Psychosis and psychedelics: Historical entanglements and contemporary contrasts

Phoebe Friesen

Abstract
Experiences of psychedelics and psychosis were deeply entangled in scientific practices in the mid-20th century, from uses of psychedelic drugs that could model psychosis, to detailed phenomenological comparisons of endogenous and drug-induced madness. After the moral panic of the 1960s shut down psychedelic research, however, these two phenomena became disentangled. In the decades following, the science of psychosis transformed, shedding the language of psychoanalysis, and adopting the new scientific veneer of psychiatry. Today, as psychedelic science re-emerges, the research programs surrounding psychosis and psychedelics now stand in stark contrast. Here, I look closely at how these research programs respond to questions related to what is worth measuring, what is worth investigating, and how we ought to respond to these experiences. This comparison reveals radically different assumptions and values that guide each research paradigm and shape clinical practice. While psychedelic research often includes scales that seek to capture experiences of mysticism, meaningfulness, and ego dissolution, research related to psychosis focuses on the measurement of pathological symptoms and functioning. Research into psychosis primarily seeks universal and reductionist causal explanations and interventions, while psychedelic research embraces the importance of set and setting in shaping unique experiences. Responses to psychedelic crisis involve warmth, compassion, and support, while responses to psychotic experiences often involve restraint, seclusion, and weapons. I argue that these differences contain important lessons for psychiatry. However, as psychedelic research struggles to meet regulatory requirements and fit within the paradigm of evidence-based medicine, these differences may quickly dissolve.

Keywords
crisis response, outcome measures, psychedelics, psychosis, set and setting

Introduction
While notions of madness and psychedelics have long been entangled, the suggestion that psychedelic drugs could be used to scientifically model the phenomenon of psychosis first took hold in Europe in the 1920s and 1930s (Beringer, 1923; Hartogsohn, 2020). In 1940, British psychiatrist G. T. Stockings (1940) reported confidently that mescaline, the active ingredient in peyote, produces “a medley of all the known psychotic symptoms occurring at random in the course of an acute intoxication, the events of which are crowded together into the space of a few hours” (p. 46). The promise of such a model was significant. As Stockings (1940) put it, “the drug is therefore of the greatest importance as a method of approach to the understanding of the nature of mental disorder” (p. 47). Having the ability to produce short-term psychosis in otherwise healthy subjects could allow for a remarkable degree of control in psychiatric research. Such control could enable researchers to closely examine the corresponding changes that occurred during this temporary psychosis and test hypotheses relating to causes or treatment for psychosis through novel manipulations and interventions.

During the first half of the 20th century, when psychedelic research programs were budding across the world, many of the terms used to refer to psychedelics, including psychotomimetics (mimicking psychosis), psychotogens (generating psychosis), hallucinogens (generating hallucinations), and psychodysleptics (mind-disrupting), explicitly
drew a connection between psychosis and these drugs (Hartogsohn, 2016; Langlitz, 2013). However, it was the term *psychedelics* (mind-manifesting) that stuck.

The term **psychedelic** was introduced by British psychiatrist Humphrey Osmond, one of the leading researchers promoting the use of psychedelics to model psychosis in the mid-20th century. Osmond and his colleague John Smythies had become fascinated by the similarities between experiences brought about by mescaline and experiences of psychosis. They conducted a series of experiments that led them to believe that “mescaline is the simplest agent producing a schizophrenic-like psychosis, and the only one that closely resembles a substance found naturally in the body” (Osmond & Smythies, 1952, p. 315). At the same time, other researchers were documenting the ways in which LSD (lysergic acid diethylamide) and psilocybin (the active ingredient in “magic mushrooms”) could also bring about psychoses in healthy subjects (Belouin & Henningfield, 2018; Sandison et al., 1954; Simmons et al., 1966). At the center of these research programs was a paradox, derived from the nature of psychedelics, which appeared to both reproduce and alleviate psychopathologies, therefore offering “both a model of, and yet a treatment for, psychopathology” (Carhart-Harris et al., 2016, p. 1380; Osmond called this the “hair of the dog” problem (Osmond, 1957, p. 420, discussed in Swanson, 2018, p. 7). Explanations offered for this paradox serve to further highlight the similarities between psychedelic and psychotic experiences. In the 1950s, Aldous Huxley proposed that psychedelics led to a reduction in the activity of typical brain filtration mechanisms, creating a “leaky filter” (Huxley, 1953, p. 30, discussed in Swanson, 2018, p. 8). In some cases, he argued, this lack of filtration can lead to beneficial therapeutic outcomes, because ordinary pathological patterns are no longer present. However, in cases of too much or a chronic underactive filter, the leaky filter can allow “too much ‘Mind at Large’ ‘to enter conscious awareness, potentially resulting in perceptual instability, cognitive confusion, or hallucination” (Swanson, 2018, p. 8). More recently, Robin Carhart-Harris has proposed a model of “cognitive entropy,” suggesting that both early experiences of psychosis and psychedelic experiences occur in the same “primitive state” characterized by magical thinking, cognitive looseness, imagination, and flexible, creative thinking (Carhart-Harris, 2013; Carhart-Harris et al., 2014, 2016). As with the leaky filter model, the paradox is resolved; such entropy can either lead to symptoms of psychosis, as new meanings and perceptions come rapidly into view, or allow for productive therapeutic engagement outside of one’s usual way of thinking (Swanson, 2018).

**Phenomenological comparisons of psychosis with psychedelic experience**

The middle of the 20th century was a very different time in psychiatry than today; psychoanalytic methods were still widely influential and exploring the subjective nature of patients’ experiences was a common practice. Descriptions of the nature and phenomenology of madness were seen as rich with hidden meanings, rather than merely abnormalities to be reduced. For clinicians and researchers who saw psychedelics as capable of mimicking psychosis, these drugs presented an exceptional opportunity to try on the perspective of their patients, gaining both clinical insight and empathy in the process. As a result, it was common for those working with or near psychedelic research to self-experiment with these drugs, in hopes of better understanding and empathizing more deeply with their patients (Dyck, 2008; Langlitz, 2013). As Osmond put it, “Such a journey of self-discovery may one day be obligatory for those working in psychiatry. Although it might not always be pleasant, with care and understanding this experience would be very useful to the trainee” (Osmond, 1957, p. 424).

Another benefit of such self-experimentation was that these psychedelic experiments could be documented in
detail and then compared with descriptions of psychosis as offered by patients, thereby providing support for the view of psychedelics as models of psychosis. Despite the notorious difficulty of describing either psychosis or psychedelic experiences (Jones & Shattell, 2016; Noorani, 2019), comparative accounts of the two phenomena became popular with psychiatric researchers in the mid-twentieth century (Rinkel et al., 1952). Much of this research was conducted with the aim of illustrating the remarkable similarities between these experiences; as Bowers and Freedman (1966) suggested, “when seen from the point of view of subjective experience, early psychotic experiencing becomes less discontinuous with other altered modes of experiencing,” such as those brought on by psychedelics (p. 244).

Laurence Fischman, an American psychiatrist, sought to illuminate the overlap between psychedelics and psychology through an examination of qualitative descriptions of each experience. He used quotations to highlight how an expanded relevance of meaning seemed to be common to both experiences:

A sense of special significance began to invest everything in the room; objects which I would normally accept as just being there began to assume some strange importance.

I became interested in a wide assortment of people, events, places and ideas which normally would make no impression on me. Not knowing that I was ill, I made no attempt to understand what was happening, but felt that there was some overwhelming significance in all this … (MacDonald, 1960, p. 218, quoted in Fischman, 1983, p. 75)

The first quote is from an individual describing an experience with psychedelics, while the second is from a description of what psychosis felt like. A second example compares descriptions of the heightened awareness that often accompanies these experiences: “Sensations were acute. I heard, saw, felt, smelled, and tasted more fully than ever before” (Masters & Houston, 1966, quoted in Fischman, 1983, p. 75); “Colors seem to be brighter now, almost as if they are luminous. When I look around me it’s like a luminous painting” (McGhie & Chapman, 1961, quoted in Fischman, 1983, p. 75). Again, the first of these quotes describes an experience that took place after the ingestion of psychedelics while the second refers to an experience of psychosis.

As intended by Fischman, these quotations reveal the overlap that can be seen between the subjectivities produced in these two altered states of consciousness. He also drew parallels between psychedelic and psychotic experiences in terms of ego dissolution (a loss of one’s sense of self) as well as elation followed by anxiousness and dysphoria, which he suggested was brought on by the feeling of losing control of one’s thoughts (Fischman, 1983). Another phenomenological comparison offered by Stockings focused on the subjective overlap between hallucinations, delusions, depersonalization, synesthesia, vegetative states, as well as motor, thought, mood, and intellectual disturbances, seen in both psychedelic and psychotic experiences (Stockings, 1940). Crucially, none of these features or symptoms were reported to be essential to either psychedelic or psychotic experiences, given the immense variability across both kinds of experiences. Differences were also recognized within these comparisons; Stockings noted that experiences of synesthesia, visual hallucinations, and vegetative states can be more pronounced when brought about by mescaline rather than endogenously, while Fischman reported differences in speech patterns across both experiences, but not identical ones. Others argued that the observed similarities between these two states were exaggerated (Mayer-Gross, 1951). Hollister suggested that withdrawal, daydreaming, auditory (as opposed to visual) hallucinations, and delusions are much more commonly seen in those diagnosed with schizophrenia than those who had ingested psychedelics, and that the two states might be distinguished as being primarily characterized by a disturbance in thinking versus a disturbance in perception (Hollister, 1962).

