March 2025 Volume: 7 Issue: 1
ISSN: 2690-0912

The Journal of *Psychedelic Psychiatry*

THE JOURNAL OF
PSYCHEDELIC
PSYCHIATRY

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Original Research

"Keep Your Wits About You" – Purposed Language and Terminology in Hallucinogenic Research and Therapy

Abigail Wagle, B.S. M2

Abstract

This research aims to analyze and propose effective language for researchers, therapists, and clinicians to use in research and therapy. This paper will explore historical and modern terminologies and briefly discuss patient outcomes with different "sets" and "settings." A linguistic analysis of tools like the 5-Dimensional Altered States of Consciousness questionnaire (5DASCQ) and the Mystical Experiences Questionnaire (MEQ), alongside exploring EROWID "trip reports," was conducted to compare the clinical and colloquial language used to describe the hallucinogenic experience. One key finding was that the phrase "All is One" on both EROWID and the MEQ was a significant outlier, dwarfing any other term or phrase by over 30,000 hits. This evident experience expresses a patient's disorienting (but therapeutically beneficial) experience of Default Mode Network (DMN) downregulation in hallucinogenic experiences and can inform therapeutic practices. This paper will conclude by emphasizing the potential for a structured, standardized linguistic framework (focused on the biochemical effects of hallucinogens) that physicians, researchers, and therapists can use to discuss the effects and potential outcomes of these substances. This method of communication will bring clarity to patient-provider communication and potentially enhance therapeutic outcomes (especially when compared with the outcomes of those in the 1950s-1960s).

INTRODUCTION

Hallucinogens might be some of the most well-studied chemical substances in human history. While promising research surrounding hallucinogens, particularly LSD, arose out of the 1950s-1960s, by the early 1970s, political and cultural pressures forced the cessation of most projects. In the current era, within the framework established by the United States Congress in 1971, using many substances mentioned in this paper is always irresponsible. All of the serotonergic hallucinogens (N,N-dimethyltryptamine [DMT], psilocybin, lysergic acid diethylamide [LSD], mescaline, etc.) are Schedule I substances, meaning that they have no medicinal benefit, with a high potential for abuse. While many of the statements made within the Controlled Substances Act are demonstrably false, this is the framework that clinicians work within.

Hallucinogens are medically important, and the re-examination of these substances has again proven to be promising. Research exploring hallucinogenics in the treatment of mental illnesses has exploded in recent years, and the resulting data and pharmacological outcomes are very impressive. In studies of patients with depression and anxiety secondary to life-threatening cancer and patients with treatment-resistant depression, approximately 80% of participants sustained antidepressant and anxiolytic effects up to 6 months later after being treated with psilocybin.[1]

In the ongoing, burgeoning revival of clinical research, several hallucinogens have shown promise for several additional difficult-to-treat medical and psychological conditions, including chronic pain, cluster headaches, post-traumatic stress disorder (PTSD), mood disorders, substance use disorders, and psychological distress associated with life-threatening illness, among others.[2]

The Department of Veterans Affairs remains convinced that psychedelic therapy can help treat veterans with post-traumatic stress disorder. It remains a staunch advocate for psychedelic therapy despite the FDA's August 2024 rejection of a psychedelic

regimen for PTSD.[3] As of February 2024, Australia, Oregon, Colorado, and the Canadian province of Alberta have legalized psilocybin for medicinal purposes in supervised settings.[4] Researchers, clinicians, therapists, and doctors must be prepared for the rescheduling and medicinal use of some of these substances within the next 50 years.

The efficacy of other chemical treatments for mood, addiction, and stress disorders is debatable at best. In addition, their efficacy has been brought very much into question by notable publications.[5] This is the era of several mental health crises, where globally, more than 70% of individuals struggling with their mental health receive "no treatment from health care staff".[6] It would be prudent to have substances with other, potentially more beneficial mechanisms of action and act on different networks in structures in the human brain in the physician's toolbox.

Overcoming the abject stigma against hallucinogenic use in medicine is possible and necessary for valuable research and clinical outcomes to be achieved. These substances are neither the objects of ridicule nor things to be criminalized. A modern linguistic framework relying on a biochemical framework could be used to discuss the hallucinogenic experience to gain credibility, improve patient-clinician dialogue and mitigate some of the potential harms that come with the use of hallucinogenic substances.

METHODS

The primary methods in this research included using online and print resources to create a literature review and interviewing facilitators, physicians, and researchers of the psychedelic experiment. Books and articles on clinical medical hallucinogen guidelines, the pharmacology of medical hallucinogens, and the social impact of psychedelics were read alongside books on Indigenous psychedelic use and shamanism.

In addition, the investigator shadowed a few practices where psychedelic therapy was administered to get a feel for the "setting" of the treatment itself. The information from the primary texts and the interviews were transcribed and synthesized to present the general opinions presented in this paper, including details on how harm is reduced among patients who are ingesting a state-changing drug.

Interviewees were recruited through a word-of-mouth, "snowball" style survey, where the researcher asked practitioners who else they knew who worked or researched in the field of psychedelic-assisted medicine and went from there. This sampling strategy was effective, as the nature of this field is somewhat secluded. This practice also fits with the conversational and theoretical framework of the study, as this study is principally based on how people communicate about psychedelics. Through this method, the researcher was also recommended many exciting books, articles, and newsletters, which were all valuable to the study.

The inclusion criteria for interviewees did change throughout the study. Initially, the inclusion criteria were as follows:

- Participants are willing and able to give informed consent for participation in the study;
- Male or Female, aged 18 years or above;
- The participant is certified as a therapist or psychiatrist, and
- The participant is certified to monitor patients taking ketamine or psilocybin during a treatment session.

The exclusion criteria were:
The participant may not enter the study if ANY of the following apply:

- Participant may not be in the study if they are conducting any illicit action as recognized by

their state of habituation (regarding psychoactive substances). This refers to conducting any illicit action (such as administering psychoactive substances) as defined by the state in which the practitioners practice or

- If a researcher is made aware of any illicit activity on behalf of the participant, the participant will be excluded from the study and not be asked any further questions.

However, the inclusion criteria were broadened. In addition, the researcher chooses to explore the language that people, laymen, or psychedelic tourists use to describe the experience using the public website "EROWID," a website where people post "trip reports" of their experience on psychedelic or hallucinogenic substances. Often, these reports are very detailed; people frequently provide their sex, height, weight, time of ingestion of the dose, and the dose amount itself. Sometimes, timestamps are given throughout the report itself (i.e., at around 7 pm, 2 hours in). The researcher believes that this information is valuable and might be beneficial to practitioners, facilitators, and physicians who wish to broaden their vocabulary surrounding the hallucinogenic experience. Often, due to the absolute scale of EROWID, this author "searched all experience reports" on the website to tally accumulated trip reports that mentioned specific phrases.

Finally, the informed consent form was provided, which stated that the participants were free to withdraw from the study at any time with no obligation to give the reason for withdrawal. The informed consent form also detailed the exact nature of the study, what it will involve for the participant, the implications and constraints of the protocol, any risks involved in taking part, and options to remain anonymous.

RESULTS

This section will discuss the history and physiological mechanisms of hallucinogens, the terminology surrounding hallucinogens (what they are called), the terminology surrounding the hallucinogenic induced experience (i.e., set, setting, integration, remembrance, and ego death), how hallucinogens are used in the clinical and research setting, how questionnaires are used to measure the "intensity" of the experience, a summary of the language used frequently in some EROWID trip reports, and a brief comparison of the language used in EROWID trip reports versus the research questionnaires.

THE RISE OF NEUROIMAGING

First, it is crucial to discuss the physiological mechanisms behind hallucinogens. This helps to ground the conversation in biophysics and provides a solid base for discussing the resultant language that arises from these experiences. Luckily, the 21st century is a very exciting time for neuroscience. The rise of neuroimaging (computed tomography scan [CT] and positron emission tomography [PET]) in the late 20th century and early 21st century overcame many of the limitations of the electroencephalogram (EEG). Up until about the 1970s, much of the research using LSD, mescaline, and psilocybin was conducted with the aid of EEG. Often, in the 1950s -1960s, there was a great deal of "contamination" in EEG studies related to increased tension of the facial muscles on serotonergic psychedelics. The effects of the substances were, therefore, hard to interpret. However, the rise of neuroimaging, the invention of magnetoencephalography (MEG), and improvements in the EEG led not only to a renaissance in neurology research but also to a renaissance of psychedelic research. The early 21st century is aptly named a period of "psychedelic renaissance."

HALLUCINOGENS' EFFECTS ON RECEPTORS

Briefly, the serotonergic hallucinogens act on serotonin receptors. Most serotonergic hallucinogens are non-selective 5HT partial agonists, meaning they act on multiple types of serotonin receptors. As an endogenous hormone, DMT (the hallucinogenic compound in Ayahuasca) has the broadest mechanism of action. It acts on various receptors, agonizing serotonin receptors, but also ionotropic and metabotropic glutamate receptors, dopamine, acetylcholine, TAAR, and sigma-1 receptors.[7]

Overall, the 5-HT_{2A} receptor is most strongly implicated in inducing the "psychedelia" associated with the serotonergic hallucinogens, as antagonizing these receptors with ketanserin (a 5-HT_{2A} antagonist) prevents the changes in perception, cognition, and emotions following psilocybin (and LSD) administration in humans.[8]

It should be noted that many serotonergic modulators (agonists and antagonists) are used in medicine. Some antagonist antidepressants and atypical antipsychotics act on the 5-HT_{2A} receptor; other agonists are used to treat constipation and IBS (i.e., prucalopride), or migraines and cluster headaches (other triptans and ergot alkaloids, such as almotriptan, ergotamine, and sumatriptan).

HALLUCINOGENS' EFFECTS ON NETWORK STRUCTURES (THE "DEPTH" OF THE HALLUCINOGENIC EXPERIENCE)

Second, it is helpful to define what areas of the brain psychedelic substances act on, as this helps one to understand their mechanism of action and helps to describe why they are clinically beneficial. The $5HT_{2A}$-R previously mentioned is the predominant 5HT receptor subtype in the cortex. It is highly expressed in several crucial structures, including in the default mode network (DMN), especially in humans' pre-frontal cortex and the association cortices.[9] The DMN network was discovered in 2001 as part of a study to define a baseline, default state in the human brain.[10] Precisely where its boundaries lie is uncertain, partly because 'DMN' is a general anatomical label, similar to geographical terms like Southeast Asia or Middle East: it references a region. Still, everyone's idea of what constitutes it is slightly different.

However, the most consistent areas are the ventromedial prefrontal cortex (vmPFC), dorsomedial prefrontal cortex (dmPFC), precuneus, and posterior cingulate cortex. Simply put, the DMN is a dynamic set of brain systems active when individuals are not engaged in a specific task.

