Ethical principles of traditional Indigenous medicine to guide western psychedelic research and practice



Yuria Celidwen, ^{a,m}, * Nicole Redvers, ^{b,c,m} Cicilia Githaiga, ^{d,m} Janeth Calambás, ^{e,m} Karen Añaños, ^f Miguel Evanjuanoy Chindoy, ^{g,m} Riccardo Vitale, ^g Juan Nelson Rojas, ^{h,i,m} Delores Mondragón, ^{j,m} Yuniur Vázquez Rosalío, ^{k,m} and Angelina Sacbaiá^{l,m}



Summary

The resurgence of Western psychedelic research and practice has led to increasing concerns from many Indigenous Nations regarding cultural appropriation, lack of recognition of the sacred cultural positioning of these medicines, exclusionary practices in research and praxis, and patenting of traditional medicines. Indigenous voices and leadership have been notably absent from the Western psychedelic field currently widely represented by Westerners. An Indigenous-led globally represented group of practitioners, activists, scholars, lawyers, and human rights defenders came together with the purpose of formulating a set of ethical guidelines concerning traditional Indigenous medicines current use in Western psychedelic research and practice. A global Indigenous consensus process of knowledge-gathering was engaged which identified eight interconnected ethical principles, including: Reverence, Respect, Responsibility, Relevance, Regulation, Reparation, Restoration, and Reconciliation. A summary of the work is presented here with suggested ethical actions for moving forward within Western psychedelic research and practice spaces.

The Lancet Regional Health - Americas 2023;18: 100410

Published Online 16 December 2022 https://doi.org/10. 1016/j.lana.2022. 100410

Copyright © 2022 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Keywords: Indigenous peoples; Traditional medicine; Traditional healing; Psychedelics; Ethics; Traditional ecological knowledge; Plant medicine; Spirit medicine

Introduction

Western psychedelic research is an emerging and controversial research and praxis within psychiatric medicine¹⁻⁴ and the neuroscientific fields.⁵ Some randomized controlled trials have supported the efficacy of the use of certain Spirit medicines (aka. psychedelics) such as psilocybin in the treatment of depression and

cancer-related anxiety,⁵⁻⁸ with ayahuasca's treatment of psychiatric disorders, for example, being preliminary.⁴ Yet, the general utilization of psychedelics is growing in acceptance with more than 30 million estimated psychedelic users in the United States (US) alone.⁹ As of 2022, there were 367 registered clinical studies on psychedelics,¹⁰ with an increasing number of cities and states in the U.S. legalizing their use.¹¹ The economic profits alone of the psychedelic industry is expected to grow to 6.85 billion by 2027.¹²

The resurgence of the Western psychedelic movement has, however, led to increasing concerns from many Indigenous Nations regarding the cultural appropriation of their traditional medicines, a lack of recognition of the sacred positioning of these medicines within their communities and cultures, exclusionary

^aUniversity of California, Berkeley, CA, USA

^bSchulich School of Medicine & Dentistry, University of Western Ontario, London, ON, Canada

^cArctic Indigenous Wellness Foundation, Yellowknife, NT, Canada

^dUniversity of Nairobi, Nairobi, Kenya

^eUniversidad Distrital Francisco José de Caldas, Bogotá, Colombia

^fUniversity of Granada, Granada, Spain

⁹Unión de Médicos Indígenas Yageceros de La Amazonía Colombiana, Colombia

^hPull Together Now, USA

ⁱPipil Kakawira Indigenous Council of Firekeepers and Healers, El Salvador

^jUniversity of California Santa Barbara, CA, USA

^kWixárika Ceremonial Center "Kuruxi Manuwe" of the Wixárika Regional Council in Defense of Wirikuta, Mexico

¹Nimalaxik, Association of Traditional Mayan Medicine, Guatemala

^{*}Corresponding author. 2121 Berkeley Way, Berkeley, CA, 94720-1650, USA.

E-mail address: celidwen@berkeley.edu (Y. Celidwen).

m'Authors' Indigenous affiliations: Yuria Celidwen, Ph.D., (Nahua and Maya Tseltal). Nicole Redvers, N.D., M.PH., (Deninu K'ue). Cicilia Githaiga M.A. (Kikuyu). Janeth Calambás (Misak). Miguel Evanjuanoy Chindoy (Inga). Juan Nelson Rojas (Nahua Pipil Kakawira). Delores Mondragón M.A. (Chickasaw). Yuniur Vázquez Rosalío (Wixárika). Angelina Sacbajá (Maya Kakchiquel).

practices in research and scale up endeavours, and the threat to their intellectual property rights with patents of traditional Indigenous medicines. 13-21 Indigenous Peoples' voices and leadership have been notably absent from Western psychedelic research and psychedelicassisted therapy spaces, with the field currently being widely represented by Western peoples. When Indigenous voices have been engaged, their presence has often been more symbolic, with little distributed benefit going back to their communities. 14,15 For example, despite this growing multi billion-dollar industry, there is little evidence of any potential health or economic return to Indigenous communities, who make up 6% of the world population, yet 30% of the extremely poor,22 and live on average 20 years less than non-Indigenous Peoples. 23,24 These disparities are further exemplified by the knowledge that Western psychedelic practitioners and facilitators can reach average earnings of \$10,500 per service event,25 compared to Indigenous medicine practitioners who may earn between \$2 to \$150 for their services in their communities of origin.26

Indigenous policy considerations

In 2001, a report supported by the World Health Organization Traditional Medicine Program (WHO TRM) determined that a total of 122 in-use drug compounds were being used in Western medicine at the time, and 80% of these compounds were used for the same (or related) purpose as their original traditional medicine use.27 Yet, many Indigenous medicine systems around the world are still often given the back seat when it comes to both acknowledgement and practice within the conventional medical-care setting.28 Free, prior, and informed consent (FPIC) is a specific right that pertains to Indigenous Peoples,29 additionally recognized in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).30 FPIC has not been historically honored or understood in the context of the application of the rights of Indigenous Peoples within Western medical research and praxis, including within the context of appropriation of traditional medicines.31