Two significant differences, which were not lost on early researchers, are noteworthy as well (Osmond & Smythies, 1952). First, experiences brought about by psychedelics are, in most cases, intentionally brought about, while experiences of psychosis are not. Second, psychedelic experiences are short-lived, lasting for several hours on average, while experiences of psychosis do not come with a guaranteed endpoint. As one anonymous patient put it, comparing his experience of psychosis with that of taking psychedelics, “It’s the same now as it was with the drug, only then I knew I was coming back” (Bowers & Freedman, 1966, p. 242). Indeed, in cases where psychedelics have been administered without consent or awareness, as was often the case in the infamous, and grossly unethical, CIA (Central Intelligence Agency)-funded experiments of the 1950s and 1960s (known as MK Ultra), the experience can take on a terrifying hue. One CIA agent described his colleague, an unwilling participant in a psychedelic experiment, after he was found crouched under a highway underpass:

Every automobile that came by was a terrible monster with fantastic eyes, out to get him personally. Each time a car passed, he would huddle down against the parapet terribly frightened. It was a real horror trip for him. I mean, it was hours of agony. It was like a dream that never stops— with someone chasing you. … It was awfully hard to persuade him that his friends were his friends at that point. He was alone in the world, and everyone was hostile. He’d become a full-blown paranoid. (Marks, 1979, p. 71, cited in Fischman, 1983)
**Disentanglement**

Despite this rich history of entanglement, psychosis and psychedelics are infrequently considered in parallel today. Soon after the model psychosis research program was taken up, it was abruptly shut down. As “moral panic” increasingly began to characterize public discussions of psychedelic drugs in the 1960s, conducting psychedelic research became very challenging (Dyck, 2005, p. 386). Governments chose to classify psychedelic drugs as dangerous, pharmaceutical companies stopped distributing them for medical research, and funders stopped providing support for such research. Despite pushback from many researchers in this domain, psychedelic research programs were closed down across the world (Dyck, 2008).

In the years since, psychiatry as a discipline has changed dramatically. Psychoanalysis has been replaced with the biomedical model; standard treatments are now largely pharmacological, and research funding prioritizes neuroscientific and genetic examinations of mental disorders6 (Luhrmann, 2011). As will be discussed below, research on psychosis largely has followed suit. Meanwhile, psychedelic research has been on hold for several decades and is now experiencing a rapid and radical resurgence. Dedicated psychedelic research labs at John Hopkins, New York University, and Imperial College signal a cultural shift and are once again documenting the remarkable potential of psychedelics for improvements in wellbeing. Recent research has focused largely on anxiety and depression at the end of life, treatment-resistant depression, post-traumatic stress disorder, obsessive compulsive disorder, and smoking cessation (Carhart-Harris et al., 2017; Johnson et al., 2017; Ross et al., 2016; Wheeler & Dyer, 2020). As will be discussed below, the phenomenological curiosity that characterized the first wave of psychedelic research is still present in many of these labs.

However, this new wave of psychedelic research focuses primarily on one side of the hair of the dog problem, namely how psychedelics can treat mental disorders, and remains largely silent on the other, which points to how psychedelics might mimic madness. Part of the reason for this may be that the association between psychedelics and psychosis remains a dangerous one, as psychedelic research seeks to rebrand itself, distancing itself from links between LSD, madness, and political upheaval that are still circulating. Recently, Rick Doblin, founder of MAPS (the Multidisciplinary Association for Psychedelic Studies), suggested that the term “model psychosis” “deserves abandonment,” because it implies that “psychedelic experiences can be discounted as crazy and distorted” (Langlitz, 2013 p. 152). Not everyone agrees with him. In the 1980s and 1990s, a team of researchers in Germany sought to revive the psychedelic model of psychosis; Euphrosyne Gouzoulis-Mayfrank, a psychiatric researcher on the team, stated that “it is essential to re-examine the principal question: How similar are psychedelic and endogenous psychotic states?” (Gouzoulis-Mayfrank et al., 1998; Langlitz, 2013). In recent years, research comparing psychedelics and psychosis has been limited but it remains in some corners of psychiatric science. In particular, research into potential shared mechanisms, notably through the activation of serotonin 5-HT2A receptors, seen in both types of experience, is ongoing (Geyer & Vollenweider, 2008; Nichols, 2004). Relatedly, there has been interest in the question of whether anti-psychotics tend to block psychedelics experiences,7 similarities and differences between drug-induced and endogenous hallucinations (Leptourgos et al., 2020), and potential links between early psychotic and psychedelic experiences (Carhart-Harris, 2013; Hartogsohn, 2020; Langlitz, 2013). Psychedelics are also regularly used in animal research to model symptoms of psychosis, although several other options are available as well8 (Halberstadt & Geyer, 2013).

**A comparison of contemporary psychedelic and psychosis research**

In this section, I take a closer look at the distinct research programs focused on psychedelics and psychosis today. Focusing on some stark differences in the forms of measurement used, the hypotheses examined, and the societal responses to experiences of psychosis and psychedelics, differences in goals and assumptions underlying each research program are revealed. In the final section, I ask what lessons we might learn from this examination of how we have taken up two subjectively similar phenomena in such different ways.

**What is worth measuring? Meaning, mysticism, and symptoms**

Psychedelic research is often characterized by the mystical and the meaningful. The potential of psychedelics to bring about profoundly meaningful experiences is well recognized and this recognition is reflected in the types of scales that are often utilized within this research paradigm. Reflecting this focus, in addition to using conventional psychiatric symptom scales and psychological measures, three popular scales in current research include the Hood Mysticism Scale (HMS), the Ego Dissolution Inventory (EDI), and the 5-Dimensional Altered States of Consciousness Rating Scale (5D-ASC). The HMS focuses on mystical experiences. Respondents are asked to rank each statement from 0 (definitely not true of my experience) to 5 (definitely true). Beginning with “I had an experience,” statements are followed by phrases like “in which a new view of reality was revealed to me,” “which seemed holy to me,” or “incapable of being expressed in words” (Hood et al., 1993). Another popular scale in psychedelic research is the EDI, in which respondents rate statements...
including “I felt at one with the universe,” “I felt a sense of union with others,” and “All notion of self and identity dissolved away” from 0 (no, not more than usually) to 100 (yes, entirely or completely) (Nour et al., 2016). The 5D-ASC examines a variety of possible statements and asks respondents to rate them on a scale ranging from “No, not more than usually” to “Yes, much more than usually.” The statements vary widely and include both positive statements such as “I felt I was being transformed forever in a miraculous way” and “Many things appeared to me as breathtakingly beautiful,” as well as negative statements such as “I felt tormented” and “I had the feeling that something terrible was going to happen” (Dittrich et al., 2006). While these scales are not meant to offer a comprehensive representation of the scales most commonly used in psychedelic research, they illustrate how positive and transcendent experiences are taken seriously in the field.10

Psychedelic research, in contrast, focuses primarily on measuring the presence and severity of various symptoms. Three scales in particular (“the big three”) have “dominated the field of schizophrenia research”: the Brief Psychiatric Rating Scale (BPRS), the Positive and Negative Syndrome Scale (PANSS), and the Clinical Global Impression (CGI) (Mortimer, 2007, p. s8). The BPRS requires clinicians to rate patients from 1 (not present) to 7 (extremely severe) with regards to several possible symptoms, including anxiety, emotional withdrawal, grandiosity, hostility, suspiciousness, hallucinatory behavior, unusual thought content, and disorientation (Overall & Gorham, 1988). The PANSS looks very similar; clinicians rate patients from 0 (absent) to 6 (extreme) on a variety of positive symptoms (e.g., delusions, hallucinatory behavior, grandiosity), negative symptoms (e.g., blunted affect, poor rapport, lack of spontaneity and flow of conversation), as well as general psychopathological symptoms (e.g., somatic concern, motor retardation, poor attention, poor impulse control) (Kay et al., 1987). The CGI scale for schizophrenia (CGI-SCH), used in the context of intervention trials, asks clinicians to assess how severe the illness is (from “not at all” to “among the most extremely ill patients”) and how improved the patient is (from “very much improved” to “very much worse”), each according to five categories (positive symptoms, negative symptoms, depressive symptoms, cognitive symptoms, and overall severity) (Haro et al., 2003).

In contrast to the comparative analyses between experiences of psychedelics and psychosis that were popular in the mid-20th century, the scales used in contemporary psychosis and psychedelic research could hardly be more different. Despite the many similarities that were observed between experiences of psychedelics and psychosis in the past, these outcome measures reveal how the scientific practices surrounding each of these phenomena serve to make some features visible, while others are likely to fade into the background. The scales often used in psychedelic science highlight the ways in which meaning, mysticism, connectedness, awe, peace, and ego dissolution are often characteristic of psychedelic experiences. Alternatively, psychosis science highlights symptoms that are characteristic of psychosis, narrowing in on hallucinations, suspiciousness, disorganization, hostility, grandiosity, and withdrawal. These distinct foci reveal goals and assumptions that characterize these two research paradigms. Psychedelic research often characterizes these drugs as tools that can generate profoundly meaningful experiences, leading to increased wellbeing. On the other hand, psychosis is seen as a pathological state, not worthy of further examination beyond initiatives seeking to erase it.12 Given the complexity of both psychedelic and psychotic experiences, there are a variety of ways to choose to characterize and examine each. In each case, scales are developed that select from among features that are commonly found in both experiences (withdrawal, ego dissolution, meaning, hallucinations), so that each complex experience is only partially represented. As such, some aspects of each experience are highlighted, while others remain unseen.