Default mode network mal-connectivity is implicated in several pathological conditions, such as ADHD, anxiety, and depression. The DMN is responsible for perceptions of entrapment, rumination (particularly on negative thought patterns), difficulty focusing, self-reflection, and - potentially - habit through the functional connections the basal ganglia have with the DMN.[11] In particular, a disproportionate focus on internal emotional states with related DMN hyperconnectivity may underlie a predisposition for depression in high-risk individuals (those with a family history of depression).[12]

The DMN is suppressed and modulated with the addition of a serotonergic agonist, such as a psychedelic. At a molecular level, when a serotonergic hallucinogen binds to the serotonin receptors, it will act like an agonist and alter the signal transduction pathways, as the neurons, particularly those in the DMN, are forced to fire in new ways. At cellular and circuit levels, this modulation will induce neural plasticity and structural remodeling and spike measurable changes in activity dynamics on EEG. At the network level, observable on PET and CT scans, researchers can see alterations in functional connectivity throughout the DMN.[13] Because the DMN is colloquially called and associated with the Freudian concept of the ego ('das ich'), it is

no mistake that for decades, the result of the large ingestion of a serotonergic psychedelic (i.e., psilocybin mushrooms, DMT, or LSD) has been called "Ego Death" - this is DMN dysregulation.

The downregulation of these brain structures, so essential for maintaining a sense of personal identity and constructing a self-narrative, can lead to an experience "outside of one's personal story." Dr. Kjorvestad, a medical physician and researcher who works with psilocybin analogs and ketamine at the University of Kansas Health System, notes, "When the DMN is dysregulated, individuals have an experience very far removed from their day-to-day realities".[14] This experience can be awesome and evoke strong feelings of love and appreciation, as well as emotions of significant distress or fear. Hallucinogenic experiences, where the DMN is severely downregulated, are often described as "ineffable" - they are indescribable, they are too extraordinary or extreme to be expressed in words, and they leave people speechless.

It is important to note here that ketamine, a substance often used in assisted psychotherapy sessions (KAP), also modulates the DMN, though to a significantly less significant degree than the serotonergic psychedelics. Ketamine acts on several receptors in the human brain; it primarily antagonizes NMDA channels and is classified as a dissociative anesthetic with dose-dependent hallucinogenic properties, meaning that only in some doses it induces hallucinations. Ketamine also antagonizes HCN1 receptors, some cholinergic receptors (nACh), aminergic receptors, and opioid systems (L-type Ca channels). While some KAP websites may advertise that ketamine acts on the 5-HT_{2A} R, ketamine does not act on serotonin receptors. The effects of ketamine are hypnosis, psychotomimesis, analgesia, and rapidly observable antidepressant effects.[15]

Ketamine exclusively disrupts the frontal control of the DMN. It disconnects the medial prefrontal cortex and the subgenual cortex from the DMN for a short period (usually under two hours, as opposed to a longer-acting serotonergic psychedelic. This is often cited as one of many reasons why ketamine "isn't as deep" but more accessible for clinicians and therapists to work with, as the duration of action of the serotonergic psychedelics can be around 7-12 hours). Because ketamine does not act on the 5-HT_{2A} R, it is hypothesized that the disruption of the frontal control is why ketamine is associated with dissociation and hallucinations.[16]

Dr. Grob, MD, Professor of Psychiatry & Biobehavioral Sciences and Pediatrics, David Geffen School of Medicine at UCLA and Director at the Division of Child and Adolescent Psychiatry, Harbor-UCLA Medical Center, notes that "ketamine is not a replacement for a classic psychedelic".[17] Scott Stanley, the lead facilitator at the Arizona Yagē Assembly, stated that "modern medicine is cutting its teeth with ketamine".[18] Both of these statements express how ketamine just does not achieve the same level of DMN downregulation and lacks some of the therapeutic potential of serotonergic hallucinogens.

Existing Language Surrounding Hallucinogens - "Drug" or "Medicine"

Now that we have discussed the mechanism of action of various hallucinogenic substances, where and how they act upon various brain structures, and how they are used in therapeutic sessions, this paper will now focus on the bulk of this research - creating purposed language and terminology in hallucinogenic research and therapy. First, let us begin with a few notes on nomenclature and define a few terms broadly accepted in psychedelic research and treatment. Next, this paper will explore two questionnaires that are often used in hallucinogenic research in therapy, as they contain language that clinicians and researchers have accepted, and then

branch out into an online database that contains numerous trip reports.

The starting point of this discussion is what hallucinogenic substances are called. This paper has briefly touched on two terms already - hallucinogen and psychedelic. It isIt's important to note that all psychedelics are hallucinogens, but not all hallucinogens are psychedelics. Some of the substances can hold multiple classifications. For example, ketamine is a dose-dependent psychedelic (it can produce visual hallucinations and alter the DMN in therapeutic doses). DMT, salvia divinorum, and ketamine are also considered dissociatives. In specific doses, dissociatives may make someone feel dissociated from or disconnected from their body and environment. To what degree an individual may feel separated is dose-dependent, as well.

However, an even vaster and more chaotic lexicon of terms has been historically used to describe these substances. The variety of terms used to describe these substances indicates the diversity of viewpoints on these substances and the lack of linguistic structure that has been present in the field so far. Hallucinogens, psychotomimetics, entheogens (generating a religious experience), phantasticants, psychezymics (mind fermenting), oneirogens (producing dreams), psychotogens, psychehormics (mind rousing), deliriants, psychodysleptics (disturbing the mind), psycholitics (breaking up mental structures), psychedelics (mind-manifesting), revelatiomimetics (seeming to reveal something), phanerothymes (making the soul visible), mysticomimetics (imitating an initiation), and apocalyptogens (uncovering a revelatory and apocalyptic eschatological experience) are all terms that have been used to describe these substances.[19]

In addition, while most of the terms mentioned above arose from the 1950s-1960s, more terms are being released in the modern era. For example, Dr. David E. Olson calls this group of drugs "psychoplastogens" because of their ability to regrow and remodel connections in the brain (i.e., they make the brain "plastic").[20]

This variety of terms is evidence enough of the chaotic field of research surrounding psychedelics - researchers do notdon't know how to talk about these substances or the experience that they provide - the experience is too far removed from regular reality (through DMN downregulation) to be perceived as anything other than mystical, terrifying, or all-consuming.

NOMENCLATURE SURROUNDING THE "EXPERIENCE" ITSELF

Several terms have been used historically and are widely accepted to use in psychedelic-research spheres when discussing the psychedelic experience itself. As Dr. Scott Shannon, a KAP therapist and psilocybin researcher, describes, these terms are essential and help to rationalize, categorize, and "hone in" the "unfiltered" experience that results from DMN downregulation. These standard terms include set, setting, integration, remembrance (or "link"), and ego death.

The set is how an individual feels before they take the drug, what expectations they have, their previous experience with mind-altering drugs, and any stress or anxiety they may be feeling. Set is an individual-level phenomenon that has to do with the respondent's personality, personal history, life situation at the time of drug exposure, psychological makeup, physical health, previous experience with unusual states of consciousness, and expectations or motivations for taking the psychedelic drug. The setting is where an individual is and who they are with. They might be safe and comfortable with people they know and trust. Or they might be in an unfamiliar place with unfamiliar people.

> Setting… encompasses the local social factors and includes the circumstances

> and environment in which the drug experience occurs; the people present and how they treat the user; the contributions of music, flowers, mirrors, photographs, and other objects at hand during the psychedelic session; and what the administrator of the drug expects the user's reaction to it to be. (Setting also includes) the broad social setting and historic cultural and political circumstances in which the use occurs, the situation in which the user is living at the time of the experience and the environment to which the user returns after the experience.[21]

Integration is a huge hot topic in the field of psychedelic research and therapy because it is where the "magic" happens clinically. Anne Bethune, a licensed clinical social worker who works primarily with KAP patients, notes, "All of the healing happens on this side of reality".[22] In other words, "once the pharmacological effects have dissipated, it remains for the user to find a way to assimilate their psychedelic experience, which may be radically dissimilar to any previous experience, into an integrated understanding of self, society and reality".[23] One model frames integration as the "liberation" of the "animal" brains (or proto-mind) - the lower brain systems, such as the protonation (the "reptilian brain" responsible for channeling psychological information, the R complex) and emotiomention (the limbic system, the paleomammalian brain) - into the frontal cortex (the neocortex, the ratiomentation) responsible for informational functions.

Therapists and clinicians use some psychotherapeutic tools to facilitate this, which is often a tricky process of integration and making the therapeutic benefits of DMN downregulation stick. For one, as mentioned previously, most candidates for any form of hallucinogenic-assisted psychotherapy will have long-standing relationships with therapists and clinicians before a hallucinogenic substance is used in adjunct to therapy. One tool a trained psychotherapist or facilitator of the psychedelic experience may use is that of "remembrance" or forming a "link" to the hallucinogenic state. For example, if a patient had a hallucination of a deer and a fawn while undergoing a KAP session, and it helped them emotionally heal their previously troubled relationship with their mother, the patient could keep a small plastic deer trinket as a reminder, or "remembrance" of that profound emotional experience. This helps a patient process and interpret their experience afterward. Considering its apparent benefits, maximizing the integration (i.e., aftercare) process is an essential part of any psychedelic-assisted healing session. This also gives patients creative power, as they are "making meaning" and creating a more literal linguistic experience from their hallucinations.

"Ego death" is the most complicated of these terms, as it is used in multiple contexts to describe the complete loss of subjective self-identity. In Sufism, "ego death" is called Fanaa, which is an Arabic word that means "annihilation" or "passing away" of the self. Fanaa also means "to die before one dies," a concept that Persian mystics like Rumi and Sultan Bahoo emphasized. In Buddhism, ego death is the illusory "I" absorption into the universe, like a drop of water rejoining the ocean (it never left). It is generally considered a necessary step towards "enlightenment" and can be obtained through many methods, including one-pointed meditation. Alternative Christians may even consider the suffering, death, and resurrection of Jesus to be a metaphor for the process of ego death, but the author digresses on this point.

In the context of hallucinogens, this ego death "involves autosymbolic images that manifest the breakdown of one's psychological structures and psyche. It can present as a death and rebirth cycle (often presented as the shaman's experience of being dismembered by "jaguars" or swallowed by "anacondas"

(both the spirit of Ayahuasca itself)). However, lacking a physical death, this death and rebirth cycle reflects the psychological transformation involving an ego disintegration that allows for new developments manifested as a rebirth at higher levels of psychological integration".[24] These "new developments" allowed through DMN downregulation can be manipulated through the use of psychotherapy. After the DMN has been downregulated, therapists and clinicians can teach their patients new coping strategies, change their behavior, and assist in remodeling synaptic connections.

