure being."

3.3 Experiences of "Pure" Consciousness (MPE)

Several experienced meditators describe reaching states of "pure" consciousness or *Minimal Phenomenal Experience* (MPE). These are characterized as quasi-contentless, non-dual states where "*habitual chatter of thoughts and the usual flow of mental activity fade away, leaving a space of pure consciousness*" (LTM 4). Key phenomenal qualities reported in these states include:

- *Absolute emptiness/Nothingness.* A state without intentional content or phenomenal representation, where the distinction between subject and object collapses.
- *Luminous clarity.* This is described as an "*ephemeral afterglow*" or maximally abstract phenomenal quality, experienced during the transition back from absolute emptiness to a state of minimal emptiness, justifying the conclusion of having been in a state of "*pure consciousness*" (LTM 4). It can also be experienced in non-minimal states as an "*experiential mode of being awakened.*"
- *Selflessness and timelessness.* Consistent with self-boundary dissolution, there is no experience of self, time, or space, yet full wakefulness is maintained. This state is so refreshing that short periods are sufficient to feel completely revitalized.
- *Awareness resting in awareness.* Consciousness is described as "*aware of itself,*" a "*resting state of the mind in itself.*" This "*truth dimension*" or *dharmakāya* is considered the basic state of being that permeates all other sensory experiences.

3.4 Control over Body and Mental Contents

Meditators described surrendering control, where mental contents manifested spontaneously and were observed without attachment. LTM 5 (21 years) stated "*no control, everything manifests spontaneously. Control goes in the opposite direction to advanced meditation.*" LTM 10 (30+ years) emphasized "*effortless awareness*" that "*completely changes the attitude to face reality in daily life*" not arising from control, but from acceptance. For LTM 37 (30+ years), "*the superficial mental contents are transcended… therefore, there is no need to control the activity of the lower mind.*" This indicates a shift from the active management of thoughts to a state where such management is no longer necessary, as the fundamental nature of the mind is understood.

Conversely, other meditators often focused on the ability to control or manage thoughts and distractions. LTM 42 (10 years) noted that "*when my mind is distracted, I notice that a part of the body has contracted, once relaxed, the mind returns to focus.*" LTM 8 (8 years) described the mind calming down and thoughts passing through without proliferating, indicating a process of managing the mind's activity. This suggests that practitioners are actively engaged in developing mental discipline and returning their focus, whereas experts have cultivated a state where this effort is largely transcended.

3.5 Time Perception

Meditators consistently report a profound alteration in time perception, often describing timelessness or the expansion of the present moment. LTM 1 (35 years) stated, "*time is not linear but rather expansive. Past, present, and future coexist in the eternal now.*" LTM 5 (21 years) simply described it as "*beyond time.*" LTM 4 (50 years) noted the "*usual sense of past, present, and future blurs, and there is a feeling of timelessness.*" LTM 23 (9 years) observed that "*sometimes it is as if only an instant had passed, sometimes it seems more dilated.*" LTM 17 (5 years) found that "*time during meditations is relative, some sessions of about 30 minutes seem to me very short, in others the same amount of time is eternal.*" This indicates a qualitative shift in the experience of time, moving beyond conventional linear understanding, ranging within a framework of subjective variability to a consistent experience of timelessness.

3.6 Mental Contents and Emotions

Meditators described mental contents as either ceasing, becoming faint, or being observed as mere movements of the mind without attachment. LTM 4 (50 years) noted, "*thoughts, images, and sensations become faint or cease altogether.*" LTM 22 (15 years) explained that "*images, thoughts and sensations are experienced as movements of the mind.*" Emotions were often characterized by profound peace, joy, and unconditional love, transcending fear or other transient states. LTM 1 (35 years) described "*deep sense of peace and joy and profound love and connection with the universe.*"

Other meditators often reported thoughts and emotions arising, but with a focus on observing and letting them go. LTM 42 (10 years) noted: "*the birth of thoughts about the past or future… and the emotions that I see emerge most are: joy… anger or frustration… anxiety… quiet.*" LTM 8 (8 years) described thoughts and memories appearing "*like sensations while I observe them without already finding myself inside.*"

Overall, meditators describe a more fundamental shift in their relationship with these contents, progressively seeing them as insubstantial movements of consciousness itself rather than something to be actively managed or detached from. Thoughts, images, and sensations often become faint or cease altogether, leaving the mind quiet and spacious.