Traditional Indigenous medicine is currently far from being widely protected by law. As of 2022, only the constitutions of Bolivia (Art. 42),³² and Ecuador (Art. 57)³³ include regulation specific to Indigenous traditional medicine. Other relevant frameworks that mention Indigenous rights to the use and development of their traditional medicines and related practices are the ILO Convention No. 169 (Art. 25.2),³⁴ UNDRIP (Arts. 24 and 31),³⁰ the American Declaration on the Rights of Indigenous Peoples (Art. 13; Art. 18; Art. 28),³⁵ the Convention on Biological Diversity (CBD) (Art. 8 [j], 16, and Annex 1)³⁶ and its Nagoya protocol on Access and benefit-sharing (Art. 7 and Art. 12),³⁶ the Sharm El-Sheikh Declaration (2018),³⁷ UNESCO's Local and Indigenous Knowledge Systems Program (LINKS),³⁸ and

UNESCO's policy on engaging with Indigenous Peoples.³⁹ In addition, the United Nations Permanent Forum on Indigenous Issues (UNPFII) issued a report on Indigenous Traditional Knowledge in 2012, recommending the inclusion of the protection of Indigenous intellectual property to the World International Intellectual Property Organization (WIPO).40 Over the years, the topic of intellectual property has been included in UNPFII sessions, with the most recent in its twenty-first session held in 2022.41 Yet, despite the established legal frameworks noted here, none specifically addresses Indigenous traditional medicine's rapid commodification and commercialization in the West in certain fields of practice. These legal frameworks noted also don't address contexts where the countries of research and practice are not signatories to the above noted mechanisms (e.g., the US is not a signatory to the CBD and therefore also not party to the Nagoya protocol on Access and benefit-sharing).

Indigenous worldview and praxis

Indigenous Peoples' worldviews currently have very little explicit attention, presence, and focus within Western psychedelic research and assisted therapies. Furthermore, the decontextualized appropriation of Indigenous traditional medicines in the context of psychedelics is arguably detrimental to Indigenous health and Land rights through unauthorized research and drug development. 42,43 Appropriation is additionally driving rainforest deforestation due to increasing global demands for the use of plant-derived psychedelics. 44,45 Therefore, there is increasingly a premise and an acute need for actioned ethical responsibility within psychedelic research and practice communities to ensure Indigenous rights are upheld when it comes to the determination and usage of Indigenous Peoples' own traditional knowledges and practices.

From the Indigenous community context, the preservation of both tangible (e.g., material property) and intangible (e.g., intellectual property, cultural skills and traditions, performing arts, ceremonies)⁴⁶ traditional medicines and practices are fundamental for the transmission of cultural identity and survival. Indigenous healing traditions themselves orient their application on what is termed 'relationality,' which is the understanding that,

"... human lives are interdependent with and contingent on living in ethical relations with other people, with our ancestors, with plants and animals, and with the natural world overall. Indigenous systems of relationality are the heartbeat of Indigenous existence. They help to illuminate approaches to physical, intellectual, emotional, and spiritual health." ⁴⁷

This relational system is based on physical, emotional, cognitive, and spiritual qualities that make Indigenous systems interdependent, participatory, and ecologically-based.⁴⁸ Indigenous collective identity is thus rooted in a sense of gratitude, awe, and reverence with a firm responsibility and sense of stewardship towards all interconnected ecosystems and life cycles.^{48,49} This collective identity is additionally bound by an utmost respect for Mother Earth and all human, other-than-human, and environmental relationships.⁴⁹⁻⁵¹

It is additionally important to highlight that this relational system is inclusive of psychedelic medicines; however, the use of the term 'psychedelic' ("manifesting the mind"), is very much a Western-based individualistic term and not an Indigenous one. Despite this, the term 'psychedelic' is applied consistently in this Personal View to ensure understanding for Western clinicians and audiences. Indigenous Nations have their own traditional-language names for these psychedelic medicines, which can sometimes be referred to in the English language as Spirit medicine, sacred medicines, sacramental medicines, or traditional medicines. This Personal View also specifically references 'traditional Indigenous medicine' throughout this consensus process to differentiate Indigenous medicine practices from other more well-known traditional medicine systems such as Traditional Chinese Medicine (TCM).

Indigenous consensus process

Despite the inherent complexities surrounding psychedelic research and practice (including its standing in Western legislation), the overarching goal of this Personal View is to share the results of a consensus process that brought together a breath of leadership across fields of Indigenous and intercultural health; the defense of the rights of Indigenous Peoples and the Rights of Mother Earth; Indigenous spiritual traditions; and governance and community advocacy at regional, national, and international levels. The Indigenous-led group gathered with the purpose of formulating a set of ethical guidelines concerning traditional Indigenous medicines use in Western psychedelic research and practice. This is the first time to our knowledge that a globally represented Indigenous led group has been brought together with the purpose of engaging directly with the psychiatric and research community on this topic through formal scholarship.