Another essential difference between these measures involves who is designated to complete them. The scales used in psychedelic research ask research participants, patients or otherwise, to speak for themselves, describing what their experiences of psychedelics were like. In contrast, the scales most commonly used in psychosis research require that the clinician speak for the patient, despite lacking any direct experience of the phenomenon of interest. Of course, those taking psychedelics reliably emerge from their altered state of mind within a number of hours, and can be counted on to be able to complete a questionnaire about their experience; the same cannot reliably be said for those experiencing psychosis. However, little psychosis research asks those who have experienced psychosis to describe the phenomenological nature of their experiences after the fact. This reveals an essential distinction between these two research programs related to assumptions about expertise and the relative worth of exploring the subjectivity of subjects.

These depictions of psychosis and psychedelics do not remain merely in the scientific realm, but are taken up in the media, clinical practices, and individual experiences. Today, we often see coverage of how a cancer patient found meaning and relief at the end of life through psychedelic-assisted therapy, while psychosis often shows up in the news as an explanation for violence (Delahunty-Smoleniec & Smith-Merry, 2020; Slater, 2012). As will be discussed in more detail below, encountering a person who has taken psychedelics may be met with laughter and empathy, while meeting a person experiencing psychosis often leads to a 911 call. In clinical practice, these frames make a difference as well. As Gouzoulis-Mayfrank et al. (1998) has noted, the “pleasant, emotionally
Positive experiences are common in psychosis, particularly in the early stages, are “more easily overlooked in clinical practice than the negative experiences” (p. 404). Patients are aware of this singular focus on the pathological. Nev Jones and Mona Shattell (2016), commenting on interviews they conducted with a variety of individuals who had experienced psychosis, write that they repeatedly heard from interviewees that:

No one has ever asked me detailed questions about what I experience ... no one has tried to understand how this has affected who I am, no one has listened to the complications, to the richness, to the good things as well as the bad. (p. 772)

**What is worth investigating? Sets, settings, and neurotransmitters**

Another important choice to be made in scientific research surrounds the hypotheses worth investigating. While philosophers of science have often argued that the objectivity of science is retained through a separation between the context of discovery, in which potential hypotheses are dreamt up, and the context of justification, in which only hypotheses that stand up to rigorous testing are retained, feminist philosopher Kathleen Okruhlik has argued that this distinction is not so clear cut. If some hypotheses are never considered, as a result of values and biases informing scientific projects, they will never have the chance to contend in the context of justification, and will therefore never make it into our scientific theories (Okruhlik, 1994). As such, the selection of potential hypotheses is one way in which research programs narrow in, limiting what is asked and therefore what can become known.

For complex experiences like psychosis and psychedelics that are known for their remarkable diversity, a huge number of possible questions might be asked in a research program. In psychedelic research, a foundational question has long been “why is there so much variability across psychedelic experiences?” Two individuals may take the same dose of the same drug, and yet one might end up going to hell and another might end up meeting God. Interest in this question has led to a detailed examination of the notion of “set and setting” in psychedelic research (and in psychedelic communities). Originally coined by Timothy Leary, the term highlights the ways in which both one’s psychological “set,” including expectations, intentions, and personality, as well as the environmental “setting,” including the physical, social, and cultural aspects of one’s context, give shape to psychedelic experiences (Leary et al., 1963). In the 1950s, Robert Hyde conducted a variety of experiments in hopes of better understanding how psychological and social factors influence psychedelic experiences, varying whether participants who had taken LSD were treated impersonally, given structured tasks, and whether their time was characterized by relaxation and rapport with others. Summarizing his findings, Hyde noted that psychedelic experiences were most positive when characterized by flexibility rather than rigidity, familiarity rather than unfamiliarity, acceptance rather than non-acceptance, and the presence, rather than absence, of those with a common culture (Hartogsohn, 2017; Hyde, 1960).

While foundational research in this realm took place in the 1950s and 1960s, the lessons learned in the last century have been brought into this one. Randomized controlled trials involving psychedelic assisted therapies today often take place in labs or hospitals, but significant efforts are made to convert these settings into ones conducive to positive experiences. Michael Pollan describes a Hopkins treatment room where “decorated to look like the office of a psychiatrist with an interest in Eastern religion and Indigenous peoples, with shelves holding large-format art books and spiritual tchotchkes, including a Buddha and a large ceramic mushroom” (Pollan, 2018). During the sessions, classical or ambient music often plays during psychedelic experiments, “arranged to support and structure the experience” (Pollan, 2018). Perhaps most importantly, participants in psychedelic research are always supported by multiple warm and empathetic health care providers throughout their trip. As Leptourgos et al. (2020) note, “extra-pharmacological variables considered especially important for therapeutic outcomes include a safe and supported treatment space, bespoke therapeutic support from trusted guides, and appropriate music to accompany psychedelic sessions” (pp. 1401–1402). Leading psychedelic researchers are writing about the importance of set and setting (Carhart-Harris et al., 2018), while others are conducting novel research on how psychological and environmental factors influence experiences; a recent paper from researchers at John Hopkins examines how musical genres impact psychedelic assisted therapy (Strickland et al., 2020).

In contrast, the variability across experiences of psychosis has generated much less interest. Rather than seeking to examine which factors change the shape of psychosis, most psychosis research focuses on identifying what contributes to experiences of psychosis and what can be done to reduce these experiences, regardless of their phenomenological nature. While it is decreasing in recent years, industry funds a significant portion of research in psychiatry, and focuses primary on pharmaceutical interventions (Wortzel et al., 2020). For disorders involving psychosis, industry funding is especially common, because pharmaceutical treatments, namely anti-psychotics, are the standard of care. Government funding, while more likely to fund behavioral interventions, also invests heavily in understanding and treating mental disorders through a biomedical frame (Wortzel et al., 2020). In the last decade, the National Institute of Mental Health (NIMH), the largest funder of psychiatric research in the world, has shifted
away from funding research utilizing the DSM (Diagnostic and Statistical Manual) categories and towards research based on its new research framework, the Research Domain Criteria (RDoC) (Kozak & Cuthbert, 2016). This framework includes both domains, which represent psychological phenomena (e.g., perception, acute threat), and units of analysis, which represent levels of intervention (e.g., genes, cells, circuits). Those behind the framework reasoned that such lower-level “psychological constructs such as cognition, emotion, learning, memory, motivation, and perception might be more susceptible to biological analysis than depression, mania, and schizophrenia” (Kozak & Cuthbert, 2016, p. 287) and developed the framework in order to support the search for causes and treatments for mental disorders at the level of genes and brains (Morris & Cuthbert, 2012). Inevitably, these sources of funding help to shape the questions asked and the hypotheses considered in research related to psychosis. While in theory, set and setting may well be explored through genes and brains, as well as through examinations of relationships, moods, and cultural impressions, in practice this is rarely the case. Today, leading explanatory models of schizophrenia include the dopamine model, the serotonin hypotheses, and the glutamate hypothesis, all of which narrow in on the role of neurotransmitters in psychotic experiences (Stahl, 2018). These models have not been wildly successful, but are reflective of the reductionism that characterizes psychiatry, and psychosis research in particular, today (Kendler & Schaffner, 2011).

The contrast between how the two mind-altering experiences of psychedelics and psychosis are investigated helps to reveal the goals and assumptions behind each research paradigm. In psychedelic research, a broad awareness of and interest in the importance of set and setting has led to an exploration of the psychological and environmental factors that shape individual experiences. In particular, researchers are interested in how these factors might be augmented, so that the challenging experiences characteristic of psychedelics can be translated into positive ones, full of meaning and potential for growth. In contrast, research into psychosis largely fails to examine the sets and settings that may be contributing to the development and nature of these experiences, focusing instead on lower-level mechanisms that might contribute to, or might reduce, psychotic symptoms. As a result, there is little space for curiosity about what factors shape the phenomenological experiences of psychosis and how they might be harnessed to bring about meaningful lessons or narratives.

**How do we respond to these experiences? Care, compassion, and coercion**

These drastically different foci in psychedelic and psychosis research paradigms also shape how we respond to individuals having these experiences. What is known about the fundamental influence of set and setting provides the basis for “psychedelic first aid” and the education of drug users who are interested in optimizing their drug experiences (Hartogsohn, 2016). As described by Carmo Carvalho et al. (2014), interventions for those experiencing crisis after taking psychedelics are “oriented towards transforming what is being experienced as an unpleasant, uncomfortable or even a terrifying experience into a positive and possibly transformative one.” Ruane (2017) describes the typical care provided by “psychedelic support workers,” (p. 57) at music festivals many of whom are health care professionals and/or have extensive experience with psychedelics themselves:

> For those deemed to be undergoing a psychedelic crisis arising from a normal dosage of a well-known substance, care focuses on the facilitation of the visitor’s internal process. It may start with the provision of basic comforts such as blankets, water or tea and a private, low-stimulus space if desired. Subsequently, sitters remain with visitors, talking, listening or simply sitting quietly with the visitor as desired. The aim is to create an atmosphere of safety in which the visitor feels able to confront and process difficult emotions. (p. 62)

An article called “How to Work with Difficult Psychedelic Experiences” from the MAPS website advises those supporting individuals on psychedelics to “Reassure them: (1) This will pass, this is a process. (2) This is an experience other people have had”15 (MAPS, n.d.). These insights have been taken up in psychedelic research as well, which takes notions of safety and support very seriously. Interviews with participants who took part in psychedelic research found that they emphasized factors such as “trust, safety, interpersonal rapport, attention, the role of music, and the length of treatment sessions” (Breeksema et al., 2020, p. 926).16