3.6.1 Emotional States and Affective Valence

In these deep meditative states, the emotional landscape shifts profoundly. There is often an "*all-pervasive sense of love, not directed towards any object, but a pure, unconditional love that envelops one's entire being*" (LTM 4). This inner well-being is described as profound peace, serenity, bliss, or joy, independent of external circumstances. LTM 32 reported "*a feeling of fullness, of being in the right place at the right time.*"

While generally positive, advanced meditative states can also lead to challenging experiences, including emotional distress. These may include feelings of agitation, boredom, frustration, or even physical discomfort, which meditators learn to observe and let go. The sources indicate that affective valence is often more positive in states of self-boundary dissolution, although emotions (both positive and negative) may be experienced with greater intensity. The ability

to transform "heavy" thoughts and achieve emotional neutrality through equanimity is a key outcome of this process.

Response to the question, "What are your personal opinions on the nature of consciousness, e.g., deriving from brain neurobiology, deriving from Universal Consciousness, etc.?"

Sixty-nine percent (31/45) of participants clearly supported the interpretation that consciousness is primary and interacts with the brain, describing it in various terms, e.g., "*the fundamental ground of all existence*" (LTM 1); "*a fundamental component of reality, rather than something that emerges solely from brain neurobiology*" (LTM 4); "*deriving from Universal Consciousness*" (LTM 13). The remaining participants endorsed different interpretations, ranging from *Ken Wilber's Integral Psychology* or *Integral Meta-Theory* (LTM 2) to an emerging property of brain activity (LTM 6), and "*Noble Silence*" (LTM 26).

4 Discussion

The findings of this investigation underscore a profound qualitative progression in the first-person experience of meditation that correlates with sustained, long-term practice, representing a fundamental shift in the relationship with oneself, reality, and existential understanding. The experience of the highest meditative state frequently involves transcending the physical body, perceiving it as energy, a sort of non-existent form.

This suggests that with extensive practice, meditators experience a recalibration of the mind-body relationship in which the physical form is no longer the primary locus of identification, leading to a more expansive and less bounded sense of self, consistent with Berkovich-Ohana *et al*. (2013, 2020) and Nave *et al*. (2021).

This expansion of identity, often described as merging with universal consciousness or pure being, is a hallmark of advanced practice. In participants' accounts, it moves beyond a mere reduction of the ego toward a felt recognition of the self as interconnected with all existence.

The approach to mental contents also demonstrates a clear developmental trajectory, starting with actively engaging in managing thoughts, distractions, and emotions, a process of cultivating mental discipline and returning to focus, to a state where such control becomes irrelevant. Thoughts and emotions are observed as spontaneous manifestations of the mind, arising and dissolving without attachment or effortful management.

Through prolonged practice, meditators increasingly come to understand and experience the mind as inherently clear and self-liberating, rather than as something that needs to be tamed. This shift from active control to effortless observation and non-reactivity is a significant indicator of deep meditative integration. Similar experiences of "contentless mental activity" or pure consciousness were observed by Woods *et al*. (2023), with a selected group of retreat participants practicing *Śamatha*, Thai Forest, and Stillness Meditation.

This state of the mind is also conceptualized as "emptiness" by Van Gordon *et al*. (2021, 1845). These authors explain that "*a key principle of emptiness is that apart from a categorical label, something constituting the self of a given entity, including humans, can never be located in time or space.*"

Time experience shifts from a subjective and variable perception of time to timelessness, where the past, present, and future coalesce into an eternal now. This suggests that in the practitioner's own experience, time is understood as a mental construct rather than as an inherent feature of reality, contributing to a felt sense of liberation from psychological time. Subjective time differences, but not time estimation with psychophysical tasks between long-term meditators and non-meditators were also found by Wittmann *et al.* (2015) and Linares Gutiérrez *et al*. (2022).

The conceptualization of consciousness also evolves significantly with practice, even if the participants' philosophical or cultural beliefs contribute to this interpretation. LTMs converge on the view of consciousness as a universal, non-material, fundamental ground of existence, often aligning with ancient philosophical traditions that posit consciousness as primary. This perspective appears to be deeply rooted in their direct experience of meditation. This may point to a relationship in which profound meditative experience reinforces a non-materialistic worldview, as several participants described it, rather than simply following from pre-existing belief; however, the cross-sectional design of this study cannot establish causality in either direction.

4.1 The Role of Attentional Disengagement and Equanimity

Our findings underscore the critical role of attentional disengagement and passivity (letting go of effort) as drivers of deep self-boundary dissolution. This contrasts with the initial, more effortful attentional control characteristic of earlier meditation stages. The ability to surrender volitional effort and allow the mind to come to "complete rest" enables attention to cease its organizational role, thereby promoting the dissolution of self-boundaries and experiential form. This aligns with predictive processing accounts, where a reduction in "top-down precision weighting" (or attentional focus) leads to a suspension of "self-evidencing," giving rise to non-dual awareness and minimal phenomenal experiences.