An adapted consensus development panel was therefore used to establish firm guidance on the ethical standards needed for the engagement with Indigenous Peoples and their traditional medicines within psychedelic research and practice. The consensus development panel was adapted following methods described in detail by Redvers et al.,⁴⁹ which platforms and centres Indigenous ways of knowledge-gathering and sharing, and as such, will be referred to as an "Indigenous consensus process".⁴⁹ The panel composition ensured broad Indigenous representation from across the world using

purposive sampling while prioritizing community members with extensive experience and knowledge in tradi-Indigenous medicines. This included representatives from Canada (Denésuliné [N.R.]), Colombia (Inga [M.E.], Misak [J.C.]), El Salvador (Nahua Pipil Kakawira [J.N.R.]), Guatemala (Maya Kakchiquel [A.S.T.]), Kenya (Kikuyu [C.G.]), Mexico (Maya Tseltal [Y.C.], Nahua [Y.C.], and Wixárika [Y.V.R.]), Peru ([K.A.]), and the United States (Chickasaw [D.M.]). The eligibility for participation was flexible and based on expertise within the topic area, having prominent positions within Indigenous spaces, and those with established Indigenous networks. Eligible participants could hold institutional and community-engaged relevant positions regarding their knowledge in Indigenous medicine, the defense of the rights of Indigenous Peoples, and Indigenous advocacy at the international level. No invited members declined participation; however, four potential groups members had community and/or international engagements that conflicted with our meeting time and were not able to continue with the process.

The Indigenous consensus process had three stages that lasted from October 28, 2021, to March 11, 2022. The first stage was conducted in the form of virtual meetings focused on the guiding questions of how the psychedelic industry has affected Indigenous communities; how to reckon with abusive practices and reorient the field towards reparation, inclusion, and belonging of Indigenous insights; critical changes that need to happen before bridging knowledge systems; and recommendations on how to approach traditional Indigenous medicine ethically in the West. Shared goals were prioritized with a focus on identifying potential collaborative solutions to bring healing to the world, while also providing reparations for historical abuse. In the second stage of the consensus process, an initial draft was created based on the first stage of the work, which was circulated for high-level reflection, feedback, and edits by all group members. The feedback and edits resulted in several revisions of the draft consensus document over several weeks. The third stage of the process was a final virtual meeting to address any remaining areas for consensus. Two subsequent drafts were produced before a final consensus was reached. The research process was reviewed and approved as not Human Subject Research by the University of California at Berkeley's Committee for Protection of Human Subjects of the Office for Protection of Human Subjects (FWA# 00006252).

Eight ethical principles defined

This Indigenous consensus process was determined to outline the critical elements in ensuring appropriate inclusion and recognition of the rights of historically marginalized voices within the Western psychedelic research and praxis. It is important to emphasize that

while there are similar experiences and outlooks amongst Indigenous Peoples worldwide, the principles shared here come from the voice of the participants' respective communities; however, the consensus group is confident that this process has captured important elements that may be relevant to many Indigenous Nations. Despite this, the group recognizes that other potential elements of relevance could be identified as this topic is further contextualized to regional settings. Additionally, there are likely some Indigenous communities that are not wanting to engage in this dialogue for many complex but meaningful reasons, and those views should be respected. Nevertheless, the group initiates this critical conversation within the field of psychiatry and other relevant research and practice spaces (both Western and Indigenous), with the hopes of promoting wider dialogue and action.

The consensus group identified eight interconnected ethical principles categorized within four overarching categories concerning traditional Indigenous medicines use in Western psychedelic research and practice, including: (1) Reverence, (2) Respect, (3) Responsibility, (4) Relevance, (5) Regulation, (6) Reparation, (7) Restoration, and (8) Reconciliation (see Table 1). A summary of the main categories and the ethical principles associated with each category will be presented here. Concrete problems were additionally highlighted within each of the principles as it pertains to current practice, with suggested actions for moving reconciliation forward within Western psychedelic research and praxis.

Acknowledgment

There is need for the direct acknowledgement of Indigenous traditional knowledges and practices being the root of Western psychedelic medicine. This acknowledgement category is represented by two interconnected ethical principles that drive the practice and use of psychedelic medicines within Indigenous communities.

Acknowledgement	1. Reverence
	2. Respect
Knowledge-Translation and Education	3. Responsibility
	4. Relevance
Intellectual Property	5. Regulation
	6. Reparation
Belonging	7. Restoration
	8. Reconciliation

Table 1: The main categories and eight individual ethical principles concerning traditional Indigenous medicines use in Western psychedelic research and practice.

Reverence for Mother Nature

Traditional Indigenous medicine is an ethical, ecosystem-protective, and holistic system of medicine that interconnects humans and the environment. A sense of reverence for the planet guides all relationships, as well as a commitment to preserve all life. Traditional Indigenous medicine from a systems and relational perspective prompts insight for compassionate living and awareness of collective care to sustain the well-being of the medicines themselves as well as all future generations.

Concrete problem

Western psychedelic research and practice has its roots within traditional Indigenous medicines systems yet have turned 'kincentric' approaches (treating all relationships, including medicines, as kin) to anthropocentric approaches (human-centric). This anthropocentric approach fails to adequately reference or acknowledge Indigenous paradigms in Western procedures, thus expropriating Indigenous knowledges while separating the medicines from the context of their original environments.

Reverence-governed actions

The explicit acknowledgement of Indigenous Peoples and their traditional medicines and practice as the root of Western psychedelic research and practice; Western psychedelic research and practice references Indigenous concepts of reverence as guided by local Indigenous scholars and communities; the Western psychedelic research and practice community takes action to support Indigenous Nations protection of the at-risk land and natural environments where these traditional Indigenous medicines originate; support Indigenous Peoples in their fulfillment of the right to life and of the right to live in peace on ancestral lands.

Respect Indigenous ways of knowing and being

A respectful approach to engaging with Indigenous Peoples and their ways of knowing and being is urgently needed within Western psychedelic research and praxis. A respectful method consists of approaching Indigenous knowledge systems through relationship building first and foremost with Indigenous scholars and practitioners, Indigenous organizations, and/or respected traditional knowledge-holders within regional contexts. This respectful method also includes following the respective traditional Indigenous protocols in the region in addition to upholding free, prior, and informed consent (FPIC) at all levels of the engagement process when it comes to the potential use of Indigenous knowledges in new contexts ("nothing about us, without us"⁵²).