In contrast, challenging experiences of psychosis are often met by “psychiatrists in blue,” law enforcement sent to offer “wellness checks” to those in crisis (Anderson et al., 2013, 2014; Menzies, 1987). In such cases, police use the techniques they are trained to use, which may include resorting to chokeholds, restraints, and tasers. In some cases, these techniques have led to death (Malone et al., 2020; Washington Post, 2020). The use of coercive methods is more frequent in the police response to Black, Indigenous, and People of Colour (BIPOC) in crisis (Knight et al., 2022; Paoline et al., 2018), who are also more likely to encounter the police during a pathway to care when experiencing psychosis (Anderson et al., 2013; Halvorsrud et al., 2018; Morgan et al., 2005).17

Coercive treatments, including restraint, sedation, and seclusion is also common in health care settings in response to those experiencing psychosis. David Oaks (2011) described his experience:

> During my stays on these psychiatric units, I would often feel pressured by staff to take powerful psychiatric pills,
and I often tried to refuse. More than once, staff brought me to an empty solitary confinement room, held me down on a bare mattress, pulled down my pants, injected me in my buttocks, and then left me there alone for a few hours to a few days. The subjective experience of being forcibly injected with psychotrópic drugs and left isolated has created one of my longest-standing recurring nightmares. There I was, a confused and frightened young person. I felt at the time that I needed respite, advice, support and comfort ... All in all, I felt humiliated, disrespected and defiant. I certainly did not feel a high level of trust with my mental health providers that might have been more conducive to a therapeutic relationship. (p. 190)

Like Oaks, the majority of patients experience inpatient psychiatric treatment as traumatic or "extremely distressing" (Paksarian et al., 2014). While compassion is not always absent from such care, and alternative models (to be discussed further below) are available, this description is a far cry from the picture painted of psychedelic first aid above.19

If it is the case that experiences of psychedelics and psychosis are phenomenologically quite similar, these radical differences in responses from people meant to provide support are striking. While it is often understood that those going through challenging and sometimes terrifying experiences after ingesting psychedelics require unwavering support, compassion, and guidance, individuals experiencing psychosis are often sedated and restrained.20 This sharp disparity should give us pause. Are the differences related to the (usually) intentional use of substances to distort one’s reality and the short-lived nature of psychedelics enough to justify this contrast in response? First, it is not clear that one’s intention to take psychedelics and therefore risk a challenging experience, in contrast to one’s lack of decision regarding psychosis, should have any effect on what kind of care or compassion one receives.21 The value of non-judgmental regard is often held up as a moral principle in medicine, highlighting the importance of providing equal care for all, regardless of what led them to require it. Second, given the length of time that psychosis can last, it would certainly be more challenging and costly to compassionately accompany those in crisis without the use of coercion or restraint; as will be discussed below, however, there are models for how this might be done. Below, I argue that psychiatry has much to learn from psychedelic research, and offer a few key lessons that might be gleaned, hopefully before it is too late.

Lessons for psychiatric science

Recognizing the double-edged nature of psychosis

In psychedelic communities and research settings, it is well recognized that challenging, sometimes very frightening, psychedelic experiences are common. In a survey of 1,993 people who reported challenging experiences with psilocybin, when asked about their most challenging experience or worst “bad trip,” 39% rated it among the top five most challenging experiences of their lifetime, 11% reported putting themselves or others at risk of physical harm, 2.6% reported being physically aggressive or violent, and 2.7% reported receiving medical help. However, the degree of difficulty was positively associated with enduring increases in wellbeing; in line with this, 84% of respondents reported that they benefitted from their challenging experiences (Carbonaro et al., 2016). In a controlled clinical research setting, in which participants took psilocybin with support, 11 of 36 participants reported a strong or extreme experience of fear and eight reported notable anxiety and dysphoria throughout the experience; despite this, most participants reported that it was among the top five most meaningful experiences of their life (Griffiths et al., 2006). Indeed, some researchers have argued that challenging experiences may be central to the therapeutic benefits produced by psychedelics24 (Carhart-Harris et al., 2016; Garcia-Romeu et al., 2016).

Could this way of thinking be useful in relation to psychosis? Many individuals with lived experience have pointed to the double-edged nature of madness, in that such experiences can be both immensely challenging and deeply meaningful. The Icarus Project, a peer-led global network of service users, describes madness as a “dangerous gift” (DuBrul, 2014). The growing discipline of Mad Studies makes space for not only documenting injustice related to madness, but for mad pride as well (LeFrançois et al., 2013). The Hearing Voices Network, a global network of people who hear voices, acknowledges the struggles that often accompany such experiences, but also reflects on the ways in which hearing voices (also known as auditory hallucinations) can be an aid and a benefit, and how one can learn to develop positive relationships with one’s voices (Ruddle et al., 2011).25 Such aspects of madness are not easily seen from a psychiatric viewpoint that tends to characterize psychosis as a bundle of pathological symptoms that ought to be reduced.

One first step towards acknowledging the many sides of madness may be expanding what aspects of psychosis are seen, and measured, within research settings. As the recent service-user-led compilation entitled *Psychosis Outside the Box* highlights, some symptoms, such as paranoia and voice hearing, receive significant attention in psychiatric contexts, while other kinds of experiences, including the “visions or quasi-visual experiences, ‘felt presences,’ and alterations of time, space or spatiotemporal qualities of objects and things,” are rarely acknowledged (Pagdon & Jones, 2020). As Jones and Shattell (2016) suggest, “clinicians and researchers must attend far more carefully to the messy realities and subjective experience of psychosis, and avoid imposing and projecting mostly inaccurate and oversimplified constructs onto it” (p. 771). While there are
many negative experiences of psychosis described in the compilation, some are overwhelmingly positive. One contributor writes “I have felt I experienced an aspect of the divine usually a warm wind or sun breaking through the clouds” while another speaks about “a very healing experience” in which people in a village take turns “surrounding my body and laying hands on me and continuously singing 24 h a day for 7 days” (Pagdon & Jones, 2020, pp. 19, 20).

As such, looking beyond symptoms recognized in the DSM may involve recognizing the ways in which psychosis can be experienced as uplifting, as healing, and as difficult but meaningful. Interestingly, despite its commitment to reductionism, RDoC, which steps away from the disorders defined in the DSM, may leave more space for these other kinds of experiences, since any psychological process can be taken up in an investigation. Similarly, by refusing to draw a line between pathological and non-pathological experiences at the outset, RDoC also leaves room for various answers to the question of what aspects of experience one should aim to reduce and what aspects might be worth holding onto (Friesen, 2019a). Beyond research settings, attention to aspects of psychosis that are typically left out is essential. If clinicians lack an understanding of the aspects of psychosis that do not fit within DSM criteria, those aspects may fail to be acknowledged within the clinical encounter, even if they are central or meaningful to a given individual. As Jones and Shattell point out, clinical training “generally fails to equip front-line practitioners with the confidence to pursue the sort of mutual dialogue that would, in theory, allow the meaning and complexity of psychotic experiences to emerge” (Jones & Shattell, 2016, pp. 19, 20). This suggests that decisions made early in a scientific research program, related to what is worth measuring, can have a significant impact on stakeholders down the line.

Making space for set and setting in psychosis research

In the past, when the sciences related to psychedelics and psychosis were more intertwined, the sensitivity of psychiatric experiences to set and setting was recognized. In 1966, Bowers and Freedman (1966) described early psychosis as a “multipotential state with many factors influencing the final outcome which can range from excruciating anxiety and paranoid delusions to an experience of intense self-knowledge” (p. 244). Today, research documenting how environmental factors and expectations can impact both the likelihood and the nature of psychosis is marginalized within the field of psychiatry, but does exist. The influence of psychological set can be seen in the influence of cultural narratives on the nature of psychosis. For example, Ian and Joel Gold have documented how culturally available narratives shape the nature of delusions (Gold & Gold, 2015). Furthermore, anthropologists have found significant differences in how voice hearing is experienced in different parts of the world (Luhrmann et al., 2015). This work suggests that set and setting play a significant role in influencing experiences of voice hearing, perhaps the most paradigmatic symptom of psychosis. In line with this, research conducted decades ago by the World Health Organization on schizophrenia across the world found that, broadly, those in low- and middle-income countries (LMICs) tend to fare better and recover faster than those in high-income countries (HICs) (Jablensky et al., 1992). Given how much more money is spent on treatment in HICs, this raises significant questions regarding how set and setting might influence the efficacy of care provided. Further evidence for the influence of setting on psychosis comes from a growing literature related to place and psychosis. This body of research indicates that living in a setting with greater urban density increases one’s likelihood of developing psychosis (Kelly et al., 2010; March et al., 2008; Sundquist et al., 2004), as does immigrating to a new place (Bourque et al., 2012), especially when one is a visible minority in that new setting (Bourque et al., 2011). Increasing evidence also indicates that racial discrimination is a risk factor for developing psychosis (Anglin et al., 2018; Chakraborty et al., 2009; Janssen et al., 2003; Veling et al., 2008), while ethnic density (in one’s neighborhood) and ethnic identity are protective factors (March et al., 2008; Veling et al., 2008).

One of the reasons for this may be that the structures of Evidence Based Medicine (EBM) are shaped in such a way that factors related to set and setting are often explicitly excluded from investigation. The randomized controlled trial, the pinnacle of EBM, requires that all factors be held steady across trial arms, so that the specific effects of the active intervention being examined can be captured. While this is an effective and productive form of measurement, it leads to a lack of investigation, and therefore a lack of interest, in the role that other factors related to set and setting might play in influencing clinical outcomes. A growing body of placebo research is beginning to disrupt this model, suggesting that patient expectations and contextual factors can have a significant impact on wellbeing, even though such influences are routinely excluded from research findings (Benedetti, 2009; Hartogsohn, 2016). A phenomenon called the efficacy paradox highlights how, as a result of this exclusion, it may be the case that pharmacological treatments that are only moderately effective will pass the threshold of clinical efficacy required by EBM and make it to market, while treatments relying on mechanisms related to patient expectations, conditioning, or context, which may in fact be more effective, will be excluded from the domain of evidence, because control conditions used in RCTs will prove equally effective (Friesen, 2019b; Walach, 2001).