Equanimity, defined as emotional neutrality and non-judgmental acceptance, emerges as a core mechanism. It is proposed that enhanced equanimity leads to "enhanced emotional neutrality, acceptance, reduced judgment, and negative affect." The ability to decouple sensory experiences from their cognitive interpretations, particularly in pain perception, exemplifies this. This decentering, an experiential distancing from thoughts and emotions, is critical for nonconceptual cognition and cognitive-affective reappraisal.

It is interesting to observe that long-term meditation experiences share many commonalities with advanced states of consciousness reached through dedicated meditative practices defined as *satori*, *turīya*, *turīyātīta*, *rigpa*, *mahāśūnya*, *samādhi*, *jhāna*, *dzogchen*, *mahāmudrā*, *Transcendental Meditation*, and *samāpatti*. Notwithstanding deriving from different spiritual and philosophical traditions, these states were described by participants as sharing common characteristics, which they interpreted as reflecting a universal aspect of pure, pristine consciousness.

4.2 Participants' Reconceptualization of Consciousness: Beyond Brain-Centric Views

Many participants interpreted their consistent reports of self-boundary dissolution, timelessness, and contentless awareness in advanced meditative states as challenging prevailing scientific views that exclusively locate consciousness as a byproduct of brain neurobiology, though the present qualitative data cannot adjudicate this question empirically. Many meditators expressed a personal belief that consciousness is the "*fundamental ground of all existence*" or a "*primary aspect of existence*" with the brain acting as a "*receiver or transmitter*" rather than the sole generator. This perspective resonates with Eastern philosophies that emphasize the non-material aspects of reality and universal consciousness. The concept of "pure" consciousness, described as an "*awareness resting in awareness*," was interpreted by participants as suggesting a dimension of consciousness that can exist independently of sensory input or cognitive content, an interpretation that, if corroborated by further research, would call for broader theoretical frameworks of consciousness.

The progression from dualistic, object-focused awareness to explicit, non-dual awareness reflects expertise-dependent unfolding. This indicates that long-term meditation may foster cognitive flexibility and epistemic access to one's mental processes, supporting insights into causal dynamics across affective and cognitive domains. The dissolution of the "narrative self" and the emergence of an

"experiential, dynamic, and dereified sense of self" align with Buddhist psychological accounts of "No-Self," where the self is viewed as a dynamic process rather than a fixed entity. However, it is relevant to acknowledge that the participants' conceptualization of consciousness can derive both from their meditation experience and their cultural background.

4.3 Methodological Implications for Consciousness Research

The study of long-term meditators provides a unique window into the fundamental structures of consciousness, which are often implicit or inaccessible in ordinary states. The methodological approach of integrating detailed first-person micro-phenomenological accounts with quantitative information obtained for example by using questionnaires (Gamma and Metzinger 2021) offers a unique opportunity to investigate such a special mental state. The diversity and richness of reported experiences, including subtle and profound alterations of self, time, and perception, highlight the need for fine-grained phenomenological analysis and skill-based proficiency metrics for meditators beyond mere hours of practice.

4.3.1 Challenges and Future Directions

While the reported benefits are substantial, the findings also acknowledge potential physical and interpersonal difficulties associated with long-term practice. These "adverse events" in meditation, such as emotional distress or cognitive difficulties, not directly investigated in this study, require further investigation to understand their nature and whether they offer long-term benefits like growth and resilience (see Cebolla *et al.* 2017).

Future research should prioritize longitudinal studies to understand the temporal dynamics of meditation-related cognitive development and to establish causality and moderating factors (e.g., intensity and type of practice). Further efforts are needed to operationalize novel Buddhist constructs like *sampajañña* (Pi. "clear knowing") and *sukha* (Pi. "enduring well-being") in a scientifically compatible manner. Integrating Buddhist teachings and ethics into secular mindfulness-based interventions may enhance practitioner understanding and outcomes, particularly for those experiencing existential distress. Finally, the study of such profound altered states of consciousness, including "cessations," offers unique opportunities to explore consciousness at its most fundamental level.

5 Study Limitations

Even if the meditative cultural background of our participants includes various traditions and techniques, our findings cannot be generalized to all LTMs and meditation practices. Only further studies with different LTMs can validate our findings.