How Hallucinogens are Used in Clinical and Research Settings (Then and Now)

Overall, hallucinogens fit nicely within preexisting therapeutic frameworks. Sigmund Freud even wrote in 1938 (the same year Albert Hofmann first synthesized LSD) that the future "may teach us how to exercise a direct influence, using particular chemical substances, on the amount of energy and their distribution in the mental apparatus. It may be that there are still undreamt-of possibilities in therapy."

Some of the first individuals to use psychedelics in reputable Western biomedical practices were Drs Abram Hoffer and Humphry Osmond. Hoffer and Osmond were researchers in the mid-1950s who experimented with psychedelics. In one study, they hypothesized that they could induce delirium tremens, an unpredictable, overwhelming, and frightening side effect of alcohol, using LSD and that this would inspire an alcoholic patient to "mend his ways".[25]

In just over five years, Hoffer and Osmond had treated 2,000 patients with alcoholism. Dr. Hoffer said, "Many didn't have a terrible experience. (They) had a rather interesting experience." Osmond and Hoffer reported that 40% to 45% of the alcoholics who were treated with LSD had not returned to drinking after a year.[26] In theory, these patients had seen their lives from another perspective while under the influence of the psychedelic and changed their lives because of that mindset shift.

Notably, Dr. Osmond was the first individual to use the term "psychedelic" in a letter to Aldous Huxley in 1956. Psychedelic is a word derived from Greek etymology, meaning "manifesting the mind." Also, Osmond's work, in particular, was inspirational for creating the "Handbook for the therapeutic use of lysergic acid diethylamide-25 individual and group procedures" by Dr. D.B Blewett and Dr. N. Chwelos, a handbook which many modern American hallucinogen assisted psychotherapies reference.

In a modern clinical and research context, there are three phases of hallucinogenic-assisted therapy - preparation, the session itself, and the "working through" or "aftercare" of the session.[27] "Preparation" often involves several sober therapy sessions to ensure that the individual is a genuine candidate for hallucinogenic-assisted therapies and to build a therapeutic relationship with the patient, in addition to discussing the mind-altering effects of the substance itself. During the session, patients often experience a reduction of defense mechanisms, and everyday client-therapist interactions may occur (such as transference and countertransference). Patients typically will express their insights during the "working through" or aftercare part of the session.

In addition, in modern contexts, "someone needs to be straight" [28], meaning the researcher, therapist, or facilitator of the hallucinogenic experience needs to be sober. This was not always the case. The "Handbook for the Therapeutic Use of Lysergic Acid Diethylamide-25 Individual and Group Procedures" describes ways with which the researcher or doctor was also on small amounts of LSD to "tune in" to their patient's

experience. In a broader historical context, Ayahuasca ceremony facilitators in the US and Upper Amazon and psilocybin shamans, primarily in Oaxaca, Mexico, also ingest tiny amounts of the psychedelic substance to lead the ceremony.[29] Modern psychedelic therapy is a hybrid of two schools of thought that emerged in the mid-20th century through the use of LSD in psychotherapy - psycholytic therapy, which was primarily used in Europe, and psychedelic therapy, which was used mainly in the United States. The differences between these two schools of thought are shown below in Figure 1

Psycholytic therapy	Psychedelic therapy
Low doses of LSD (50–150 µg), psilocybin (7–15 mg), CZ 74 (10–20 mg)/MDMA, etc., producing symbolic dream images, regressions, and transference phenomena.	High doses of LSD (250–1,500 µg) leading to so-called cosmic-mystical experiences often marked by oneness and ecstatic joy.
Activation and deepening of the psychoanalytic process.	Modern transpersonal approaches are used to explain the structure and effects of experiences.
Numerous sessions required (5–30).	The goal is one to three "overwhelming" experiences with a mystical connotation.
Analytic discussion of experienced material in individual and group sessions (focus on ego psychology, transference, and defense mechanisms).	Suggestive quasi-religious preparation and use of specific surroundings and music. Usually not a very detailed discussion of the experience.
Reality comparison and attempt to adapt experience to everyday life.	Adaption to reality not the main purpose. Enhancing the meaning of the "psychedelic" experience.
Goal: Cure through restructure of personality via a maturational process and loosening of infantile parental attachments.	Goal: Symptomatic cure involving behavior change.
Classical indications for psychotherapy: neuroses, psychosomatic disorders, psychopaths, sexual neuroses, borderline cases. Neither alcoholism nor psychoses.	Alcoholism, psychoneuroses, terminal cancer patients.

Figure 1. Comparing traditional approaches to the psychotherapeutic use of hallucinogens (LSD)
.

This combination of psychedelic and psycholytic approaches may be due to the fact ketamine is the primary hallucinogen used outside of research contexts in the United States and that the use of LSD in research has

generally fallen out of vogue (due to stigma). Ketamine, as described above, is not that "deep" of an experience, as, say, a serotonergic psychedelic. Ketamine can be administered in numerous different ways, including intravenously (IV), intramuscularly (IM), orally (as a liquid or pill), sublingually (as a "troche"), intranasally, rectally, and topically. However, troches are used in a KAP session. The dose of the ketamine troche is titrated until it is deemed appropriate and comfortable by the patient and therapist, usually around 300mg (there is a significant drop in bioavailability, around 50-80% when ketamine is ingested in the troche form).

KAP sessions take place in a standard therapist's office, where both the set and setting are controlled. These spaces are quiet, safe, well-monitored, well-controlled, calm, and comfortable. Patients usually lie on couches (as ketamine is a sedative) and are provided with blankets and eye coverings. Generally, therapists do not talk or interfere with the patient's hallucinogenic experience at all, and music is playing. Often, for first-time patients, the Institutional Review Board Approved Johns Hopkins University Psilocybin Playlist is played during the session. Long-time patients can choose to bring their music (Dr. Kjorvestad mentioned he had a patient who preferred metal music), but generally, the JHU playlist would be used in any research setting.

When dealing with patients or subjects who have ingested a hallucinogen, therapists, clinicians, researchers, and physicians, all agree that it is more important to listen more than speak to understand where they are coming from and to understand the experience that they have undergone.[30] This practice of listening more than speaking also fits nicely within the preexisting therapeutic structure and should not be discredited as rudimentary. If we do not listen, we have nothing to talk about.

Research Tools that Contain Appropriate Language for "Framing" the Hallucinogenic Experience – Comparing the Mystical Experiences Questionnaires and the 5-Dimensional Altered States of Consciousness Rating Scale

Other tools besides the five terms above have also been used as an attempt to hone in and classify the quality and intensity of a hallucinogenic experience. These tools are questionnaires that contain structured, clinical language intended to elicit specific responses that can be measured. These two questionnaires are the Mystical Experiences Questionnaire and the 5-Dimensional Altered States of Consciousness rating scale (MEQ and 5D-ASC, respectively). Walter Pahnke developed the MEQ in the 1960s to qualify mystical-type experiences. The MEQ has 30 questions the user is supposed to rank from zero (none) to five ((more than any other time in my life and more robust than four). The 5D-ASC was finalized by German researchers Adolf Dittrich and colleagues in the 1990s. Initially, it had three dimensions: Oceanic Boundlessness, Anxious Ego Dissolution, and Visionary Restructuralization, but it was expanded to include Auditory Alterations and Reduced Vigilance. The 5D-ASC, in particular, has become widely used in psychopharmacology and consciousness research to study altered states systematically. 5D-ASC has 94 objects, and the user should mark on a line how much they experienced something from "No, not more than usual" to "Yes, much more than usual."

Regardless of the substance tested, higher scores on either scale are correlated with better therapeutic outcomes when using hallucinogenic substances.[31] There is some difference in linguistic features between the 5D-ASC and the MEQ. The 5D-ASC focuses broadly on various dimensions of altered consciousness, including positive, neutral,

and negative states. The language reflects a range of subjective phenomena, such as perceptual changes, cognitive effects, emotional responses, and mystical states. The MEQ focuses on mystical or spiritual experiences, emphasizing unity, transcendence, ineffability, and positive affect. The language highlights the profundity and significance of the experience.

The main standard valuable terms across the 5D-ASC and MEQ involve the measurement and discussion of unity, oneness, transcendence, ineffability, positive mood, and perceptual alterations.

Figure 2 below illustrates these standard valuable terms.

Dimension	5D-ASC Terms	MEQ Terms
Unity/Oneness	Oceanic Boundlessness (OB): Q18: "Everything seemed to unify into a oneness."	Mystical Experience: QG: "Experience of unity with ultimate reality."
Transcendence	Oceanic Boundlessness (OB): Q1G: "I felt transformed forever in a miraculous way."	Transcendence of Time and Space: Q15: "Sense of being 'outside of' time."
Ineffability	Oceanic Boundlessness (Implicit): Not explicitly addressed but implied in OB-related items.	Ineffability: Q27: "Sense that the experience cannot be described adequately in words."
Positive Mood	Visionary Restructuralization (VR): Q12: "I experienced boundless pleasure."	Positive Mood: Q20: "Feelings of peace and tranquility."
Perceptual Alterations	Visionary Restructuralization (VR): Q14: "I saw regular patterns with closed eyes."	(Not explicitly emphasized in MEQ; partially captured in "visionary aspects.")

Figure 2. Standard Valuable Terms Across 5D-ASC and MEQ

EXPLORING EROWID – THE LANGUAGE CONTAINED WITHIN "TRIP REPORTS" VS. THE RESEARCH QUESTIONNAIRES

The language contained within the MEQ and 5DASCQ is formal and consistent, and as questionnaires, these are designed to elicit specific responses that can be measured. The 5D-ASC and MEQ are limited by their structured language, which may fail to capture actual language that a patient or subject may use to describe the unique experience they had. A superficial linguistic analysis of EROWID, a public website that people, laymen, or psychedelic tourists use to describe their experiences with hallucinogenic substances (in a "trip report" format), was conducted comparing the language used in clinical/research settings (as contained in the 5D-ASC and MEQ). Often, these reports are very detailed; people provide their sex, height, weight, time of ingestion, and the dose amount. Sometimes, timestamps are given throughout the report itself (i.e., at around 7 pm, 2 hours in). These trip reports also contain descriptions of "the experience" filled with richness and metaphorical nuances that areis absent on the 5DASCQ and MEQ. The researcher believes that this information is valuable and might be beneficial to practitioners, facilitators, and physicians who wish to broaden their vocabulary and understanding of hallucinogenic substances and the experience they provide their patients.