The emerging paradigm of psychedelic research is struggling with the expectations of EBM. The immense influence
of set and setting during psychedelic experiences creates difficulty in establishing appropriate placebo controls and blinding investigators and participants. Attempts have been made to work around these expectations, but have not been very successful27 (Hendy, 2018). This challenge also occurred in the first wave of psychedelic research, when conducting pharmacological research with controls was first popularized. At the time, there was a lot of resistance from researchers; Osmond, for example, detested the way in which the notion of having a “control” was being valorized within clinical research and argued that “the pretentious, inaccurate and misleading use of the word ‘control’ should surely be abandoned” because its use had “become absurd” (Osmond, 1962, p. 708, cited in Dyck (2005)).

Psychiatry has long grappled with the challenge of fitting its treatment modalities into the RCT framework, given the obvious importance of contextual, individual, and interpersonal factors. Psychotherapy, in particular, has struggled with the notion of developing placebo controls, ending up with participants reading magazines, participating in psychoeducation, or engaging in a friendly conversation while their counterparts in the active arm received therapy. Arguably, none of these adequately control for all but the active components of the therapy being examined (Purloff, 1986). Kirsch has argued that the very notion of a placebo control in psychotherapy is both a synonym and an oxymoron, in that psychotherapy is entirely composed of placebo effects and as a result, it is impossible to develop an adequate placebo control for psychotherapy (Kirsch, 2005).

Psychiatry may well have something to learn from the embrace of set and setting in psychedelic science. Acknowledging the ways in which life experiences, expectations, and varying contexts influence both the development and nature of psychosis could help us to better understand the causal and constitutive nature of the experience. As reported by a young man in 1966 who had both experienced psychosis and taken LSD, “the drugged person, like the insane, is quite vulnerable to suggestion” (Bowers & Freedman, 1966, p. 242); our scientific practices may well be better off if they make space for investigations surrounding the power of suggestion. Such a shift would also align with calls from service users who have been emphasizing for decades the importance of examining the role of structural factors in influencing both the appearance and characterization of mental distress (Friesen & Goldstein, 2022). Different treatments may also present themselves, moving beyond merely biological models of experience, but towards the important role that changes in settings and relationships might play in quality of life.

**Responding to challenging experiences of psychosis**

Perhaps most importantly, examining psychosis and psychedelics side by side should lead us to reconsider the way we often respond to challenging experiences of psychosis. Recognizing the efficacy of creating a holding space, non-judgmentally and empathetically, for those undergoing difficult psychedelic experiences should lead us to critically reflect on our most common responses to those experiencing distress during an experience of psychosis. The shortcomings of our common forms of crisis responses have long been recognized and as a result, many compelling and kind alternatives have been developed (Dupont & Cochran, 2000; Hogan & Goldman, 2021).

In the domain of crisis response, for example, CAHOOTS (Crisis Assistance Helping Out On The Streets), an influential 30-year-old mobile crisis-response program in Eugene, Oregon, offers a replacement for police wellness checks. The program is staffed by a mental health counselor and a medic, both trained in de-escalation and there to support an individual in distress and help them develop a plan. A clinical coordinator for the program said “our staff is honored to support and bear witness to people in their darkest hours” (Parafiniuk-Talesnick, 2019). Another model can be found in Open Dialogue, an intensive support method for those experiencing crisis, which provides home-based support immediately and consistently for as long as is required, and seeks to involve existing networks of friends and families in care. Jaakko Seikkula et al. (2001) describe how within the program, trust and psychological continuity are central to the care provided (Seikkula et al., 2001). Trusting in the forms of care, in which individuals are given support and empathy throughout a difficult experience, are entirely possible and are being practiced in pockets of health care systems around the world. Restraints, forced treatment, and seclusion may not be as essential as they are often thought to be. These alternative forms of care reflect the forms of being-with someone in crisis and offering compassion that are central to psychedelic first aid. If we want to rethink the ways we respond to people in crisis, as is increasingly being proposed today, looking to psychedelic settings may offer some helpful guidance.
Conclusion

While I have argued that research related to psychosis has much to learn from psychedelic research paradigms, this may not be the case for long. In efforts to meet regulatory requirements and fit within the paradigm of EBM, psychedelic-assisted therapy is increasingly being looked to as a “magic bullet” that can cure a variety of psychological or psychiatric conditions (Noorani, 2020). As a result, some forms of knowledge are being prioritized over others (e.g., documenting meaningful experiences becomes less important than documenting a reduction in symptoms) and particular causal factors inevitably dominate (e.g., the influence of music and nature are sidelined in favor of information related to appropriate doses). Potential participants deemed too risky, as a result of histories of psychosis or suicidal intent, are commonly excluded from trials (Anna et al., 2021; Griffiths et al., 2006). In the name of efficiency, treatments are being watered down; as Tehseen Noorani (2020) has pointed out, researchers and funders are increasingly aware of “the incentive to gain approval for diluted forms of the intervention by attenuating the protocol, therapist training, and so forth” (p. 5).

As the structures of EBM and capitalism influence seemingly minor decisions in research protocols, path dependencies are inevitably being created. Down the line, will experiences of mysticism, bliss, or ego-dissolution be forgotten, as psychedelics are increasingly seen as medical treatments? Will psychedelics be primarily prescribed to those seeking to become better than well, because those with psychiatric diagnoses have become victims of overprotectionism? Will psychedelic-assisted therapies only take place in clinical settings that include one Buddha statue and one ceramic mushroom? If we do not take stock of the important lessons that can be learned from psychedelic sciences related to meaning and mysticism, set and setting, and care and compassion, we risk creating another psychiatric science that unhappily fits a mold constructed for biomedical research. If, on the other hand, we listen to the ways in which experiences of psychedelics and psychosis refuse to fit this mold, we might end up with a much greater understanding of these curious, and challenging, states of consciousness.

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ORCID iD

Phoebe Friesen https://orcid.org/0000-0002-1529-916X

Notes

1. There have been many suggestions of which psychedelics provide the best model for psychosis. LSD was referred to as a “psychoticium” as far back as 1949 (Hartogsohn, 2020). Ketamine has been suggested by some to be the best model for schizophrenia because it produces both negative and positive symptoms (Hartogsohn, 2020). In the name of efficiency, treatments are being watered down; as Tehseen Noorani (2020) has pointed out, researchers and funders are increasingly aware of “the incentive to gain approval for diluted forms of the intervention by attenuating the protocol, therapist training, and so forth” (p. 5).

2. For example, Osmond and Smythies originally proposed that psychosis was the result of an overproduction of adrenaline, a phenomenon also observed in those who had taken psychedelic drugs (Dyck, 2005). Other endogenous substances once thought to underlie the psychedelic model of psychosis included adrenochrome, norepinephrine, acetylcholine, and serotonin (Hartogsohn, 2020). In 1845, Jacque-Joseph Moreau de Tour proposed that hashish produced a temporary experience of mental illness (Hartogsohn, 2020).

3. In fact, some evidence suggests that lifetime psychedelic use may be protective against suicidal thoughts and behaviors, as well as intimate partner violence (Argento et al., 2017; Hendricks et al., 2015; Walsh et al., 2016).

4. Interestingly, one researcher who was critical of these comparisons at the time suggested that the shared difficulties in describing such experiences was part of what was responsible for the tendency to compare them: “Symptoms of mescaline intoxication have been compared to those of schizophrenia, but it is much more the strangeness experienced by the patient suffering from schizophrenia and the difficulties of describing what is happening in the two conditions which are similar” (Mayer-Gross, 1951, p. 320).

5. Recently, a working group from the International Consortium on Hallucinations Research summarized key phenomenological differences between hallucinations resulting from psychosis and those resulting from psychedelics, concluding that drug-induced hallucinations tended to be more visual or multimodal (as opposed to auditory), geometric, complex (involving extraordinary entities), and to have a shorter

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11. While I focus on the big three here, it is important to acknowledge that these are not the only scales used and there are important exceptions to this narrow focus. For example, the EASE and EAWE scales seek to measure anomalous experiences of self and world through a phenomenological perspective (Englebert et al., 2019).

12. In fact, growing research related to first episode psychosis (FEP) in psychiatry has led to an increasing emphasis in the field on identifying and treating abnormal experiences early on. As in the rest of the field, BIPOC (Black, Indigenous, and People of Color) populations are overrepresented in those deemed at risk for psychosis (Liebert, 2018).

13. In a fascinating recent exploration of the power of set and setting (as well as a dose of deception), Olson et al. (2020) used a variety of implicit and explicit factors to trick university students who had taken a placebo into thinking they had taken psychedelic drugs.

14. Industry also funds much of the information distributed online about mental health, which tends to emphasize biogenetic explanations and medications as appropriate treatments (Read & Cain, 2013).

15. See the short film Beyond Kicks for a documentation of the “crisis bus” operated by the Free Youth Clinic of Winnipeg in the 1970s which provided support to young people who were experiencing challenging psychedelic trips (Toole, 1972).

16. Important exceptions to such experiences of trust and safety in psychedelic research are documented in the podcast Cover Story: Power Trip (Ross, 2021–2022).

17. Evidence also suggests that the prevalence of psychotic episodes increases along with greater exposure to victimization from police (DeVylder et al., 2017).

