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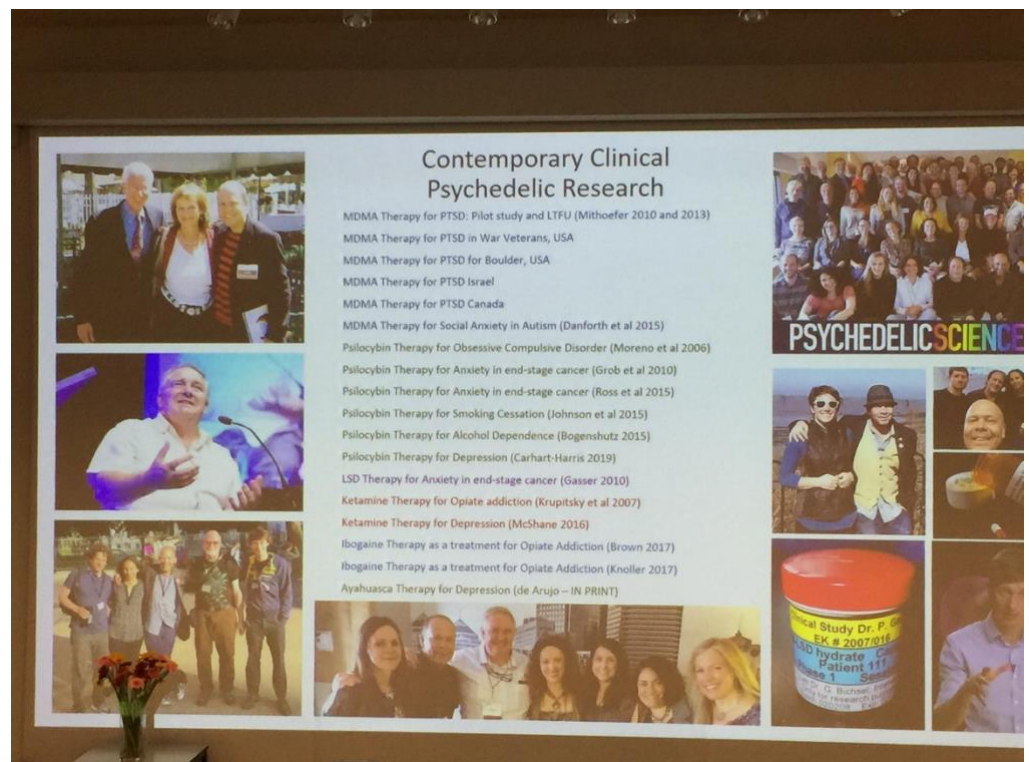
Psychedelic News

"*Psychedelic News*" is a quarterly newsletter produced by PHP Scotland – a network of health professionals interested in the therapeutic potential of psychedelics. There are brief sections below on *Research, PHP News and Other Developments.*

Emerging Research

Encouraging emerging research is the key driver for increasing interest in the therapeutic potential of psychedelics. Below are eight recent studies representing several areas where psychedelics have possible beneficial applications.

"We are in the midst of a psychedelic research renaissance."



Gandy, S. (2019). "[*Psychedelics and potential benefits in "healthy normals": A review of the literature.*](#)" *Journal of Psychedelic Studies* 3(3): 280-287.

(Available in free full text) We are in the midst of a psychedelic research renaissance. With research examining the efficacy of psychedelics as a treatment for a range of mental health indications still in its early stages, there is an increasing body of research to show that careful use of psychedelics can yield a variety of benefits in "healthy normals" and so lead to "the betterment of well people." Psychedelics have been found to modulate neuroplasticity, and usage in a supportive setting can result in enduring increases in traits such as well-being, life satisfaction, life meaning, mindfulness, and a variety of measures associated with prosocial behaviors and healthy psychological functioning. The effect of psychedelic experience on measures of personality trait openness and its potential implications is examined, and the potential role of awe as a mediator of the benefits of the psychedelic experience is discussed. Special attention is given to the capacity of psychedelics to increase measures of nature relatedness in an enduring sense, which is being correlated with a broad range of measures of psychological well-being as well as a key predictor of pro-environmental awareness and behavior. The effects of particular classical psychedelic compounds on healthy people are discussed, with special attention given to the mystical-type experiences occasioned by high doses of psychedelics, which appear to be an important mediator of long-term benefits and psychotherapeutic gains. Research looking at the potential benefits of psychedelic microdosing is discussed. Potential future research avenues are explored, focusing on the potential development of psychedelics as agents of ecotherapy.