Because it is a public website, some unique terms found on EROWID are absent from the 5D-ASC or the MEQ, as perceptual phenomena brought about by DMN down-regulation, is explicitly described in most EROWID trip reports (in literal or metaphorical terms). Perceptual alterations are also directly interrogated on the MEQ and 5D-ASC. On the 5D-ASC, Question 14 ("I saw regular patterns with closed eyes.") and Question 5 ("I heard rings and tones without knowing where they came from.") directly discuss perceptual hallucinations. On the MEQ, Question 20 ("Sounds seemed to influence what I saw.") and Question 72 ("You could see images from your memory or imagination with extreme clarity.") also directly reference perceptional hallucinations. EROWID trip reports focus on dynamic and colorful visual phenomena and subjective sensory distortions (i.e., "The walls were alive, breathing with each inhale, shimmering with fractals." (EROWID)). Common terms on EROWID are often direct and include "visuals," "tracers," "fractal patterns," "breathing walls," "morphing objects," "kaleidoscopic visuals," and "melting faces."

There is a sense of unity experienced on hallucinogens expressed on the MEQ, 5D-ASC, and EROWID. On the 5D-ASC, Question 18 ("Everything seemed to unify into a oneness.") and Question 34 ("I felt one with my surroundings.") reference this sense of unity. The MEQ also references this sense of unity in Factor 1: Mystical (See appendix). EROWID especially connects the unity experiences with the concept of "ego death," emphasizing the emotional intensity often experienced on hallucinogens, especially when high doses of these substances are ingested in uncontrolled sets and settings. Standard terms included "ego death," and one phrase stood out, "I became one with the void, one with the very fabric of existence" (EROWID).

In addition, "ego death" and discussions of identity transformation are more explicit on EROWID as well. Often, EROWID users describe their experiences with "ego death" or dissolution explicitly, their rebirths or transformations, or even their experiences encountering their true or "higher self." The concept of "ego dissolution" or "dissolution of self" is only referenced in the 5D-ASC questionnaire in question 71 - "The boundaries between myself and my surroundings seemed to blur" and in "Factor 1: Mystical"

of the MEQ - “Experience of the fusion of your self into a larger whole.”

Existential experiences and emotional extremes individuals experience on various substances are also described in detail on EROWID. Authors use a wide variety of terms, some very intense, like “cosmic circus,” “universal consciousness,” “cosmic horror,” “terror,” “waves of euphoria,” “heavenly joy,” and “bliss” to describe their experiences. On EROWID, common terms include "One quote from an EROWID user expressed their inability to control themselves and their emotions - "I oscillated between pure ecstasy and absolute dread, unable to ground myself in any reality” (EROWID). In contrast, the MEQ only has metrics to describe the positive emotions, and while the 5D-ASC captures neutral and uncomfortable states, it lacks the extreme metaphors and descriptors seen on EROWID.

Question 12 ("I experienced boundless pleasure."), Question 21 ("I felt tormented."), Question 53 ("I experienced unbearable emptiness."), on the 5DASCQ directly explores the extent to which an emotion felt on hallucinogens is positive or negative. The MEQ primarily investigates a patient’s positive mood. Factor 2: Positive Mood, for example, asks about a patient’s "Experience of ecstasy," "Feelings of peace and tranquility," and "Feelings of awe." EROWID trip reports certainly capture the extremes of emotional valence and individual oscillations between positive and negative states - a trip report can start as if the individual is describing a dream, dip into the realm of the nightmarish, and then calm down again.

Often, hallucinogens (and many other substances) produce an altered sense of time or space perception (i.e., minutes feel like hours, whole afternoons feel like minutes, objects seem bigger or smaller than usual, distances seem further or closer away). The experience of this perceptual shift varies from pleasant and exciting to disturbing and frustrating. Again, EROWID users describe these hallucinations as literally as possible, using terms like "time loops," "time dilation," "timeless void," “eternal now,” and "spatial distortion." Paraphrasing one EROWID user, "(I was) stuck in a seemingly endless time-loop, each moment (was repeating) itself… there was no escape." (EROWID). EROWID reports frequently dramatize time distortion and link it with anxiety, fear, or awe. Question 36 ("My sense of time and space was altered as if I was dreaming.") and Question 52 ("I experienced past, present, and future as a oneness.") on the 5D-ASCQ directly investigate the perceptual changes of time and space experienced on hallucinogens. On the MEQ, Factor 3: Transcendence of Time and Space investigates a patient’s "Loss of your usual sense of time." and "Sense of being 'outside of' time, beyond past and future."

The 5D-ASC asks if the individual's sense of time and space was altered (yes or no) but does elaborate on how their sense of time and space was altered. The MEQ simply investigates whether or not the individual feels as if they “transcended time and space.”

The MEQ does not discuss somatic hallucinations or perceptual shifts. Still, the 5D-ASC questionnaire briefly discusses some somatic hallucinations and some of the synesthesia-like effects of hallucinogenic substances (i.e., “The colors of things seemed to be altered by sounds or noises” and “I felt as if I was floating”). On the other hand, EROWID users describe these physical sensations directly, using metaphors such as "body load" (to describe heaviness or the feeling of being unable to move), "vibrations," "energy waves," and "weightlessness." Often, the aforementioned perceptional phenomena are combined with the physical sensations (I.e., individuals on EROWID describe feeling at one with their surroundings, such as their couch or the grass outside).

Hallucinogenic experiences are often described as ineffable. The 5D-ASCQ does not explicitly address ineffability, but the MEQ has a specific factor (Factor 4: Ineffability) where questions such as "Sense that the experience cannot be described adequately in words," "Feeling that you could not do justice to your experience by describing it in words," and "Feeling that you could not do justice to your experience by describing it in words" are asked. EROWID reports also contain words and phrases such as "indescribable," "beyond words," "incomprehensible," "unspeakable beauty." One quote from an EROWID report expresses ineffability quite well - "Words fail to capture the sheer intensity and meaning of what I experienced—it was beyond comprehension" (EROWID). An overall summary focused on linguistic tonal differences between the 5D-ASC, the MEQ, and some trip reports found in the EROWID vaults is shown below in Figure 3.

Aspect	5D-ASC	MEQ	Erowid Trip Reports
Tone	Neutral, clinical, descriptive.	Spiritual, reflective, and evaluative.	Raw, emotional, narrative, and symbolic.
Vocabulary	Perceptual and emotional (e.g., "saw patterns," "felt tormented").	Mystical and spiritual (e.g., "unity," "sacred").	Vivid, often hyperbolic (e.g., "ego death," "mind-melting," "cosmic circus").
Perspective	Focused on specific bodily experiences (e.g., "I felt sleepy," "I saw things").	Reflective on the significance (e.g., "You experienced ultimate reality").	Personal narrative, often nonlinear or chaotic (e.g., "I became one with the floor").
Temporal Focus	Real-time, describing during the experience.	Retrospective reflection, emphasizing significance.	Mixed: real-time description, flashbacks, or existential reflection.
Emotional Spectrum	Broad: positive, neutral, negative.	Primarily positive or profound.	Intensely varied, from bliss to terror.

Figure 3. Linguistic Tone and Style between the 5D-ASC, MEQ, and EROWID vaults.

Overall, there were some apparent differences, particularly in the tonality and linguistic composition of the MEQ, 5D-ASCQ, and EROWID trip reports.

"HITS" OF MEQ/5DASC AND COLLOQUIAL TERMS ON EROWID

The linguistic comparison of terms was also expanded to compare the terms used on the MEQ and 5D-ASC questionnaires with the number of "hits" or frequencies of specific terms in the EROWID experience database. Some other colloquial terms not found on the

MEQ or 5D-ASC were also explored, as both questionnaires are well over several decades old. The results of this data are shown below in Figures 4 and 5.

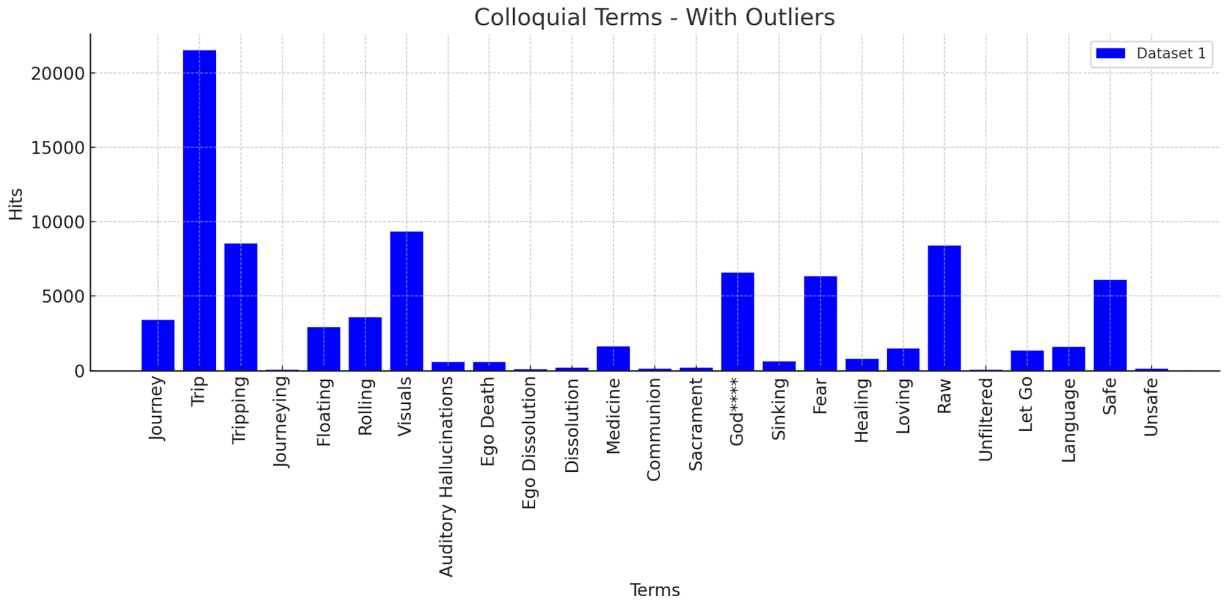

Figure 4. Hits of colloquial terms found on EROWID.