Concrete problem

Many Western-based psychedelic research, training programs, and facilitated psychedelic sessions

decontextualize and capitalize on Indigenous ceremonies, principles, and ideas without the FPIC of communities where these medicines and related practices originated.

Respect-governed action

Western psychedelic research and practice movements respectfully request the involvement of Indigenous Peoples, Indigenous scholars, Indigenous organizations, and/or traditional knowledge holders as 'leaders' in the potential development of research and therapies involving tangible or intangible traditional Indigenous medicines; Western psychedelic research and practice movements uphold and actively engage in FPIC with Indigenous Nations, acknowledging that consent for participation can be withdrawn at any stage of the engagement or research process as determined by the respective Indigenous Nation; Western psychedelic research and practice movements fund the development and/or sustainment of regional Indigenous-led and Indigenous-run ethical review bodies that are tasked with overseeing research and practice engagement within their regions; Western psychedelic research and practice movements support and fund Indigenous Nations development or refinement of biocultural community protocols⁵³ and/or community ethical protocols to determine how stakeholders, researchers, and other individuals should interact with their communities in regard to the use or practice of psychedelic medicine.

Knowledge translation and education

There is need for culturally appropriate and accurate translations of Indigenous knowledges within Western psychedelic research and practices at institutional and civil society levels. A dialogue of reclamation and revitalization focused on the rights of Indigenous Peoples to their tangible and intangible traditional Indigenous medicines are foundational to this educational effort. This knowledge translation and education main category is represented by two interconnected ethical principles that drive the knowledge transmission of psychedelic medicines within Indigenous communities.

Responsibility for use, benefits, harms

Institutions that lead, host, or enable Western psychedelic research and/or practice should be held accountable for the promotion or engagement with any cultural appropriation, for any capitalization off of Indigenous Peoples and their cultural practices without their FPIC, and for enabling directly or indirectly white-supremacist legacies in psychedelic research, training, and practice.

Concrete problem

Western psychedelic research and practice have generated and enabled patterns of consumption, cultural

appropriation, and the capitalization of Indigenous knowledges, with a sharp increase in psychedelic public and corporate use, while Indigenous Peoples continue to struggle for basic access to health services and minimum standards of living around the globe.

Responsibility-governed action

Institutions agree to undertake and fund a formal organizational review of any and all Western psychedelic research and practice in their environments through an Indigenous leadership process; institutions re-visit their institutional ethics board policies and procedures to ensure oversight and inclusion of Indigenous Peoples and Indigenous communities in the review and approval of any Western psychedelic research and/or practice projects; responsibility is shifted towards leadership and belonging for Indigenous Peoples, Indigenous pedagogies of learning, and Indigenous research and practice methodologies.

Relevance of Indigenous knowledges in psychedelic medicine

Indigenous Peoples and their traditional knowledges are relevant and needed within Western educational settings, research, and practice systems, and concrete efforts should be made to elevate their leadership and presence. Opening meaningful and cultural safe spaces for decolonizing pedagogies of learning, in addition to the decolonization of research and clinical methodologies, ensures contextual and inclusive commitment towards equitable and inclusive environments that fulfill statements of diversity, equity, and inclusion at all levels of the institution.

Concrete problem

Western psychedelic research and/or practice institutional systems have often historically and contemporarily excluded Indigenous Peoples and their knowledge systems, prioritizing instead colonizing research and clinical methodologies that have served and advanced Eurocentric ideals and well-being at the peril of Indigenous community health and well-being.

Relevance-governed action

Incorporate through elevated and promoted Indigenous institutional leadership and FPIC processes, Indigenous science and relevant methodologies in Western psychedelic research and practice, led by Indigenous scholars and/or Indigenous practitioners; honour context-relevant methods of knowledge translation in education, training, and practice that respects Indigenous self-determination and sovereignty.

Intellectual property and reparation

The creation of strict legal mechanisms on intellectual property that recognizes the rights of Indigenous

Peoples to their tangible and intangible knowledges and medicines, and the consequent distribution of benefits derived from the use and development of medicines and practices of Indigenous origin that were extracted and appropriate without the FPIC of Indigenous Peoples are urgently needed. The establishment of intellectual property mechanisms requires a direct commitment to the already established legal mechanisms currently unevenly adopted by countries (see *Introduction* for a review of relevant legal mechanisms). This intellectual property and reparation category is represented by two interconnected ethical principles.

Regulation of tangible and intangible uses of traditional Indigenous medicines

It is crucial to continue the generation of constitutional recognition, with specific clauses on the protection of the intellectual property of traditional Indigenous medicine and practice, and its use and development. Indigenous Peoples should decide upon the proper cross-border cooperation and increased awareness needed in the field, including capacity building, technology transfer, collaboration and cooperation on use, administration, and conservation of their knowledges and practices.

Concrete problem

Regulatory advances protecting the intellectual property of traditional Indigenous medicine at the national and international levels are scarce.

Regulation-governed action

The legal development and regulatory expansion of formalized regulation and recognition of Indigenous traditional knowledges (including medicines) within conceptions of intellectual property systems must come from Indigenous self-determined rules of law to ensure culturally sensitive policies.

Reparation and sharing of benefits

Indigenous Peoples have the right to maintain, control, protect, and develop their own traditional knowledges, medicines, and cultures. Indigenous Peoples should additionally receive fair and equitable sharing of benefits derived from the use of any natural and genetic resources and intangible intellectual, cultural, and spiritual heritage as they see fit. In cases where knowledge, medicines, and/or resources were taken illegally or without the FPIC of Indigenous Peoples, agreed upon reparation, not excluding compensation post facto, should be prioritized.