Furthermore, the low number of participants practicing identical meditation techniques did not allow for investigating whether they facilitate or slow the different types of experiences reported by the participants. A further limitation concerns data collection: Because the MPSI protocol was self-administered rather than delivered through a real-time, interviewer-guided micro-phenomenological interview, we cannot fully exclude the possibility that some accounts involved a degree of retrospective cognitive rationalization that a trained interviewer might otherwise have identified and mitigated (Petitmengin *et al.* 2019).

6 Conclusion

Long-term meditation offers a unique and invaluable lens through which to explore the depths of human consciousness. The rich, nuanced phenomenology reported by long-term meditators, encompassing profound shifts in the perception of the body, identity, time, and emotions, alongside experiences of "pure" consciousness, suggests that, in the interpretation of many meditators, consciousness may be a more fundamental and dynamic aspect of existence than is proposed by purely brain-centric models. Whether this interpretation reflects the objective nature of consciousness itself remains an open empirical and philosophical question that lies beyond the scope of the present qualitative study. By embracing quantitative and qualitative methods, and fostering rigorous interdisciplinary collaboration between contemplative science, philosophy, and neuroscience, we can move towards a deeper understanding of the mind's ultimate potential.

Acknowledgments

The authors recognize the great voluntary contribution of all participants.

Authors' contribution: conceptualization FM, PT; data curation FM, PT; formal analyses FM, PT; investigation FM; methodology PT; writing original draft PT; writing review, editing FM, PT.

References

Ahmed, Sirwan Khalid. 2025. "Sample Size for Saturation in Qualitative Research: Debates, Definitions, and Strategies." *Journal of Medicine, Surgery & Public Health* 5: 100171. doi.org.

Álvarez-Pérez, Yolanda, Amado Rivero-Santana, Lilisbeth Perestelo-Pérez, Andrea Duarte-Díaz, Vanesa Ramos-García, Ana Toledo-Chávarri, Alezandra Torres-Castaño, Beatriz León-Salas, Diego Infante-Ventura, Nerea González-Hernández, Leticia Rodríguez-Rodríguez, and Pedro Serrano-Aguilar. 2022. "Effectiveness of Mantra-Based Meditation on Mental Health: A Systematic Review and Meta-Analysis." *International Journal of Environmental Research & Public Health* 19 (6): 3380. doi.org.

Berkovich-Ohana, Aviva, Yair Dor-Ziderman, Joseph Glicksohn, and Abraham Goldstein. 2013. "Alterations in the Sense of Time, Space, and Body in the Mindfulness-Trained Brain: A Neurophenomenologically-Guided MEG Study." *Frontiers in Psychology* 4: 912. doi.org.

Berkovich-Ohana, Aviva, Yair Dor-Ziderman, Fynn-Mathis Trautwein, Yoav Schweitzer, Ohad Nave, Stephen Fulder, and Yochai Ataria. 2020. "The Hitchhiker's Guide to Neurophenomenology: The Case of Studying Self Boundaries with Meditators." *Frontiers in Psychology* 11: 1680. doi.org.

Cebolla, Ausiàs, Marcelo Demarzo, Patricia Martins, Joaquim Soler, and Javier Garcia-Campayo. 2017. "Unwanted Effects: Is There a Negative Side of Meditation? A Multicentre Survey." *PLoS One* 12 (9): e0183137. doi.org.

Costines, Cyril, Tilmann Lhündrup Borghardt, and Marc Wittmann. 2021. "The Phenomenology of 'Pure' Consciousness as Reported by an Experienced Meditator of the Tibetan Buddhist Karma Kagyu Tradition: Analysis of Interview Content Concerning Different Meditative States." *Philosophies* 6 (2): 50. doi.org.

Ehmann, Sebastian, Idil Sezer, Isaac N. Treves, John D. E. Gabrieli, and Matthew D. Sacchet. 2025. "Mindfulness, Cognition, and long-term meditators: Toward a Science of Advanced Meditation." *Imaging Neuroscience* 3: IMAG.a.82. doi.org.

Ekici, Çimen, Gulcan Garip, and William Van Gordon. 2020. "The Lived Experiences of Experienced Vipassana Mahasi Meditators: An Interpretative Phenomenological Analysis." *Mindfulness* 11 (1): 140–52. doi.org.

Gamma, Alex, and Thomas Metzinger. 2021. "The Minimal Phenomenal Experience Questionnaire (MPE-92M): Towards a Phenomenological Profile of 'Pure Awareness' Experiences in Meditators." *PLoS One* 16 (7): e0253694. doi.org.