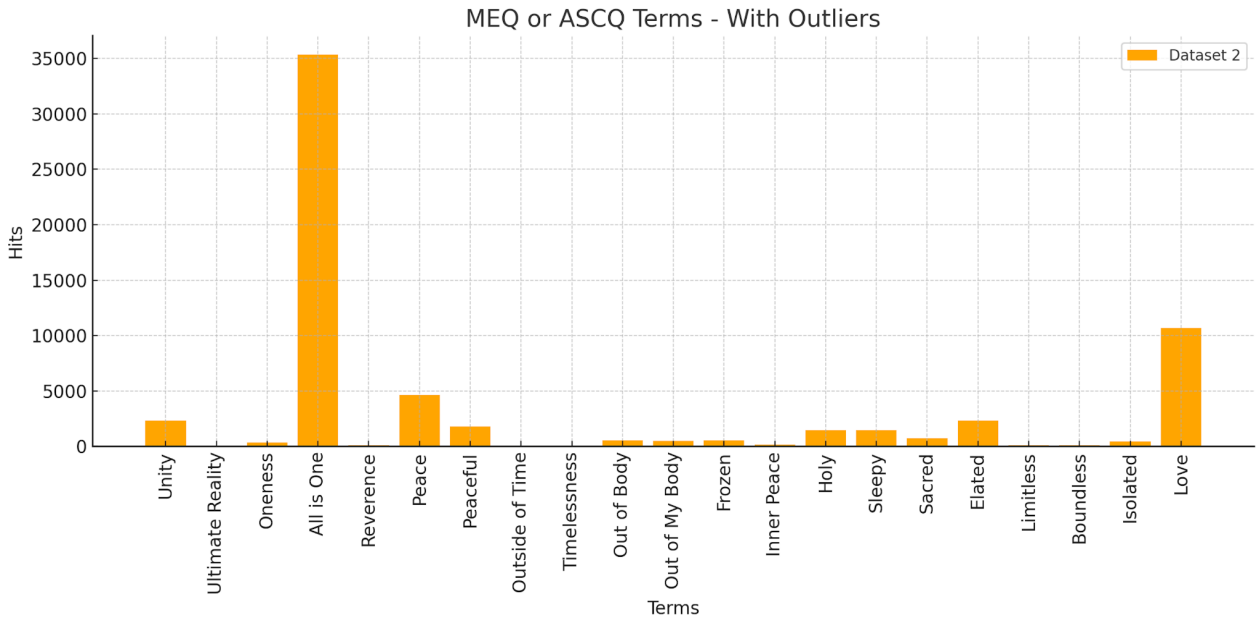

Figure 5. Hits of MEQ or ASCQ terms found on EROWID.

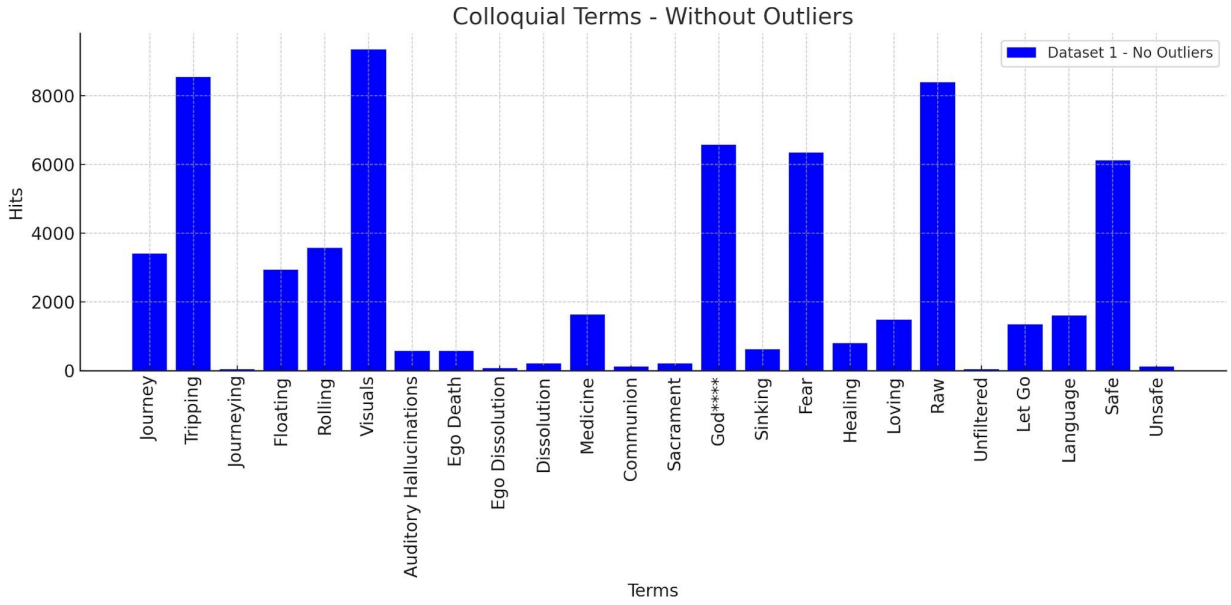

Figure 6. Hits of colloquial terms found on EROWID - without outliers.

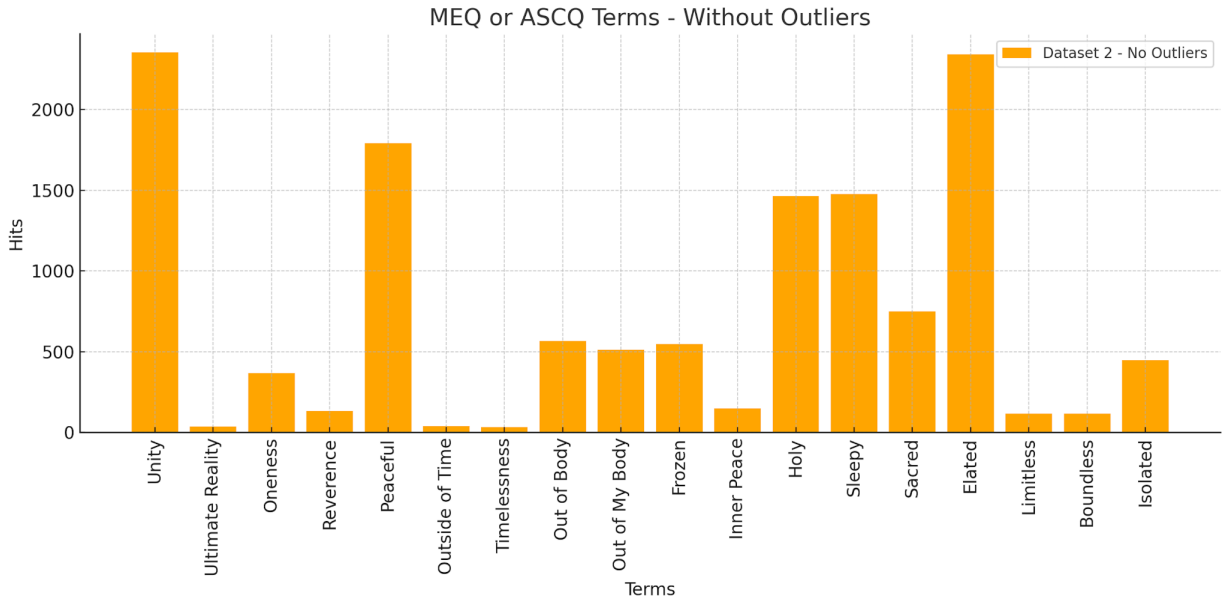

Figure 7. Hits of MEQ or ASCQ terms were found on EROWID without outliers.

The bar charts above represent the frequency of commonly used terms on the EROWID hallucinogen experience vaults. The graphs with outliers (Figures 4 and 5) showcase the full range of "hits," with notable high frequencies for terms like "Trip" and "All is One." The graphs without outliers (Figures G and 7) exclude terms with extremely high frequencies (e.g., above 10,000), offering a clearer view of less frequent but still significant terms. Because of the significant outlier, “all is one,” found on

both questionnaires and in the EROWID database, the researcher confirmed that they were searching for the combined terms and not the individual terms separately, in addition to eliminating outliers from the following two charts, Figures 6 and 7.

DISCUSSION

Analyzing the EROWID vaults and the MEQ/5DASCQ can give physicians, clinicians, and researchers appropriate words with which to describe the hallucinogen-induced experience to their patients. It is apparent that both the MEQ and 5DASCQ are attempting to assess the intensity of the hallucinogenic-induced experience.

A central theme between the EROWID vaults and the two questionnaires became apparent - unity, love, and oneness. The combined phrase "all is one," a phrase used and noted on the MEQ and 5D-ASC, had 35,336 "hits" on EROWID, dwarfing all other terms and phrases used between the two questionnaires and on EROWID by over 30,000 hits. This phrase may encapsulate the core experience of hallucinogens, where the individual feels a profound sense of unity with everything. "Love" (10,706 hits) is another outlier, reflecting the profoundly emotional and connected states often described in psychedelic and mystical experiences. Figures 5 and 7 illustrate terms like "Unity," "All is one," and "Love," which are prominent descriptors of these experiences, with significant frequency disparities.

These feelings of love, connectedness, and unity may be due to DMN downregulation, where the standard, egoic circuits of the mind are disrupted. Perhaps this is where the colloquialism, "open (or expand) your mind," users of hallucinogens frequently use comes from as well - individuals, upon "dissolving" the DMN, become more open to an "all-prevailing Love that permeates the universe" (EROWID). It is unknown if a patient experiencing this specific theme is correlated with more favorable clinical outcomes or if it is associated with a particular outcome on a brain scan (due to the combined scoring of the MEQ and 5DASCQ and lack of neuroimaging studies with serotonergic psychedelics).

Other frequently mentioned terms were "Peace" (4,662 hits) and "Elated" (2,342 hits), which indicate intense positive emotional experiences associated with the states provided by hallucinogens. This gives credibility to the MEQ, which primarily focuses on positive emotional states of being. Less frequently mentioned terms on EROWID that are found on the MEQ/ASCQ were "Ultimate reality" (36 hits), "Timelessness" (34 hits), and "Limitless" (118 hits). These are more abstract or less commonly articulated concepts in casual language.

Overall, terms copied and searched from the MEQ and 5D-ASC were not used regularly on EROWID and averaged 1,235 hits. After branching out into colloquial language, the following two highest-hitting terms were "trip" with 21,543 hits and "tripping" with 8,538 hits, reflecting their universal use in discussing hallucinogenic experiences and potential appropriateness even in a clinical setting. Perhaps it should be noted here that these experiences have been "characterized as a journey or flight" since before written language. This may be due to a "re-language system of representation based in mimesis, and in terms of the disassembling of modular systems of the proto-mind".[32]

Other frequent terms include "Visuals" (9,354 hits) and "Fear" (6,348 hits), highlighting the sensory and emotional intensity of these states. However, terms like "Journeying" (44 hits), "Communion" (123 hits), and "Unfiltered" (42 hits) are significantly less frequent, perhaps due to their niche usage or more formal/spiritual connotations.

Colloquial or spiritual terms searched on EROWID averaged approximately 3,447 hits. It is also essential to consider in this data set that some terms, such as "God," could be used in various contexts, and therefore, these results might be more challenging to interpret.

It should be noted that intensely negative emotions, such as fear or terror, are primarily

experienced with uncontrolled sets or settings, frequently described in EROWID reports. A common side effect of taking a hallucinogenic substance in an unchecked setting is feeling out of control because the setting or set is uncontrolled - taking a hallucinogenic substance around untrustworthy people, in an unclean environment, or around a various host of individuals will produce a significantly different result than taking a drug in a calm, controlled setting (i.e., inputs affect outputs). In a clinical setting, both the patient's set is controlled (it is assessed whether or not they are a valid candidate for hallucinogenic-assisted therapy), and the setting is also controlled (i.e., quiet, safe, well-monitored, well-controlled, calm, and comfortable). In addition, the dose provided in a clinical setting is rarely high enough to provoke such existential dread[33], and the risk of any sort of negative experience (or "bad trip") is very low.