Concrete problem

Western psychedelic research and practices have benefited non-Indigenous Peoples at the expense of Indigenous communities and their knowledges.

Reparation-governed action

Reparations should seek to promote and safeguard self-determination, and enable restitution of appropriate cultural, intellectual, religious, and spiritual property with the FPIC of Indigenous Nations.

Belonging

The inherent 'belonging' of Indigenous Peoples' perspectives within the psychedelic research and practice field is conceptualized by combining many of the elements of the first six ethical principles previously defined. Any potential partnerships or collaborations (or senses of belonging) with or within Indigenous Nations may be dictated by the attainment and actioning of the above stated six principles that set the stage for the next two ethical principles here defined.

Restoration of Indigenous authority

Indigenous Peoples knowledges, contexts, and relevant practices are restored as the guiding voices in the development of their tangible and intangible traditional Indigenous medicines and practices.

Concrete problem

Western institutions in many cases have only recently attempted reciprocity and outreach with Indigenous Peoples to justify the extraction and capitalization of their medicines.

Restoration-governed action

Indigenous and Western systems are not yet of equal standing; therefore, restoration of Indigenous authority is imperative for any fruitful and meaningful collaboration into the future.

Reconciliation of Indigenous-Western relations

Work with Indigenous Peoples and their traditional Indigenous medicine systems should involve local, national, and international levels of cooperation with governmental and non-governmental organizations, and humanitarian and environmental bodies to establish restorative, 54,55 transitional, and transformative justice procedures. 56-60 This level of cooperation will serve to highlight Indigenous discourse and promote capacities rooted in Indigenous ways of knowing and being as a human right imperative.

Concrete problem

The current state of Western psychedelic research and practice in institutional and non-institutional settings is not yet conducive to a reconciliation of Indigenous and Western relationships.

Indigenous principles	Concrete problems	Possible solutions
1. Reverence for Mother Nature	High carbon footprint therapies (e.g., long-distance travel, monocultures), spiritual consumerism, and psychedelic tourism fail to promote environmental care.	attitudes towards better relationships with human
2. Respect Indigenous ways of knowing and being	Extraction and failure to adequately reference Indigenous traditions (e.g., in medicines, rituals, ceremonial use).	Proper acknowledgment of Indigenous traditions.
3. Responsibility for use, benefits, harms	Colonial practices of exploitation, dissemination, capitalization, and promotion of appropriation of Indigenous medicines. Promotion of well-being in non-Indigenous Peoples without considering access to health for Indigenous Peoples.	Accountability for perpetuation of harmful practices and a responsibility for inclusive and respectful practice.
4. Relevance of Indigenous knowledges in psychedelic medicine	Western education and therapies, continue to colonize Indigenous practices.	Formal efforts establish Indigenous-led intellectual foundations in Western psychedelic science, therapy, and curricula.
5. Regulation of tangible and intangible use of traditional Indigenous medicines	Indigenous traditions are appropriated in psychedelic products, therapies, retreats.	Indigenous Peoples rights are respected through FPIC on the use of their medicines and practices. Benefits for any use of Indigenous medicine and practices are shared with Indigenous source communities as they see fit.
6. Reparation and sharing of benefits	Indigenous knowledges, material and genetic resources are a growing billion-dollar industry benefitting primarily Western populations.	Institutions and organizations using psychedelics for research and/or therapies, seek to promote and safeguard self-determination, and enable restitution of appropriate cultural, intellectual, religious, and spiritual property with the FPIC of Indigenous Nations.
7. Restoration of Indigenous authority	Indigenous voices are not part of deliberations related to psychedelic science, therapies, training, product development, etc.	Restoration of Indigenous authority is prioritized.
8. Reconciliation of Indigenous-Western relations	Indigenous voices are not part of institutions, both formal and informal, that are dictating the shape of the psychedelic research therapy movement.	

Renovation-governed action

Direct engagement and enactment of the previously described ethical principles (see Table 1) will serve as a necessary steppingstone to right relations between Western and Indigenous systems and Peoples; actions and interventions concerning traditional Indigenous medicines must be developed through direct participatory methodologies respecting the rights of local Indigenous autonomy, governance, and self-determination.

The way forward

To help orient this consensus process more directly towards solutions, we further summarize in Table 2 additional recommended practical solutions within Western psychedelic research and practice. This consensus process emphasized that by continuing the extraction and commercialization of various traditional Indigenous medicines, Western institutions are destroying the core themes of Indigenous life in the following important ways: (i) the glorification of psychedelics⁶¹ excites harmful narratives of exceptionalism

that result in spiritual consumerism⁵⁰ and exploitative tourism^{14,62} that is very often managed by Westerners⁶³; (ii) the unsustainable foraging of Indigenous medicines make them increasingly unavailable for local use^{13,64,65}; (iii) Indigenous Peoples are exposed to extreme violence from the infiltration of drug cartels into traditional territories that often source raw materials from forest habitats (e.g., MDMA)66,67; (iv) the spreading of false information about a particular plant medicine being the one key pill to human enlightenment. 68,69 While these medicines may contribute towards powerful and transformative solutions to the health and planetary crisis, they can also lose their meaning when deprived of their cultural container. We hope that the eight ethical principles detailed here spark important conversation and action within the psychiatry and psychedelic research community towards better, more respectful relations.