Hennink, Monique M., Bonnie N. Kaiser, and Vincent C. Marconi. 2017. "Code Saturation Versus Meaning Saturation: How Many Interviews Are Enough?" *Qualitative Health Research* 27 (4): 591–608. doi.org.

Jones, Patrick. 2023. "Mindfulness and Nondual Well-Being: What Is the Evidence That We Can Stay Happy?" *Review of General Psychology* 27 (2): 103–20. doi.org.

Kabat-Zinn, Jon. 1994. *Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life*. New York, NY: Hyperion.

Laukkonen, Ruben E., Matthew D. Sacchet, Henk Barendregt, Kathryn J. Devaney, Avijit Chowdhury, and Heleen A. Slagter. 2023. "Cessations of Consciousness in Meditation: Advancing a Scientific Understanding of Nirodha Samāpatti." *Progress in Brain Research* 280: 61–87. doi.org.

Levitt, Heidi M., Michael Bamberg, John W. Creswell, David M. Frost, Ruthellen Josselson, and Carola Suárez-Orozco. 2018. "Journal Article Reporting Standards for Qualitative Primary, Qualitative Meta-Analytic, and Mixed Methods Research in Psychology: The APA Publications and Communications Board Task Force Report." *American Psychologist* 73 (1): 26–46. doi.org.

Linares Gutiérrez, Damisela, Stefan Schmidt, Karin Meissner, and Marc Wittmann. 2022. "Changes in Subjective Time and Self During Meditation." *Biology* 11 (8): 1116. doi.org.

Lindahl, Jared R., Nathan E. Fisher, David J. Cooper, Rochelle K. Rosen, and Willoughby B. Britton. 2017. "The Varieties of Contemplative Experience: A Mixed-Methods Study of Meditation-Related Challenges in Western Buddhists." *PLoS One* 12 (5): e0176239. doi.org.

Meling, Daniel. 2022. "Knowing the Knowing: Non-Dual Meditative Practice from an Enactive Perspective." *Frontiers in Psychology* 13: 778817. doi.org.

Nair, Ajay Kumar, John P. John, Seema Mehrotra, and Bindu M. Kutty. 2018. "What Contributes to Wellbeing Gains—Proficiency or Duration of Meditation Related Practices?" *International Journal of Wellbeing* 8 (2): 68–88. doi.org.

Nave, Ohad, Fynn-Mathis Trautwein, Yochai Ataria, Yair Dor-Ziderman, Yoav Schweitzer, Stephen Fulder, and Aviva Berkovich-Ohana. 2021. "Self-Boundary Dissolution in Meditation: A Phenomenological Investigation." *Brain Sciences* 11 (6): 819. doi.org.

Petitmengin, Claire, Martijn van Beek, Michel Bitbol, Jean-Michel Nissou, and Andreas Roepstorff. 2019. "Studying the Experience of Meditation Through Micro-Phenomenology." *Current Opinion in Psychology* 28: 54–59. doi.org.

Sparby, Terje. 2023. "Micro-Phenomenological Self-Inquiry." *Phenomenology and the Cognitive Sciences* 22 (1): 247–266. doi.org.

Sparby, Terje, and Matthew D. Sacchet. 2024. "Toward a Unified Account of Advanced Concentrative Absorption Meditation: A Systematic Definition and Classification of Jhāna." *Mindfulness* 15 (6): 1375–1394. doi.org.

Van Gordon, William, Supakyada Sapthiang, Paul Barrows, and Edo Shonin. 2021. "Understanding and Practicing Emptiness." *Mindfulness* 12 (7): 1845–48. doi.org.

Wittmann, Marc, Simone Otten, Eva Schötz, Anna Sarikaya, Hanna Lehnen, Han-Gue Jo, Niko Kohls, Stefan Schmidt, and Karin Meissner. 2015. "Subjective Expansion of Extended Time-Spans in Experienced Meditators." *Frontiers in Psychology* 5: 1586. doi.org.

Woods, Toby J., Jennifer M. Windt, Lydia Brown, Olivia Carter, and Nicholas T. Van Dam. 2023. "Subjective Experiences of Committed Meditators Across Practices Aiming for Contentless States." *Mindfulness* 14 (6): 1457–78. doi.org.

Zheng, Yuan, Luyi Yan, Yifei Chen, Xiuqing Zhang, Wenxiang Sun, Jing Lv, Jingyi Zhou, Xiaodan Gu *et al*. 2023. "Effects of Loving-Kindness and Compassion Meditation on Anxiety: A Systematic Review and Meta-Analysis." *Mindfulness* 14 (5): 1021–37. doi.org.