Overall, for the experience of "all is one" being such a common experience experienced on the hallucinogenic substances that modulate the DMN, the language with which clinicians and researchers discuss and describe the effects of DMN downregulation is limited. Inspiration might be taken from individuals who take these substances ceremonially as sacraments. A more thorough linguistic analysis of icaros, sacred songs or chants sung by facilitators during ayahuasca ceremonies to guide the spiritual and healing processes of the participants [34] or through other linguistic analyses of descriptions of "ego death" in other spiritual contexts might be applicable. The experience of all being one, brought about by DMN suppression and the increased amount of input from the "lower" centers of the brain and the surroundings, can be ineffable and frustrating to describe. This overwhelming experience is frequently expressed in paradoxical, metaphorical, or poetic language. Physicians are generally uncomfortable with such language, but through objective analysis, a happy medium can be reached to explain such an experience with its biomechanical cause.

There are some challenges the researcher encountered when trying to study the language clinicians, researchers, and therapists use to talk about psychedelic substances. For one, it is essential to note that natural language and linguistic frameworks arise from shared experiences. If the experience is restricted (i.e., in the case of hallucinogen and psychedelic use), the language is limited as well.

Hallucinogens deserve science's attention and research, as evidenced. However, creating a robust field of psychedelic research is difficult or impossible without rescheduling these substances. Solid linguistic frameworks arise from a "culture of integration," where people, including scientists, physicians, and researchers, discuss these substances and their experiences with them openly and honestly.[35] Because the most varied language analyzed arose from primarily illicit scenarios (from EROWID trip reports), there is a crucial knowledge (and language) gap. The resultant language that patients use in a clinical setting after an experience with hallucinogens would be interesting to analyze at various time points (i.e., immediately after the experience, three months after, six months after, a year after).

CONCLUSION

Hallucinogens have evident therapeutic potential in treating conditions like anxiety, PTSD, depression, addiction, and OCD and even have relevance in end-of-life care.[36] In the era of a major global mental health crisis, where "half of the world's population will experience a mental health disorder" [37], the other serotonergic modulators (the hallucinogens) deserve to be in the physician's toolbox. Hallucinogens potentially express their benefits through mechanisms of DMN downregulation, thus inducing a unique state of consciousness that fosters a profound sense of unity and emotional insight. Hallucinogens can offer patients new pathways for healing and provide clinicians with a possible tool for facilitating tangible therapeutic outcomes with difficult-to-treat patient conditions.

The missteps of the 1950s-60s (marked by a lack of ethical safeguards, informed consent, and standardized language) in the realm of hallucinogen research and therapy serve as a stark reminder of the need for moral integrity in psychedelic research today. To avoid repeating history, today's research must prioritize patient safety, informed consent, and transparent communication.

Hallucinogen-assisted therapy should be approached with respect for its profound effects on the psyche and its potential for reshaping one's worldview, including experiences of spirituality and the revelation that "all is one." The "preparation" and "working through" phases of psychedelic-assisted psychotherapy are crucial for the sake of protecting patients from harm and ensuring they are prepared for and supported through and after an experience that, by definition, can shake up their sense of self.

The substantial benefits of the hallucinogen-induced experience are most likely from their targeted downregulation of the DMN. This is analogous to the dissolution of rigid mental frameworks and allows patients to overcome maladaptive thought patterns such as rumination and entrapment (both of which are associated with DMN activity.[38] Theoretically, DMN downregulation allows patients to access deeper emotional and psychological states. In addition, because the "self-narrative" created by the DMN is turned down, there is a unique symbolic and metaphorical language that individuals who take hallucinogens use to describe the increased input from "lower" brain centers. This language challenges researchers to adopt a standardized linguistic framework, which is possible so long as researchers stick to discussing the biochemical framework established by the DMN and the effects of its modulation in tandem with the words "laymen" or psychedelic tourists (like those on EROWID) use.

As evidenced through the various tones expressed within EROWID reports, researchers should be prepared for a wide range of emotional and metaphorical language used by patients and not be disturbed by the stories they tell, regardless of how extreme their hallucinations may be. This language is simply the result of DMN downregulation and the resultant input from the "lower" centers of the brain, processing their surroundings in a novel way, outside of their self-narrative, and far removed from their everyday reality experience. Science and reason cannot fly out the window. Researchers must remember to rely on the substances' biophysical, physiological, cut-and-dry mechanisms when discussing them. Using the biochemical framework established by the DMN and the effects of its modulation, clinicians can begin to develop a modern linguistic framework with which to discuss the psychedelic experience. Such a framework would enhance patient-therapist communication and promote ethical and honest therapeutic practice, ensuring patient-therapist trust and effective treatment.

Hallucinogens deserve science's attention and research. There are so many exciting projects that could be conducted with the aid of certain "Schedule I" substances. However, creating a robust field of psychedelic research is difficult or impossible without rescheduling these substances or, at the very least, considering them to be medicines with therapeutic benefits. Some future research would require particular Schedule I substances to be rescheduled so that we can investigate them and discover the foundations of what makes something medicinal (i.e., how much of a substance to take, how many doses are needed for effects)

In addition, because of the lack of research and the limitations placed on research by the federal government, researchers are often reliant on existing data, which makes it challenging to provide data on long-term outcomes or develop recommendations without adequate data.

Enhancing the researcher's body of research could help to answer statistical questions as well, such as what are the absolute risk reductions of psychedelic (assisted) therapies when compared with placebo? Or what is the number needed to treat with psychedelic

(assisted) therapies when compared with placebo? As made apparent by the language used in EROWID reports, the experience brought on by psychedelics and hallucinogens can be disturbing to specific individuals. Like with any treatment, not everyone will benefit from hallucinogen or psychedelic-assisted therapies. Broadening the field of psychedelic research would help scientists to understand which patients would benefit from psychedelic-assisted therapies. De-scheduling psychedelics for medicinal purposes could also help researchers answer questions such as "Is group hallucinogenic assisted therapy a viable option?" (say, in the instance of several individuals struggling with substance abuse) (see MAPS trials with MDMA).

By shifting societal and institutional perspectives—viewing hallucinogens as medicines rather than "substances without medicinal benefit with high potential for abuse"—researchers can pursue vital studies on dose-dependent effects, linguistic patterns in patient reports, and the neurobiological mechanisms underlying the effects of these substances.

In addition, natural language and linguistic frameworks, including a linguistic framework based upon a biochemical framework, arise from shared experiences. Solid linguistic frameworks occur from a "culture of integration," where scientists, physicians, and researchers discuss these substances and their experiences honestly and honestly amongst themselves and the broader public.[39]

Such dialogue, focused on the biochemical benefits of these substances, can help erase the stigma surrounding the use of these substances and people's experiences with them. This culture would mirror the culture in the upper Amazon, where Ayahuasca is considered a medicine, and individuals openly and honestly talk about their experiences at such ceremonies.

Future research in the realm of hallucinogenics is a vast topic with tons of potential, from neuroimaging studies and dose-dependent analyses to exploring the role of spirituality and traditional practices in therapeutic outcomes. For the sake of this research, a more in-depth analysis of EROWID may be helpful. This could be done by filtering by specific substances instead of a general search of the entire trip-report database. In addition, it might be possible to filter trip reports by particular set and setting. However, this would require a much more in-depth reading of EROWID reports. For this paper, AI tools were not used to conduct a linguistic analysis on EROWID because EROWID's terms of use include the statement, "By accessing this page, you agree not to download, analyze, distill, reuse, digest, or feed into any AI-type system the report data without first contacting Erowid Center and receiving written permission." With more time, a more thorough linguistic analysis may be conducted utilizing AI tools with the permission of the EROWID center. Creating an updated research questionnaire with modern language and updated sections might also be beneficial for this research and other research projects and for creating a more universal linguistic framework.

In addition, a linguistic analysis of icaros may be beneficial for this research's sake. Medicinal prayer songs sung during an Ayahuasca ceremony are linguistically targeted tools for healing, and their words have been passed down for centuries. However, this linguistic analysis would have to be more in-depth and, therefore, more challenging, mainly because the songs were sung. Music played during Ayahuasca ceremonies is different for each ceremony, and the Icaros are often sung in Indigenous languages, such as Shipibo-Konibo, Quechua, and Ashanika, as well as mixed language (i.e. Spanish and Shipibo-Konibo), or "spirit languages." This live, interactive performance differs from analyzing Johns Hopkins's IRB-approved psychedelic research playlist. These additional linguistic studies, examining how ancient "physicians" (shamans and facilitators) directed the hallucinogenic experience, could offer further opportunities to bridge ancient and modern knowledge.

In the broader, more biochemically focused sphere, this researcher would also like to see dose-dependent curves for the Schedule 1

substances (THC, Psilocybin, LSD, and DMT) and how the dose affects the language used by participants to describe their experience. In addition, there is a huge opportunity to conduct hundreds of various neuroimaging studies on hallucinogenic substances. For example, neuroimaging could be used to assess if higher amounts of "re-synapsing" are associated with a higher MEQ or 5D-ASCQ score (and thus better clinical outcomes). Researchers could also investigate whether or not patients who experienced the revelation that "all is one" had better therapeutic outcomes. In other words, is this revelation the goal of hallucinogenic-assisted therapies and beneficial to patients with anxiety, PTSD, depression, addiction, and OCD? Or is this revelation simply the foundation of any hallucinogenic experience where the DMN is downregulated (i.e., is the revelation that "all is one" the result of DMN downregulation)? This might be investigated using neuroimaging to directly assess the level of DMN dysregulation.

Neuroimaging certainly offers an exciting avenue for exploring hallucinogenic experiences, particularly the role of DMN downregulation in fostering the sense of interconnectedness often reported by patients. Investigating whether this "all is one" revelation is foundational to therapeutic outcomes could deepen our understanding of hallucinogenic experiences and guide future therapeutic applications. In addition, future research could investigate the questions this outlier ("All is One") raises about the role of spirituality and the psyche in medicine.

Hallucinogens represent a profound frontier in medicine, science, and even consciousness research and present many challenges and opportunities. Researchers, therapists and clinicians have the potential to unlock the power of hallucinogens to transform mental health care and deepen science's overall understanding of the mind, its diseases, and therapy.

ACKNOWLEDGEMENTS

The author would like to thank Dr. Jason Glenn for his wisdom, advice and patience throughout this project.