This Indigenous-led group of practitioners, scholars, lawyers, human rights defenders, and activists will be continuing this work by examining routes of implementation, policy recommendations, and the practical application of these principles from an Indigenous lens

involving regional, national, and international frameworks and community networks. As we build equitable and inclusive societies, institutions, and fields, embracing diverse knowledge systems will ensure greater well-being for all planetary communities. Indigenous voices can be a powerful and beneficial solutions-orientated force for wellbeing derived from ancestral wisdom and insight from the heart of Mother Earth. 49

Contributors

Original project and design, Y.C.; writing-original draft, Y.C.; funding acquisition and project administration, Y.C.; conceptualisation and methodology, Y.C., N.R., K.A., C.G., J.N.R., R.V., M.E.Ch., Y.V.R., J.C., D.M., and A.S.; data curation, Y.C., N.R., K.A., C.G., J.N.R., R.V., M.E.Ch.; investigation, Y.C., N.R., K.A., C.G.,; writing-editing, Y.C., N.R., K.A., C.G., R.V., M.E.Ch., J.C., D.M., and J.N.R; writing-review, Y.C. and N.R.

Declaration of interests

We declare no competing interests.

Acknowledgments

We recognize Mother Earth with Her presence and guiding voice representing all directions, and inclusive of earth, water, air, and fire beings in the vastness of our relations. We acknowledge all these beings as Our Kin. We acknowledge and pay respects to the rightful stewards of the Lands we call home and wholeheartedly recognize our human and other-than-human relatives displaced and dispossessed of territories and identities. May we all return to a sense of home. We bow to the Elders past, present, and emerging of all Indigenous Peoples and Nations, and those of the authors Chickasaw, Cofán, Coreguaje, Denésuliné, Inga, Kamentsá, Kikuyu, Maya (Kaqchikel, Tseltal), Misak, Nahua (Tlaxcalteca, Pipil Kakawira), Quechua, Siona, and Wixárika Peoples, as we weave trust with our planetary relatives, and we celebrate Spirit. We additionally encourage those individuals and organizations that have begun their journeys to rightful relations to continue this work alongside Indigenous communities.

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Appendix A. Supplementary data

Supplementary data related to this article can be found at https://doi. org/10.1016/j.lana.2022.100410.

References

- Nutt D, Carhart-Harris R. The current status of psychedelics in psychiatry. JAMA Psychiatr. 2021;78(2):121–122. Krebs TS, Johansen PØ. Psychedelics and Mental Health: A pop-
- ulation study. PLoS One. 2013;8(8):e63972.
- Nichols D, Johnson M, Nichols C. Psychedelics as medicines: An emerging new paradigm. Clin Pharmacol Ther. 2017;101(2):209-219.
- Reiff CM, Richman EE, Nemeroff CB, et al. Psychedelics and psychedelic-assisted psychotherapy. Am J Psychiatry. 2020;177(5):
- McCulloch DEW, Grzywacz MZ, Madsen MK, et al. A quantitative and qualitative report of psilocybin induced mystical-type experiences and their relation to lasting positive effect [internet] [cited 2022 Feb 6]. Available from: https://doi.org/10.31234/osf.io/xqzu2; 2021.
- Carhart-Harris RL, Roseman L, Bolstridge M, et al. Psilocybin for treatment-resistant depression: fMRI-measured brain mechanisms. Sci Rep. 2017;7(1):13187.
- Davis AK, Barrett FS, May DG, et al. Effects of psilocybin-assisted therapy on major depressive disorder: a randomized clinical trial. JAMA Psychiatr. 2021;78(5):481-489.

- Watts R, Day C, Krzanowski J, Nutt D, Carhart-Harris R. Patients' accounts of increased "connectedness" and "acceptance" after psilocybin for treatment-resistant depression. J Humanist Psychol. 2017;57(5):520-564.
- Phelps J. Developing guidelines and competencies for the training of psychedelic therapists. J Humanist Psychol. 2017;57(5):450-487
- ClinicalTrials.gov [Internet]. Studies found for psychedelics [cited 2022 Feb 18]. Available from: https://clinicaltrials.gov/ct2/results? term=psychedelics; 2018.
- Smith WR, Appelbaum PS. Two models of legalization of psychedelic substances: reasons for concern. JAMA. 2021;326(8):697-698.
- Research DBM. Psychedelic Drugs Market 2020 to Grow at +16.3% CAGR by 2027 [Internet] [cited 2022 Feb 20]. Available from: https:// www.openpr.com/news/2068844/psychedelic-drugs-market-2020-togrow-at-16-3-cagr-by-2027; 2020.
- Celidwen Y. Master Plants and Monster Medicine. Indigenous contemplative and western medicine practices: towards reciprocation and recontextualization. Indigenous religious traditions [Internet]. American Academy of Religion; 2021. Available from: https://papers.aarweb.org/sites/default/files/general/AAR%20and %20OE%20Sessions.pdf.
- UMIYAC-Unión de Médicos Indígenas Yageceros de la Amazonía Colombiana. Declaration about Cultural Appropriation from the Spiritual Authorities, Representatives and Indigenous Organizations of the Amazon Region [Internet] [cited 2022 Mar 6]. UMIYAC; 2019. Available from: https://umiyac.org/2019/11/01/declaration-aboutcultural-appropriation-from-the-spiritual-authorities-representativesand-indigenous-organizations-of-the-amazon-region/?lang=en.
- Regional Wixarika Council in Defense of Wirikuta. Urgent letter from the wixarika people to the president of Mexico and to all the peoples and governments of the world | wirikuta defense front TAMATSIMA WAHAA [internet] [cited 2022 Mar 6]. Available from: https://frenteendefensadewirikuta.org/p882.html; 2022.
- Negrin D. Colonial Shadows in the Psychedelic Renaissance [Internet] [cited 2022 Mar 6]. Wixárika Research Center; 2020. from: https://www.wixarika.org/colonial-shadowssychedelic-renaissance.
- Schauenberg T. Patents on Plants: Is the Sellout of Genes a Threat to Farmers and Global Food Security? [Internet] [cited 2022 Mar 6]. DWCOM; 2019. Available from: https://www.dw.com/en/patentson-plants-is-the-sellout-of-genes-a-threat-to-farmers-and-globalfood-security/a-49906072
- Baig R. Biopiracy Rips Off Native Medical Knowledge [Internet] [cited 2022 Mar 6]. DWCOM; 2013. Available from: https://www. dw.com/en/biopiracy-rips-off-native-medical-knowledge/a 16732044.
- Phalnikar S. Treading a fine line between trade and conservation to fight biopiracy [Internet] [cited 2022 Mar 6]. DWCOM; 2015. Available from: https://www.dw.com/en/treading-a-fine-linebetween-trade-and-conservation-to-fight-biopiracy/a-18200195.
- Native American Churches Speak Out Against Illegitimate Organizations. Native American rights fund [Internet] [cited 2022 Mar 6]. Available from: https://www.narf.org/national-council-of-native-americanchurches-speak-out-against-illegitimate-organizations/; 2016.
- Tone-Pah-Hote T, Redvers N. The commercialization of biospecimens from Indigenous Peoples: A scoping review of benefitsharing. Front Med. 2022:9.
- Indigenous Peoples [Internet] [cited 2022 Jan 8]. Available from: https://www.fao.org/resources/infographics/infographics-details/en/c/454472/; 2022.
- UNDESA. Health [Internet] [cited 2022 Feb 6]. United Nations for indigenous peoples; 2018. Available from: https://www.un.org/ development/desa/indigenouspeoples/mandated-areas1/health.html.
- Indigenous Peoples, Poverty and Human Development in Latin America [Internet] [cited 2022 Feb 8]. SpringerLink; 2022. Available
- from: https://link.springer.com/book/10.1057%2F9780230377226. Leonhardt M. Here's how much "magic mushroom retreats" like Goop Lab's actually cost [Internet] [cited 2022 Feb 23]. CNBC; 2020. Available from: https://www.cnbc.com/2020/01/24/heres-howmuch-magic-mushroom-retreats-like-goop-labs-actually-cost.html.
- Indigenous Elders, various locations. Average earning of Indigenous medicine practitioners in home community. 2021.
- Fabricant DS, Farnsworth NR. The value of plants used in traditional medicine for drug discovery. Environ Health Perspect. 2001:109:69-75.
- Redvers N, Blondin B. Traditional Indigenous medicine in North America: a scoping review. PLoS One. 2020;8:15.