18. There are also many who advocate for alternatives to coercive mental health care (Cooper et al., 2021; Sugiura et al., 2020).

19. Even those trained in crisis responses specific to mental health are often taught to assess lethality before building trust or establishing rapport with a person in crisis. On the Roberts Seven-Stage Crisis Intervention Model, for example, before asking “How can I help?” or “What are you experiencing?,” responders are required to first ask “Have you had thoughts of hurting yourself/ dying/ killing yourself?” (Singer, 2005). Of course, this is not to underestimate the very real risks of harm to patients or staff that can present at times of mental distress, but merely to acknowledge the order of importance given to the two important tasks of establishing a connection and ensuring safety (Erdos & Hughes, 2001; Fernandes et al., 1999; Nijman et al., 2005).

20. Restraint is also used in cases of challenging psychedelic experiences. It is much less common, however, and generally only used in cases in which non-physical, “talkdown” approaches have been ineffective and there is a risk of harm to oneself or others (Smith et al., 2014).

21. Of course (despite being rare and often overestimated) the risk of violence that some individuals experiencing psychosis can pose is important to acknowledge (Jones & Shattell, 2014). Psychedelic experiences can also lead to violence in rare instances (Carbonaro et al., 2016).

22. A separate but related contrast is “insight” into one’s condition, which may well vary along with one’s intention (recall the quotation above from the CIA agent who had been...
given psychedelics without his awareness). In cases of both psychedelics and psychosis, it seems likely that one’s awareness of what’s happening may impact one’s ability to receive such compassionate care.

23. For two arguments against taking personal responsibility into account in health care allocation, see Friesen (2018). Even those who disagree with this principle and advocate for the importance of taking personal responsibility into account during medical decision-making (particularly the allocation of scarce resources) would likely recommend punishing the person who ingested psychedelics and put themselves at risk of a crisis as opposed to the person experiencing psychosis unexpectedly.

24. It has also been suggested that the process of developing a personal narrative after a bad trip can do important therapeutic work, helping individuals to transform what can be confusing and frightening experiences into something meaningful (Gashi et al., 2021).

25. This also aligns with recent research documenting the phenomenon of post-traumatic growth after psychosis (Jordan et al., 2017, 2019).

26. A recent paper by Logan Neitzke-Spruill (2020) suggests that race can be an important factor influencing set and setting in psychedelic experiences.

27. Ritalin and niacin (vitamin B3) (which makes participants feel flushed) have been used as placebo controls in psilocybin trials, while zinc sulfate (which leads to nausea) was used as a placebo control in an Ayahuasca trial (Hendy, 2018, p. 158). In other cases, lower doses of the study drug have also been used as a control. The trick, as Katherine Hendy (2018) explains, is to find a dose that is “high enough to produce some amount of psychoactivity and confusion but not so high as to be therapeutic” (p. 158).

28. Interestingly, in the 1960s, psychedelics were hypothesized as a route through which more compassionate care settings for those diagnosed with mental disorders might be developed. After taking psychedelics, architect Kiyoji Iizumi came up with the design of a “socio-petal concept” for a mental hospital that would foster community (Dyck, 2010).

References
Abramson, H. A., Rolo, A., Sklarofsky, B., & Stuche, J. (1960). Production of cross-tolerance to psychosis-producing doses of lysergic acid diethylamide and psilocybin. The Journal of Psychology, 49(1), 151–154. https://doi.org/10.1080/00223980.1960.9916396
Advocates. (2020). The Living Room. https://advocates.org/services/livingroom
Anderson, K., Flora, N., Archie, S., Morgan, C., & McKenzie, K. (2014). A meta-analysis of ethnic differences in pathways to care at the first episode of psychosis. Acta Psychiatraca Scandinavica, 130(4), 257–268. https://doi.org/10.1111/acps.12254
Anderson, K. K., Fuhrer, R., Schmitz, N., & Malla, A. K. (2013). Determinants of negative pathways to care and their impact on service disengagement in first-episode psychosis. Social Psychiatry and Psychiatric Epidemiology, 48(1), 125–136. https://doi.org/10.1007/s00127-012-0571-0
Anglin, D. M., Lui, F., Espinosa, A., Tikhonov, A., & Ellman, L. (2018). Ethnic identity, racial discrimination and attenuated psychotic symptoms in an urban population of emerging adults. Early Intervention in Psychiatry, 12(3), 380–390. https://doi.org/10.1111/eip.12314
Anna, P., Bathje, G., Shuman, V., & Steele, B. (2021). Excluded: The consequences of psychedelic exclusion criteria and first-hand experiences of people who meet such criteria. Paper presented at the Psychodelics, Madness, & Awakening: Harm Reduction & Future Vision, online.
Argento, E., Strathdee, S. A., Tupper, K., Brutsch, M., Wood, E., & Shumann, K. (2017). Does psychedelic drug use reduce risk of suicidality? Evidence from a longitudinal community-based cohort of marginalised women in a Canadian setting. BMJ Open, 7(9), e016025. https://doi.org/10.1136/bmjopen-2017-016025
Barrett, F. S., Bradstreet, M. P., Leoutsakos, J.-M. S., Johnson, M. W., MacLean, K. A., Jesse, R., & Griffiths, R. R. (2015). The challenging experience questionnaire: Characterization of acute adverse reactions to psilocybin. Drug and Alcohol Dependence, 146, e218. https://doi.org/10.1016/j.drugalcdep.2014.09.060
Belouin, S. J., & Henningﬁeld, J. E. (2018). Psychedelics: Where we are now, why we got here, what we must do. Neuropharmacology, 142, 7–19. https://doi.org/10.1016/j. neuropharm.2018.02.018
Benedetti, F. (2009). Placebo effects: Understanding the mechanisms in health and disease. Oxford University Press.
Beringer, K. (1923). Experimentelle psychosen durch mescalin. Zeitschrift für die Gesamte Neurologie und Psychiatrie, 84(1), 426–433. https://doi.org/10.1007/BF02896052
Bourque, F., Van Der Ven, E., Fusic-Poli, P., & Malla, A. (2012). Immigration, social environment and onset of psychotic disorders. Current Pharmaceutical Design, 18(4), 518–526. https://doi.org/10.2174/138161212799316028
Bourque, F., Van Der Ven, E., & Malla, A. (2011). A meta-analysis of the risk for psychotic disorders among first- and second-generation immigrants. Psychological Medicine, 41(5), 897–910. https://doi.org/10.1017/S0033291711000140
Bowers, M. B, Jr, & Freedman, D. X. (1966). “Psychedelic” experiences in acute psychoses. Archives of General Psychiatry, 15(3), 240–248. https://doi.org/10.1001/archpsyc. 1966.01730150016003
Breksema, J. J., Niemeijer, A. R., Krediet, E., Vermetten, E., & Schoevers, R. A. (2020). Psychedelic treatments for psychiatric disorders: A systematic review and thematic synthesis of patient experiences in qualitative studies. CNS Drugs, 34(9), 925–946. https://doi.org/10.1007/s40263-020-00748-y
Carbonaro, T. M., Bradstreet, M. P., Barrett, F. S., MacLean, K. A., Jesse, R., Johnson, M. W., & Griffiths, R. R. (2016). Survey study of challenging experiences after ingesting psilocybin mushrooms: Acute and enduring positive and negative consequences. Journal of Psychopharmacology, 30(12), 1268–1278. https://doi.org/10.1177/0269881116662634
Carhart-Harris, R. (2013). Psychedelic drugs, magical thinking and psychosis. Journal of Neurology, Neurosurgery & Psychiatry, 84(9), e1–e1. https://doi.org/10.1136/jnnp-2013-306103.17
Carhart-Harris, R., Brugger, S., Nutt, D., & Stone, J. (2013). Psychiatry’s next top model: Cause for a re-think on drug models of psychosis and other psychiatric disorders. Journal of Psychopharmacology, 27(9), 771–778. https://doi.org/10.1177/0269881113494107
Delahunt-Smoleniec, N., & Smith-Merry, J. (2020). A qualitative analysis of the portrayal of young people and psychosis in Australian news reports. *Schizophrenia Bulletin*, 9(1), 73–94. https://doi.org/10.1093/schbul/sbz125

Domino, M. E., Salkever, D. S., Zarin, D. A., & Pincus, H. A. (1998). The impact of managed care on psychiatry. *Administration and Policy in Mental Health*, 25(6), 497–511. https://doi.org/10.1007/BF01712005

Dos Santos, R. G., Bouso, J. C., & Hallak, J. E. C. (2017). Ayahuasca, dimethyltryptamine, and psychosis: A systematic review of human studies. *Therapeutic Advances in Psychopharmacology*, 7(4), 141–147. https://doi.org/10.1177/2045125316689030

DuBrul, S. A. (2014). The Icarus Project: A counter narrative for psychotic diversity. *Journal of Medical Humanities*, 35(3), 257–271. https://doi.org/10.1080/0912104-9293-5

Dumit, J. (2012). Drugs for life: How pharmaceutical companies define our health. Duke University Press.

Dupont, R., & Cochran, S. (2000). Police response to mental health emergencies—Barriers to change. *Journal of the American Academy of Psychiatry and the Law*, 28(3), 338–344.

Dyck, E. (2005). Flashback: Psychiatric experimentation with LSD in historical perspective. *The Canadian Journal of Psychiatry*, 50(7), 381–388. https://doi.org/10.1177/07067437050050703

Dyck, E. (2008). Psychedelic psychiatry: LSD from clinic to campus. JHU Press.