The author had the pleasure of conducting several interviews over the summer with people from various backgrounds. Scott Stanley, Lead facilitator at the Arizona Yagē ceremony, Dr. Charles Grob (M.D., professor of Psychiatry & Biobehavioral Sciences and Pediatrics and director of the Division of Child and Adolescent Psychiatry at Harbor–UCLA Medical Center), Dr. Scott Shannon, co-founder of the Psychedelic Research and Training Institute (PRATI) and provider of KAP, Dr. Tyler Kjorvestad, a psychiatrist and psychedelics researcher at KUMC, who graciously shared with me not only his knowledge of how psychedelics are used clinically but also his own spiritual perspectives, Anne Bethune (LCSW) granted me a wealth of knowledge on how hallucinogens (ketamine) are used therapeutically, in addition to allowing me the privilege of seeing into her world as a KAP therapist.

Finally, the author would like to thank Dr. Joseph Pleen, a neurologist at KUMC, for his continued patience and excitement for the sophomore researcher and Dr. Kevin Boehnke (PhD, Professor in the Department of Anesthesiology and the Chronic Pain and Fatigue Research Center) for his passion for the medicinal legalization of particular schedule 1 substances. These individuals were all so incredibly influential to this work. Their conversations facilitated my knowledge of these hallucinogens and reality and allowed me to explore the topic from perspectives I otherwise would not have had.

My conversations with Scott Stanley were particularly influential and changed and frustrated the initial process of my paper. For his perspective, I am eternally grateful. Working with Dr. Charles Grob was also particularly inspiring - his research is foundational, and his knowledge and respect for psychedelics and their history is contagious.

This work is fondly dedicated to every impish smirk and every second or third fellow I've encountered on these long trails.

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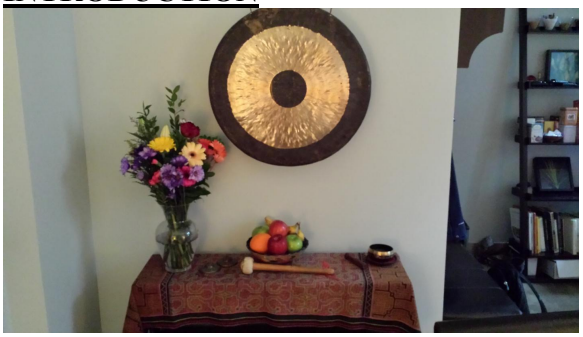
On the Spiritualized. Aesthetic in Psychedelic Clinical settings

William Winter, Ph.D.

Abstract
Objects of a "spiritual" or ceremonial nature—statues of the Buddha, mandalas, Amazonian matas, indigenous artifacts, etc.—are common in psychedelic research settings. Why have such objects become part of the clinical research environment? Critics contend that the inclusion of such objects undermines the scientific objectivity of clinical psychedelic research. This essay presents a defense that includes the following arguments: (1) all scientific research occurs within a given cultural context and is grounded in a set of philosophical/theoretical assumptions (2) Contemporary clinical psychedelic research is grounded in assumptions concerning the value of mystical experiences as put forth in *perennial philosophy*; (3) although not explicitly stated, clinical psychedelic studies are tests of the hypothesis that psychedelics can produce mystical experiences that offer sustained meaning and significant psychological benefit; (4) a "spiritualized" aesthetic is employed to create a setting that is conducive to the production of such mystical experiences; and (5) the testing of the hypotheses generated by perennial philosophy is as valid as the testing of any scientific or philosophical theory.

INTRODUCTION



Understanding the "spiritualized" aesthetic commonly employed in clinical psychedelic settings requires an appreciation for the significant influence of the *perennial philosophy* (or "philosophia perennis") as it took shape in the mid-twentieth century.

In the *Journal of the History of Ideas*, historian of philosophy Charle B. Schmitt wrote: "What precisely 'philosophia perennis' means is not easy to determine, and the task of determining it is made more difficult by the fact that a great many philosophers of various persuasions have, as it were, appropriated the conception and so bent it that their own philosophy turns out to be perennial philosophy" [1].

Tracing its earliest origins to 3rd-century Neo-Platonism and crediting Augustinian scholar Agostino Steuco as having coined the term, Schmitt cites Aldous Huxley as one of the more recent and influential appropriators [1]. Huxley's version of the perennial philosophy, as presented in his 1945 book of the same name, draws upon relatively recent influences such as Universalism and Swami Vivekananda's Neo-Vedanta (and in contrast to the conservative Traditionalist schools described by Schmitt), offers a philosophy which honors individual mystical experience as the avenue to the universal divine; he regards such experiences as being "the Highest Common Factor in all preceding and subsequent theologies" [2,3].

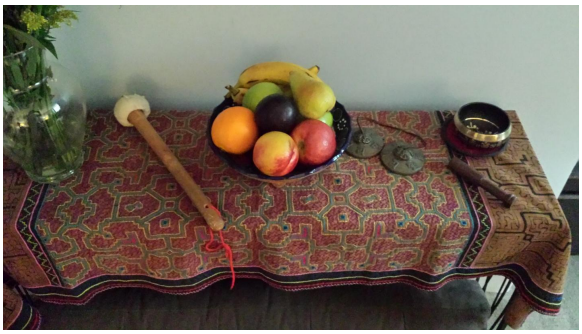
However, it was not until Huxley's iconic 1954 *The Doors of Perception* that perennialism was explicitly linked to psychedelic experience. Huxley proposed that our normal consciousness is constrained by a "reducing valve," which, while necessary for day-to-day survival, separates us from transcendent states of higher consciousness. Huxley recounts how, under mescaline, his doors of

perception were flung open to perennial mystical experience. He describes the timeless "suchness" of the flower arrangement in a small glass vase: "I was not looking now at an unusual flower arrangement. I was seeing what Adam had seen on the morning of his creation—the miracle, moment by moment, of naked existence". For Huxley, these flowers signified "a transience that was yet eternal life, a perpetual perishing that was at the same time pure Being, a bundle of minute, unique particulars in which, by some unspeakable and yet self-evident paradox, was to be seen the divine source of all existence" [4].

Huxley's universalist interpretation of perennialism would echo through William Stace's 1960 *Mysticism and Philosophy* [5]. Stace's influential volume proposed a set of core characteristics of mystical experience that lead to the "undifferentiated unity" at the heart of all world religions. These characteristics were adopted by Walter Pahnke for his Mystical Experiences Questionnaire (MEQ) [6-8] and by Ralph Hood for his Mysticism Scale (M-Scale) [9]. Hood describes his scale as having "32 items, four for each of 8 categories of mysticism initially conceptualized by Stace (1960)" [9]. Categories such as "Unifying Quality" and "Positive Affect" highlight the core element of a positively valenced, unitive consciousness as captured by the M-Scale and the MEQ. Both of these instruments have been widely employed as measures and predictors of therapeutic outcomes obtained in clinical psychedelic research [10-15].

Johns Hopkins Research on Mystical Experiences

Widely regarded as a milestone in the modern history of psychedelic research, the 2006 publication by Roland Griffith's lab at Johns Hopkins University pioneered the contemporary study of psilocybin with respect to mystical experience [10]. This study helped to reestablish psychedelic research as a legitimate pursuit in psychiatry and generated wider cultural awareness of psychedelic research through social and mainstream media coverage [16]. Using the M-Scale and portions of the MEQ among the studies' primary measures, they reported that "when administered to volunteers under supportive conditions, psilocybin occasioned experiences similar to spontaneously occurring mystical experiences and which were evaluated by volunteers as having substantial and sustained personal meaning and spiritual significance." While the article does not cite either *The Perennial Philosophy* or *The Doors of Perception*, its guiding assumptions are anchored in the cultural *zeitgeist* that spun out from Huxley's writings, and its findings served as confirmation of Huxley's basic premise that psychedelics can produce transcendent experiences that bear transformative potential.



The Question of Appropriate Setting

The setting of the Johns Hopkins clinic provided "an aesthetic living room-like environment designed specifically for the study" [10], which also included "a selection of spiritual and art books and a shelf holding a Buddha statue" [17]. Matthew Johnson, a member of the Johns Hopkins research team for nearly two decades, is now one of the most notable critics of the inclusion of such items in the clinical setting. The objection is that the presence of a spiritualized aesthetic undermines

the scientific legitimacy of psychedelic trials. His 2021 article voiced concerns about "scientists and clinicians imposing their personal religious or spiritual beliefs on the practice of psychedelic medicine" at least in part by employing a "loosely held eclectic collection of various beliefs drawn piecemeal from mystical traditions, Eastern religions, and indigenous cultures" [18]. He suggests employing a secular environment instead.

What would be an appropriately secular setting for psychedelic research? In a recent Substack post, Swiss journalist Sarah Zines polled a small set of psychedelic researchers, clinicians, and patients as to whether standard hospital settings might be best for psychedelic research [19]. The responses reflected the complexity of the issue. A representative comment from one respondent noted that "Some of the research participants I've worked with find a medical setting reassuring ('if anything goes wrong this is the best place to be'), others have had difficult experiences or felt mistreated in medical settings so that then impacts their 'set''. Another response was simply listed as "No one likes going to hospital" [19].

Critics such as Matthew Johnson may view a "comfortable living room-like environment" stripped of spiritually themed books, art, indigenous ceremonial implements, and Buddha statues as more appropriate to legitimate scientific research [18]. It is the case, however, that the very concept of the "comfortable living room" is itself a construct of Westernized middle-class values bearing a host of cultural, historical, and probably personal connotations for both the designers and the volunteer participants. Clinical science, whether it takes place in a living room, a hospital bed, or a ceremonial maloca, is always conducted by individuals existing in a particular cultural context freighted with implicit and explicit values that cannot be extracted from the process. It follows that there is no possibility of attaining a purely value-free, culturally neutral, pristinely clinical setting unadulterated by the interacting conscious and unconscious psychological states of the researchers and the volunteer participants. The white lab coat of the Western physician is as fraught with implicit and explicit belief structures as the bust of the Buddha.

CONCLUSION

Clinical psychedelic studies are not of the same category as basic scientific research on, for example, the activity of neurons and neurotransmitters: they are tests of a philosophically grounded therapeutic application that may provide significant enhancement or healing to human individuals in their lived experience. The presence of spiritually themed objects in clinical settings reflects a particular philosophy that, since the mid-20th century, has motivated and justified the use of psychedelics as therapeutic agents. The ubiquity of Buddha statues, mandalas, Amazonian matas, and ceremonial implements in contemporary psychedelic studies should not be construed as endorsements, representations, or refutations of any given religious belief. The fact that secular art books, flowers and fruit baskets are present in the mix should make it clear that the setting is less about religion as such and more about creating an elevated aesthetic. The objects in the arrangement should be appreciated as semiotic markers referring to a higher state of "perennial" consciousness attainable through psychedelics which is hypothesized to provide

significant growth-promoting value. The fundamental problem with contemporary psychedelic research regarding mystical experiences is that these studies are not adequately framed as hypothesis testing of predictions generated by Huxley and Stace's perennial philosophy. All scientific inquiry is based on some guiding philosophy, explicitly acknowledged or not [21]. Testing predictions generated by perennial philosophy—with Buddha statues and all—is as scientifically legitimate as testing predictions from any philosophical or theoretical system.