- 29 Free, Prior and Informed Consent [Internet] [cited 2022 Mar 6]. Indigenous Peoples. Food and Agriculture Organization of the United Nations; 2022. Available from: https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/.
- 30 United Nations. United Nations declaration on the rights of indigenous peoples [internet]. Available from: https://www.un.org/ development/desa/indigenouspeoples/wp-content/uploads/sites/ 19/2018/11/UNDRIP_E_web.pdf; 2007.
- 31 Sterling RL. Genetic research among the havasupai: A cautionary tale. AMA J Ethics. 2011;13(2):113–117.
- 32 Constitución Política del Estado (CPE). Bolivia InfoLeyes Legislación online. 2015:107.
- 33 CONSTITUCIÓN POLÍTICA DE LA REPÚBLICA DEL ECUADOR [Internet] [cited 2022 Feb 12]. Available from: http://www.ecuanex. net.ec/constitucion/indice.html; 2022.
- 34 ILO. Convention 169-indigenous and tribal peoples convention [Internet] [cited 2022 Feb 8]. International Labour Organization; 1989. Available from: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169.
- Organization of American States. General assembly, organization of American states, department of social inclusion, organization of American states, general assembly. American declaration on the rights of indigenous peoples [internet] [cited 2022 Feb 8]. Available from: https://www.oas.org/en/sare/documents/DecAmIND.pdf; 2016.
- 36 United Nations. The Nagoya Protocol on Access and Benefit-sharing [Internet]. Secretariat of The Convention on Biological Diversity; 2022. Available from: https://www.cbd.int/abs/.
- 37 El-Sheikh S. The Sharm el-sheikh declaration on nature and culture.
- 38 UNESCO. Local and Indigenous Knowledge Systems (LINKS) [Internet] [cited 2022 Jun 1]. UNESCO; 2018. Available from: https://en.unesco.org/links.
- 39 UNESCO policy on engaging with indigenous peoples [Internet] [cited 2022 Jul 27]. UNESCO Digital Library; 2022. Available from: https://unesdoc.unesco.org/ark:/48223/pf0000258772.
- 40 UNPFII. 11th session of the permanent Forum on indigenous Issues [Internet]. United Nations; 2012. Available from: https://www.wipo.int/export/sites/www/tk/en/documents/pdf/unpfii.pdf.
- 41 UNPFII. Twenty-First Session: 25 April-6 May 2022 [Internet] [cited 2022 Jul 27]. United Nations for indigenous peoples; 2022. Available from: https://www.un.org/development/desa/indigenous peoples/unpfii-twenty-first-session-25-april-6-may-2022.html.
- 42 Microsmallcap.Com. Psychedelic drugs market projected to reach \$6. 85 billion by 2027 [internet] [cited 2022 Feb 6]. Available from: https://www.prnewswire.com/news-releases/psychedelic-drugs-market-projected-to-reach-6-85-billion-by-2027–301082594.html; 2022.
- 43 27 publicly-traded psychedelic stocks investors have their eyes on [internet] [cited 2022 Feb 6]. Psychedelic Spotlight; 2021. Available from: https://psychedelicspotlight.com/publicly-traded-psychedelic-companies/; 2021.
- 44 Global ayahuasca trend drives deforestation in Brazil's Acre state [Internet] [cited 2022 Mar 6]. Mongabay Environmental News; 2021. Available from: https://news.mongabay.com/2021/12/global-ayahuasca-trend-drives-deforestation-in-brazils-acre-state/.
- 45 MacKinnon I. Correspondent South East A. "Ecstasy Oil" Factories Destroyed in Cambodian Rainforest [Internet] [cited 2022 Mar 6]. The Guardian; 2009. Available from: https://www.theguardian.com/environment/2009/feb/25/ecstasy-cambodia.
- 46 UNESCO. What is intangible cultural heritage? [Internet] [cited 2022 Feb 23]. Available from: https://ich.unesco.org/en/what-isintangible-heritage-00003; 2022.
- 47 Elliott-Groves E, Hardison-Stevens D, Ullrich J. Indigenous relationality is the heartbeat of Indigenous existence during COVID-19. *J Indig Soc Dev.* 2020;9(3):158–169.
- 48 Celidwen Y. Rising the Feathered Serpent: Establishing a Conversation on Indigenous Contemplative Traditions. https://www.mindandlife. org/event/2020-contemplative-research-conference/; 2020.
- 49 Redvers N, Celidwen Y, Schultz C, et al. The determinants of planetary health: an Indigenous consensus perspective. Lancet Planet Health. 2022;6(2):e156–e163.