Dyck, E. (2010). Spaced-out in Saskatchewan: Modernism, anti-psychiatry, and deinstitutionalization, 1950–1968. *Bulletin of the History of Medicine*, 84(4), 640–666. http://www.jstor.org/stable/44452203

Englebert, J., Monville, F., Valentiny, C., Mossay, F., Pienkos, E., & Sass, L. (2019). Anomalous experience of self and world: Administration of the EASE and EAWE scales to four subjects with schizophrenia. *Psychopathology*, 52(5), 294–303. https://doi.org/10.1159/000503117

Erdos, B. Z., & Hughes, D. H. (2001). Emergency psychiatry: A review of assaults by patients against staff at psychiatric emergency centers. *Psychiatric Services*, 52(9), 1175–1177. https://doi.org/10.1176/ps.52.9.1175

Fernandes, C. M., Bouthillette, F., Raboud, J. M., Bullock, L., Moore, C. F., Christenson, J. M., Grafstein, E., Rae, S., Ouellet, L., Gillrie, C., & Gillrie, C. (1999). Violence in the emergency department: A survey of health care workers. *Canadian Medical Association Journal*, 161(10), 1245–1248. https://www.ncbi.nlm.nih.gov/pubmed/10744582

Fischman, L. G. (1983). Dreams, hallucinogenic drug states, and schizophrenia: A psychological and biological comparison. *Schizophrenia Bulletin*, 9(1), 73–94. https://doi.org/10.1093/schbul/sb19.1.73

Friesen, P. (2018). Personal responsibility within health policy: Unethical and ineffective. *Journal of Medical Ethics*, 44(1), 53–58. https://doi.org/10.1136/jmeethics-2016-103478

Friesen, P. (2019a). Expanding outcome measures in schizophrenia research: Does RDoC pose a threat? *Philosophy, Psychiatry, & Psychology*, 26(3), 243–260. https://doi.org/10.1007/s13533-018-0039-7

Friesen, P. (2019b). Mesmer, the placebo effect, and the efficacy paradox: Lessons for evidence based medicine and complementary and alternative medicine. *Critical Public Health*, 29(4), 435–447. https://doi.org/10.1080/09581596.2019.1597967
Friesen, P., & Goldstein, J. (2022). Standpoint theory and the Psy Sciences: Can marginalization and critical engagement lead to an epistemic advantage? *Hypatia* (in press).

Garcia-Romeu, A., Kersgaard, B., & Addy, P. H. (2016). Clinical applications of hallucinogens: A review. *Experimental and Clinical Psychopharmacology, 24*(4), 229–268. https://doi.org/10.1037/pha0000084

Gashi, L., Sandberg, S., & Pedersen, W. (2021). Making “bad trips” good: How users of psychedelics narratively transform challenging trips into valuable experiences. *International Journal of Drug Policy, 87*, 102997. https://doi.org/10.1016/j.drugpo.2020.102997

Geyer, M. A., & Vollenweider, F. X. (2008). Serotonin research: Contributions to understanding psychoses. *Trends in Pharmacological Sciences, 29*(9), 445–453. https://doi.org/10.1016/j.tips.2008.06.006

Gold, J., & Gold, I. (2015). *Suspicious minds: How culture shapes madness.* Simon and Schuster.

Gouzoulis-Mayfrank, E., Habermeyer, E., Hermle, L., Steinmeyer, J., Gold, J., & Gold, I. (2015). Hallucinogenic drug induced states resemble acute endogenous psychoses: Results of an empirical study. *European Psychiatry, 13*(8), 399–406. https://doi.org/10.1016/S0924-9338(99)80686-5

Griffiths, R. R., Johnson, M. W., Richards, W. A., Richards, B. D., Jesse, R., MacLean, K. A., Barrett, F. S., Cosimino, M. P., & Kniffen, M. A. (2018). Psilocybin-occasioned mystical-type experience in combination with meditation and other spiritual practices produces enduring positive changes in psychological functioning and in trait measures of prosocial attitudes and behaviors. *Journal of Psychopharmacology, 32*(1), 49–69. https://doi.org/10.1177/026988117713279

Griffiths, R. R., Richards, W. A., McCann, U., & Jesse, R. (2006). Psilocybin can occasion mystical-type experiences having substantial and sustained personal meaning and spiritual significance. *Psychopharmacology (Berl), 187*(3), 268–283. Discussion 284-292. https://doi.org/10.1007/s00213-006-0457-5

Halberstadt, A. L., & Geyer, M. A. (2013). Serotonergic hallucinogens as translational models relevant to schizophrenia. *International Journal of Neuropsychopharmacology, 16*(10), 2165–2180. https://doi.org/10.1017/S1461457313000722

Halvorsrud, K., Nazroo, J., Otis, M., Brown Hajdukova, E., & Bhu, K. (2018). Ethnic inequalities and pathways to care in psychosis in England: A systematic review and meta-analysis. *BMC Medicine, 16*(1), 1–17. https://doi.org/10.1186/s12916-018-1201-9

Haro, J., Kamath, S., Ochoa, S., Novick, D., Rele, K., Fargas, A., Rodríguez, M. J., Rele, R., Orta, J., Rele, K., Gervin, M., Alonso, J., Mavreas, V., Lavrentzou, E., Liento, N., Gregor, K., & Jones, P. B. (2003). The clinical global impression–schizophrenia scale: A simple instrument to measure the diversity of symptoms present in schizophrenia. *Acta Psychiatrica Scandinavica, 107*(s416), 16–23. https://doi.org/10.1034/j.1600-0447.107.s416.5.x

Hartogsohn, I. (2016). Set and setting, psychedelics and the placebo response: An extra-pharmacological perspective on psychopharmacology. *Journal of Psychopharmacology, 30*(12), 1259–1267. https://doi.org/10.1177/0269881116677852

Hartogsohn, I. (2017). Constructing drug effects: A history of set and setting. *Drug Science, Policy and Law, 3*. https://doi.org/10.1177/2050324516683325

Hartogsohn, I. (2020). *American trip: Set, setting, and the psychedelic experience in the twentieth century.* MIT Press.

Hassett, E. (2021). An assessment of Crisis Intervention Team (CIT) community partnerships to address mental health and racial disparities in police violence across the United States. University of Pittsburgh.

Hendricks, P. S., Thorne, C. B., Clark, C. B., Coombs, D. W., & Johnson, M. W. (2015). Classic psychedelic use is associated with reduced psychological distress and suicidality in the United States adult population. *Journal of Psychopharmacology, 29*(3), 280–288. https://doi.org/10.1177/0269881114565653

Hendy, K. (2018). Placebo problems: Boundary work in the psychedelic science renaissance. In Labate, B. C., & Cavnar, C. (Eds.), *Plant medicines, healing and psychedelic science: Cultural perspectives* (pp. 151–166). Springer International Publishing.

Hibicke, M., Landry, A. N., Kramer, H. M., Talman, Z. K., & Nichols, C. D. (2020). Psychedelics, but not ketamine, produce persistent antidepressant-like effects in a rodent experimental system for the study of depression. *ACSE Chemical Neuroscience, 11*(6), 864–871. https://doi.org/10.1021/acschemneuro.9b00493

Hoch, P. H. (1955). The problem of schizophrenia in the light of experimental psychiatry. *Proceedings of the Annual Meeting of the American Psychopathological Association, 205–217. PMID: 13441671.*

Hogan, M. F., & Goldman, M. L. (2021). New opportunities to improve mental health crisis systems. *Psychiatric Services, 72*(2), 169–173. https://doi.org/10.1176/appi.ps.202000114

Hollister, L. E. (1962). Drug-induced psychoses and schizophrenic reactions: A critical comparison. *Annals of the New York Academy of Sciences, 96*, 80–92. https://doi.org/10.1111/j.1749-6632.1962.tb50103.x

Hood, R. W., Morris, R. J., & Watson, P. J. (1993). Further factor analysis of Hood’s Mysticism Scale. *Psychological Reports, 73*(Suppl. 3), 1176–1178. https://doi.org/10.2466/pr0.1993.73.3f.1176

Huxley, A. (1953). Letters to Dr. Humphrey Osmond. Molksa: Aldous Huxley’s Classic Writings on Psychedelics and the Visionary Experience.

Hyde, R. W. (1960). Psychological and social determinants of drug action. In *The dynamics of psychiatric drug therapy* (pp. 297–315). Thomas.

Jablensky, A., Sartorius, N., Ernberg, G., Anker, M., Corten, A., Cooper, J. E., Day, R., & Bertelsen, A. (1992). Schizophrenia: Manifestations, incidence and course in different cultures a World Health Organization ten-country study. *Psychological Medicine. Monograph Supplement, 20*, 1–97. https://doi.org/10.1017/S0264180100000904

Jacobs, A. (2021, May 9). The psychedelic revolution is coming. Psychiatry may never be the same. *New York Times.* https://www.nytimes.com/2021/05/09/health/psychedelics-mdma-psilocybin-molly-mental-health.html

Janssen, I., Hanssen, M., Bak, M., Bijl, R., De Graaf, R., Vollebergh, W., McKenzie, K., & Van Os, J. (2003). Discrimination and delusional ideation. *British Journal of Psychiatry, 182*(1), 71–76. https://doi.org/10.1192/bjp.182.1.71

Johansen, P.-Ø, & Krebs, T. S. (2015). Psychedelics not linked to mental health problems or suicidal behavior: A population
LeFrançois, B. A., Menzies, R., & Reaume, G. (2013). Long-term follow-up of psilocybin-facilitated smoking cessation. *The American Journal of Drug and Alcohol Abuse, 43*(1), 55–60. https://doi.org/10.3109/00952900.2016.1170135

Jones, N., & Shattell, M. (2014). Beyond easy answers: Facing the entanglements of violence and psychosis. *Issues in Mental Health Nursing, 35*(10), 809–811. https://doi.org/10.3109/01612840.2013.856971

Kozak, M. J., & Cuthbert, B. N. (2016). The NIMH research domain criteria initiative: Background, issues, and pragmatics. *Psychophysiology, 53*(3), 286–297. https://doi.org/10.1111/psyp.12518

Jordan, G., Pope, M., Lambrou, A., Malla, A., & Iyer, S. N. (2019). Schizophrenia and the city: A review of literature and prospects. *Schizophrenia Bulletin, 46*(6), 1396–1408. https://doi.org/10.1093/schbul/sbaa117

Liebert, R. J. (2018). *Psyascry: Colonialism, Paranoia, and the war on imagination*. Routledge.