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Winter, W. (2025, March). On the Spiritualized. Aesthetic in Psychedelic Clinical settings. *The Journal of Psychedelic Psychiatry*, *7*(1).

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Case Report

Case Study: Integrating Ketamine-Assisted Therapy (KAP) with EMDR for Intractable Depression and Trauma

Alissa Hirshfeld, MA, LMFT

Abstract
With the client's consent, this case study aims to contribute to the literature on the combined use of Ketamine-Assisted Psychotherapy (KAP) and Eye Movement Desensitization and Reprocessing (EMDR) in treating intractable depression and trauma. This innovative approach seeks to provide valuable insights for clinicians and hope for individuals facing similar challenges

CASE STUDY

With the client's consent and identifying information changed, this case study aims to contribute to the literature on the combined use of Ketamine-Assisted Therapy (KAP) and Eye Movement Desensitization and Reprocessing (EMDR) in treating intractable depression and trauma. This innovative approach seeks to provide valuable insights for clinicians and hope for individuals facing similar challenges.

BACKGROUND

Andrew, a Caucasian man in his early 30s, was referred for EMDR therapy by his primary therapist, with whom he was receiving cognitive behavioral therapy. He had recently been hospitalized and completed an Intensive Outpatient Program following a severe episode of suicidality. Andrew had been clean and sober for a year, motivated by his fiancée (whom he married during EMDR therapy), though he resisted 12-step programs. His primary substance of abuse was cocaine, alongside alcohol and cannabis. He continued to voice intense feelings of suicidality with no imminent intent but firmly believed that he would eventually take his own life.

Andrew had a significant trauma history. Ten years prior, his best friend Charlie, two years his senior, died by suicide. Charlie was like a brother to him. Three years prior, Andrew had had a suicide attempt himself, taking three times a lethal dose of cocaine. He hallucinated that Charlie walked him towards the light, then stopped him and walked him back. The anniversary of Charlie's death consistently triggered depressive episodes and intense suicidal ideation.

Early Life and Mental Health History

Andrew had minimal recollection of his childhood when therapy began. He later revealed that he had met Charlie when he was ten, and they became inseparable. Andrew's depression began at 13, and he started self-harming in early high school. At 18, after his first suicide attempt, he was diagnosed with bipolar disorder, depressive type. In childhood, his family dynamics were complex: his mother was emotionally dysregulated, his father was emotionally distant, and he was not close to his two older brothers. While Charlie had been like a brother, Charlie's mother served as a surrogate maternal figure, providing stability and support during Andrew's formative years.

Initial Treatment with EMDR

Upon starting EMDR therapy, Andrew was prescribed the following medications by his psychiatrist:

- 120 mg Latuda
- 150 mg Lamictal
- 5 mg Prazosin
- Seroquel (for sleep)
- Klonopin (PRN)

We first focused on addressing lesser traumas, such as childhood bullying and the accidental death of his dog, Lucky, for which Andrew felt immense guilt. An introverted child with learning disabilities, Andrew felt different and pathologized, even by his own family. EMDR sessions began with establishing emotional resources and grounding techniques: safe place visualizations, slow breathing, loving-kindness meditation, Emotional Freedom Technique (EFT) tapping, and grounding in a sand tray. Alternating tones and alternating pulses were used in his hands for bilateral stimulation.

Initial EMDR Session Highlights

- Session 1: Andrew visualized himself as a child trapped in a cage, representing his exiled emotions. Processing this image led him to apologize to Lucky's spirit, resulting in profound emotional relief.
- Sessions 2-3: Andrew focused on the exiled child part, addressing feelings of being an outcast. Charlie's mother was introduced as a protective figure. Andrew began accessing and expressing his sadness and fear. He had a powerful dialogue with the caged child, imagining his adult protective self in the cage with the child. The child voiced, "I'm afraid to experience more of the world and more pain. *You* need to face the pain and move on. Save me by doing therapy."
- The child ultimately came out of the cage, ran around, and played.
- "I feel like a weight's been lifted off of me," Andrew sighed with great relief.
  - Session 4-5: Andrew began to address his survivor's guilt for both Lucky's death and Charlie's suicide.
  - Sessions 6-9: Andrew started to process Charlie's suicide in more detail, touching on memories of learning the news and rushing to Charlie's house, gradually strengthening his emotional resilience. He began to develop a glimmering sense of hope and expressed a nascent intention to heal.
- At the end of one session, Andrew was invited to do a sand tray. He depicted himself surrounded by rocks blocking him from stones with the words *comfort*, *love*, *faith,* and *hope* engraved on them.

Introducing Ketamine-Assisted Psychotherapy (KAP)

Six months into treatment, despite progress, Andrew remained entrenched in recurring depression and suicidal ideation and dissociated during EMDR treatments whenever memories of Charlie and his death became too vivid. The concept of KAP was introduced as an adjunct to EMDR. The outcome research and the clinical technique were explained. Andrew began KAP at an IV clinic with medical clearance from his psychiatrist and an anesthesiologist.

Preparation for KAP:

Andrew's initial intentions were:

1. To feel more joy
2. To desensitize trauma
3. To reduce cocaine cravings
4. To cultivate a desire to live for himself, not merely for others

5. To improve self-regard and self-image

We created a music playlist to support his emotional journey during treatments.

KAP Sessions

- In his first treatment (60 mg), Andrew accessed a feeling of "childhood happiness" and recognized Charlie's desire for him to stay alive.
- Subsequent treatments focused on accessing motivation, embracing creative expression (he identified as an artist), and reinforcing positive emotions. He was able to recall and integrate details of the trauma of Charlie's death, which led him to dissociate when he was not under the influence of the medicine.

During integration sessions, Andrew began engaging in art therapy and further EMDR work, which facilitated emotional expression and healing.
Eventually, Andrew switched to nasal (eskamine) treatments, as his insurance covered them.

Progress and Integration

Over the following months, the combination of EMDR and KAP led to significant improvements:

- Emotional regulation: Andrew could access, process, and manage previously overwhelming emotions without dissociating.
- Behavioral changes: Andrew re-engaged with hobbies like photography and creative projects.
- Reduction in symptoms: PHQ-9 scores decreased from 24 (severe depression) to single digits.
- Medication adjustment: His psychiatrist reduced the dosages of his medications as his condition improved.

Notable Breakthroughs:

- In a breakthrough KAP session, Andrew was able to imagine opening the door to Charlie's room and confronting the reality of his death. He had previously ferociously avoided facing the actual means of his friend's death. He grieved the part of himself that had died that day while realizing that he could hold onto his love for Charlie yet let go of his guilt and grief. He also realized that perhaps while he was not afraid to die, he was afraid to fully live.
- Art therapy integration: Andrew continued to paint his experiences, symbolizing his journey from depression to more joy. He described the color of happiness as teal and light green and painted an image of waves–sad ones crashing away and happy ones crashing in. This was the first time that he had painted in eight years. He followed that with an image of "happy trees." He also painted an image of opening the dreaded door blocking out his trauma. Whereas at the start of treatment, he expressed that he was "colorblind to feelings," at this point, he was expressing himself in colorful paint, coming alive emotionally.
- Positive affirmations: Andrew developed self-affirmations and coping strategies to handle bad days and intrusive suicidal thoughts, including wiring in the positive image of snow falling on his dark thoughts.

Challenges and Setbacks

Two and a half months into his KAP treatment, Andrew experienced cocaine cravings, a concern for potential hypomania.

Although his psychiatrist did not attribute this directly to ketamine, treatments were paused, and he was referred to Rational Recovery (as he was resistant to traditional 12-step groups). We focused on cognitive restructuring, EFT tapping, and continued EMDR to address his underlying insecurities and fears. Despite a temporary setback, Andrew maintained reduced levels of survivor's guilt and increased hope. Notably, he did not relapse.

Long-Term Outcomes

A year and a half into treatment, approaching the anniversary of Charlie's death, Andrew demonstrated remarkable resilience:

- Emotional stability: Andrew experienced no depressive or trauma reactions during triggers. He was no longer triggered by movies or songs about suicide and managed his grief without falling into depression.
- Future orientation: Andrew was actively planning for his future, including career goals and aspirations to become a father.
- Improved relationships: Andrew experienced an enhanced relationship with his wife and the ability to be vulnerable, expressing gratitude and affection during one couples session. Recognizing that his loss had made him avoidant, he began to reach out to connect with other friends.

CONCLUSION

Andrew's case exemplifies the potential effectiveness of integrating ketamine-assisted therapy with EMDR in treating treatment-resistant depression and complex trauma and supports a growing body of evidence advocating for this combined approach. The synergistic effect of KAP and EMDR facilitated profound emotional healing, reduced suicidal ideation, and fostered a renewed sense of purpose and joy. Despite challenges, including substance cravings and adjustments in treatment, Andrew achieved significant improvements in his mental health and quality of life.

At a recent appointment, Andrew shared that his wife is pregnant and that he is starting his own business. Both ventures are a testament to his newfound commitment to his life and his future. He expressed immense gratitude that therapy has been so successful for him.

Future research should continue to explore this integrative approach to optimize therapeutic outcomes and expand its applicability to broader populations.

Recommendations for Clinicians

Before beginning such a treatment, clients should be carefully evaluated for their suitability for KAP by their treatment team, considering their substance use history, current mental health and physical health. Once neural pathways are opened with the ketamine treatment, clients may feel safer to go deeper with an EMDR protocol. EMDR can then be used as part of the integration sessions to further process traumatic material and enhance emotional regulation and therapeutic breakthroughs. Reminding clients of grounding techniques is important to maintain safety and reduce dissociation. Creative therapies can be employed to aid in integration and therapeutic progress. The treatment plan should be regularly assessed and adjusted based on the client's responses and emerging needs.

Future Directions

Larger studies are needed to validate the efficacy of the combination of KAP and EMDR treatments. A larger body of

clinicians need to be trained with the skills to administer and integrate KAP with established therapeutic modalities like EMDR. Finally, on a policy front, clinicians and researchers must advocate for insurance coverage for all means of administration and accessibility of KAP as a legitimate treatment option for severe mental health conditions.

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Hirshfeld, A. (2025, March). Case Study: Integrating Ketamine-Assisted Therapy (KAP) with EMDR for Intractable Depression and Trauma. *The Journal of Psychedelic Psychiatry*, *7*(1).

Business Information

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