- 50 Celidwen Yuria. Indigenous Contemplative Science: An Ethics Of Belonging And Reconnection – The Center for Contemplative Mind in Society [internet] [cited 2022 Jan 28]. CMind; 2020. Available from: https://www.contemplativemind.org/archives/5889.
- 51 Githaiga C. Indigenous Peoples and Local Communities will lose out if not engaged in deliberations on the UN Global Pact on the Environment; and so will everyone else [Internet] [cited 2022 Feb 27] Natural Justice; 2019. Available from: https://naturaljustice.org/indigenous-peoples-and-local-communities-will-lose-out-if-not-engaged-in-deliberations-on-the-un-global-pact-on-the-environment-and-so-will-everyone-else/.
- 52 Lock M, McMillan F, Bennett B, et al. Position statement: Research and reconciliation with Indigenous peoples in rural health journals. Aust J Rural Health. 2022;30(1):6–7.
- 53 Programme UNE, Justice N. Bio-cultural community protocols A community approach to ensuring the integrity of environmental law and policy [cited 2022 Mar 6]. Available from: https://wedocs.unep.org/xmlui/handle/20.500.11822/ 9819; 2009.
- 54 Johnstone G, Van Ness D. Handbook of restorative justice [Internet]. Gale virtual reference library. Taylor & Francis; 2013. Available from: https://books.google.com/books?id=U2UQBA AAQBAJ.
- 55 Zellerer E, Cunneen C. Restorative justice, indigenous justice, and humanrights. Restor Community Justice Repair Harm Transform Communities. 2001;245.
- 56 Gibbs M. Using restorative justice to resolve historical injustices of Indigenous peoples. Contemp Justice Rev. 2009;12(1):45–57.
- 57 Gready P, Robins S. From transitional to transformative justice: A new agenda for practice. Int J Transitional Justice. 2014;8(3): 330–361
- 58 Balint J, Evans J, McMillan N. Rethinking transitional justice, redressing indigenous harm: A new conceptual approach. Int J Transitional Justice. 2014;8(2):194–216.
- Murdock EG. Storied with land: 'transitional justice' on Indigenous lands. J Glob Ethics. 2018;14(2):232–239.
- Morgera E. Fair and Equitable Benefit-sharing at the cross-roads of the human right to science and international biodiversity law. Laws. 2015;4(4):803–831.
- 61 d'Angelo LC. Savulich G, Sahakian BJ. Lifestyle use of drugs by healthy people for enhancing cognition, creativity, motivation and pleasure. Br J Pharmacol. 2017;174(19):3257–3267.
- 62 Hunt C. Narcotourism: a conceptual framework and research agenda. Tourism Geogr. 2021;0(0):1–15.
- 63 The rise of psychedelic retreats [Internet] [cited 2022 Feb 21]. The New York Times; 2022. Available from: https://www.nytimes.com/ 2021/11/25/travel/psychedelic-retreat-ayahuasca.html.
- 64 Wixárika medicine under siege [Internet] [cited 2022 Mar 6].
 Intercontinental Cry; 2022. Available from: https://intercontinentalcry.org/wixarika-medicine-under-siege/.
- 65 Nájera Quezada P. Análisis Ecológico de las Poblaciones de Peyote en el Centro Sur del Desierto Chihuahuense, México [Internet] [cited 2022 Mar 6]. Available from: http://plantas-sagradasamericas.net/programa/analisis-ecologico-las-poblaciones-peyotecentro-sur-del-desierto-chihuahuense-mexico/; 2017.
- 66 Opinion | Lost cause: 50 years of the war on drugs in Latin America [Internet] [cited 2022 Feb 21]. Washington Post; 2022. Available from: https://www.washingtonpost.com/opinions/2021/06/14/war-ondrugs-50-years-latin-america-violence-mexico-colombia/.
- 67 Mexico's Long War: Drugs, crime, and the cartels [internet] [cited 2022 Feb 21]. Council on Foreign Relations; 2022. Available from: https://www.cfr.org/backgrounder/mexicos-long-war-drugs-crime-and-cartels.
- Orsolini L, St John-Smith P, McQueen D, Papanti D, Corkery J, Schifano F. Evolutionary considerations on the emerging subculture of the E-psychonauts and the novel psychoactive substances: A comeback to the shamanism? *Curr Neuropharmacol.* 2017;15(5): 731–737
- 69 Boggs C. Drugs, Power, and Politics: Narco Wars, Big pharma, and the subversion of democracy. New York: Routledge; 2015:268.