Luhmann, T. M. (2011). *Of two minds: An anthropologist looks at American psychiatry*. Vintage.

Luhmann, T. M., Padmavati, R., Tharoor, H., & Osei, A. (2015). Differences in voice-hearing experiences of people with psychosis in the USA, India and Ghana: Interview-based study. *British Journal of Psychiatry, 206*(1), 41–44. https://doi.org/10.1192/bjp.bp.113.139048

MacDonald, N. (1960). Living with schizophrenia. *Canadian Medical Association Journal, 82*(4), 218. PMC197688.

Malone, K. G., Omstead, M., & Casey, L. (2020). Police shootings in 2020: The effect on officers and those they are sworn to protect. *CBC. https://www.cbc.ca/news/canada/manitoba/police-shootings-2020-yer-review-1.5849788#:text=RCMP%20were%20involved%20in%20the%20death%20of%20injury%20with%202018*.

MAPS. (n.d.). How to work with difficult psychedelic experiences. https://maps.org/resources/responding_to_difficult_psychadelic_experiences/101-how-to-work-with-difficult-psychadelic-experiences

March, D., Hatch, S. L., Morgan, C., Kirkbride, J. B., Bresnahan, M., Fearon, P., & Susser, E. (2008). Psychosis and place. *Epidemiologic Reviews, 30*(1), 84–100. https://doi.org/10.1093/epirev/mxn006

Marks, J. (1979). *The search for the “Manchurian candidate”: The CIA and mind control*. Times Books New York.

Masters, R. E., & Houston, J. (1966). *The varieties of psychedelic experience* (Vol. 9289). Holt, Rinehart and Winston.

Mayer-Gross, W. (1951). Experimental psychoses and other mental abnormalities produced by drugs. *BMJ, 2*(4727), 317–321. https://doi.org/10.1136/bmj.2.4727.317

McGhie, A., & Chapman, J. (1961). Disorders of attention and perception in early schizophrenia. *British Journal of Medical Psychology, 34*(2), 103–116. https://doi.org/10.1080/01405420.1961.1660936

Menzies, R. J. (1987). Psychiatrists in blue: Police apprehension of mental disorder and dangerousness. *Criminology: An Interdisciplinary Journal, 25*(3), 429–454. https://doi.org/10.1111/j.1745-9125.1987.tb00805.x

Moran, C., Mallet, R., Hutchinson, G., Bagalkote, H., Morgan, K., Fearon, P., Dazzan, P., Boydell, J., McKenzie, K., Harrison, G., Murray, R., Jones, P., Craig, T., & Leff, J. (2005). Pathways to care and ethnicity. 1: Sample characteristics and compulsory admission: Report from the AsEOP study. *The British Journal of Psychiatry, 186*(4), 281–289. https://doi.org/10.1192/bjp.186.4.281

Morris, S. E., & Cuthbert, B. N. (2012). Research domain criteria: Cognitive systems, neural circuits, and dimensions of behavior. *Dialogues in Clinical Neuroscience, 14*(1), 29–37. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3341647/ https://doi.org/10.31887/DCNS.2012.14.1/smorriss

Morrison, P., Zois, V., McKeown, D., Lee, T., Holt, D., Powell, J., Kapur, S., & Murray, R. (2009). The acute effects of synthetic
Simmons, J. Q., Leiken, S. J., Lovas, O. I., Schaeffer, B., & Perloff, B. (1966). Modification of autistic behavior with LSD. *American Journal of Psychiatry*, 122(11), 1201–1211. https://doi.org/10.1176/ajp.122.11.1201

Singer, J. (2005). Child and adolescent psychiatric emergencies: Mobile crisis response. In *Crisis intervention handbook: Assessment, treatment and research* (pp. 319–361). Oxford University Press.

Slater, L. (2012). How psychedelic drugs can help patients face death. *The New York Times Magazine*, 20. https://www.nytimes.com/2012/04/22/magazine/how-psychedelic-drugs-can-help-patients-face-death.html

Smith, D. E., Raswyck, G. E., & Dickerson Davidson, L. (2014). From Hofmann to the Haight Ashbury, and into the future: The past and potential of lysergic acid diethylamide. *Journal of Psychoactive Drugs*, 46(1), 3–10. https://doi.org/10.1080/02791072.2014.873684

Stahl, S. M. (2018). Beyond the dopamine hypothesis of schizophrenia to three neural networks of psychosis: Dopamine, serotonin, and glutamate. *CNS Spectrums*, 23(3), 187–191. https://doi.org/10.1017/S1092852918001013

Stockings, G. T. (1940). A clinical study of the mesicalne schizophrenia, with special reference to the mechanism of the genesis of schizophrenic and other psychotic states. *Journal of Mental Science*, 86(360), 29–47. https://doi.org/10.1192/bjp.86.360.29

Strickland, J. C., García-Romea, A., & Johnson, M. W. (2020). Set and setting: A randomized study of different musical genres in supporting psychedelic therapy. *ACS Pharmacology & Translational Science*, 4(2), 472–478. https://doi.org/10.1021/acsptsci.0c00187

Sugiura, K., Mahomed, F., Saxena, S., & Patel, V. (2020). An end to coercion: Rights and decision-making in mental health care. *Bulletin of the World Health Organization*, 98(1), 52–58. https://doi.org/10.2471/BLT.19.234906

Sundquist, K., Frank, G., & Sundquist, J. (2004). Urbanisation and incidence of psychosis and depression. Follow-up study of 4.4 million women and men in Sweden. *British Journal of Psychiatry* 184(4), 293–298. https://doi.org/10.1192/bjp.184.4.293

Swanson, L. R. (2018). Unifying theories of psychedelic drug effects. *Frontiers in Pharmacology*, 9, 172. https://doi.org/10.3389/fphar.2018.00172

Toole, G. (1972). *Beyond Kicks*. https://www.nfb.ca/film/beyond-kicks/

Veling, W., Hoek, H. W., & Mackenbach, J. P. (2008). Perceived discrimination and the risk of schizophrenia in ethnic minorities. *Social Psychiatry and Psychiatric Epidemiology*, 43(12), 953–959.

Vollenweider, F. X., Leenders, K. L., Scharfetter, C., Antonini, A., Maguire, P., Missimer, J., & Angst, J. (1997). Metabolic hyperfrontality and psychopathology in the ketamine model of psychosis using positron emission tomography (PET) and [18F]fluorodeoxyglucose (FDG). *European Neuropsychopharmacology*, 7(1), 9–24. https://doi.org/10.1016/S0924-977X(96)00039-9

Walach, H. (2001). The efficacy paradox in randomized controlled trials of CAM and elsewhere: Beware of the placebo trap. *The Journal of Alternative & Complementary Medicine*, 7(3), 213–218. https://doi.org/10.1089/107555301300328070

Walsh, Z., Hendricks, P. S., Smith, S., Kosson, D. S., Thiessen, M. S., Lucas, P., & Swogger, M. T. (2016). Hallucinogen use and intimate partner violence: Prospective evidence consistent with protective effects among men with histories of problematic substance use. *Journal of Psychopharmacology*, 30(7), 601–607. https://doi.org/10.1177/0269881116642538

Washington Post. (2020). Fatal force. https://www.washingtonpost.com/graphics/investigations/police-shootings-database/

Wheeler, S. W., & Dyer, N. L. (2020). A systematic review of psychedelic-assisted psychotherapy for mental health: An evaluation of the current wave of research and suggestions for the future. *Psychology of Consciousness: Theory, Research, and Practice*, 7(3), 279–315. https://doi.org/10.1037/cns0000237

Wortzel, J. R., Turner, B. E., Weeks, B. T., Fragassi, C., Ramos, V., Truong, T., Li, D., Sahak, O., Lee, H. B., & Naudet, F. (2020). Trends in mental health clinical research: Characterizing the ClinicalTrials. Gov registry from 2007–2018. *PLoS One*, 15(6), e0233996. https://doi.org/10.1371/journal.pone.0233996

Ye, J., Lin, X., Jiang, D., Chen, M., Zhang, Y., Tian, H., Li, J., Zhuo, C., & Zhao, Y. (2019). Adjunct ketamine treatment effects on treatment-resistant depressive symptoms in chronic treatment-resistant schizophrenia patients are short-term and disassociated from regional homogeneity changes in key brain regions—a pilot study. *Psychiatry and Clinical Psychopharmacology*, 29(4), 907–915. https://doi.org/10.1080/24750573.2019.1699726

Phoebe Friesen is an Assistant Professor in the Biomedical Ethics Unit and Department of Social Studies of Medicine at McGill University. Trained as a philosopher, she has broad interests in research ethics, feminist philosophy of science, and medical ethics, and often utilizes qualitative research in her work. Currently, she is working on a variety of projects, including ones that examine moral dimensions of the placebo effect, community-led research governance, inequality in pain research, and participatory research in psychiatry.