Griffiths, R. R., et al. (2019). [*"Survey of subjective "God encounter experiences": Comparisons among naturally occurring experiences and those occasioned by the classic psychedelics psilocybin, LSD, ayahuasca, or DMT."*](#) PLoS ONE **14**(4): e0214377.

(Available in free full text) Naturally occurring and psychedelic drug-occasioned experiences interpreted as personal encounters with God are well described but have not been systematically compared. In this study, five groups of individuals participated in an online survey with detailed questions characterizing the subjective phenomena, interpretation, and persisting changes attributed to their single most memorable God encounter experience (n = 809 Non-Drug, 1184 psilocybin, 1251 lysergic acid diethylamide (LSD), 435 ayahuasca, and 606 N,N-dimethyltryptamine (DMT)). Analyses of differences in experiences were adjusted statistically for demographic differences between groups. The Non-Drug Group was most likely to choose "God" as the best descriptor of that which was encountered while the psychedelic groups were most likely to choose "Ultimate Reality." Although there were some other differences between non-drug and the combined psychedelic group, as well as between the four psychedelic groups, the similarities among these groups were most

striking. Most participants reported vivid memories of the encounter experience, which frequently involved communication with something having the attributes of being conscious, benevolent, intelligent, sacred, eternal, and all-knowing. The encounter experience fulfilled a priori criteria for being a complete mystical experience in approximately half of the participants. More than two-thirds of those who identified as atheist before the experience no longer identified as atheist afterwards. These experiences were rated as among the most personally meaningful and spiritually significant lifetime experiences, with moderate to strong persisting positive changes in life satisfaction, purpose, and meaning attributed to these experiences. Among the four groups of psychedelic users, the psilocybin and LSD groups were most similar and the ayahuasca group tended to have the highest rates of endorsing positive features and enduring consequences of the experience. Future exploration of predisposing factors and phenomenological and neural correlates of such experiences may provide new insights into religious and spiritual beliefs that have been integral to shaping human culture since time immemorial.

Kettner, H., et al. (2019). [*"From egoism to ecoism: psychedelics increase nature relatedness in a state-mediated and context-dependent manner."*](#) *International Journal of Environmental Research and Public Health* **16**(24): 5147.

"evidence for a context- and state-dependent causal effect of psychedelic use on nature relatedness."

(Available in free full text) (1) Background: There appears to be a growing disconnection between humans and their natural environments which has been linked to poor mental health and ecological destruction. Previous research suggests that individual levels of nature relatedness can be increased through the use of classical psychedelic compounds, although a causal link between psychedelic use and nature relatedness has not yet been established. (2) Methods: Using correlations and generalized linear mixed regression modelling, we investigated the association between psychedelic use and nature relatedness in a prospective online study. Individuals planning to use a psychedelic received questionnaires 2 weeks before (N = 654), plus one day, 2 weeks, 4 weeks, and 2 years after a psychedelic experience. (3) Results: The frequency of lifetime psychedelic use was positively correlated with nature relatedness at baseline. Nature relatedness was significantly increased 2 weeks, 4 weeks and 2 years after the psychedelic experience. This increase was positively correlated with concomitant increases in psychological well-being and was dependent on the extent of ego-dissolution and the perceived influence of natural surroundings during the acute psychedelic state. (4) Conclusions: The here presented evidence for a context- and state-dependent causal effect of psychedelic use on nature relatedness bears relevance for psychedelic treatment models in mental health and, in the face of the current ecological crisis, planetary health.

Kuypers, K. P., et al. (2019). "[*Microdosing psychedelics: More questions than answers? An overview and suggestions for future research.*](#)" *Journal of Psychopharmacology* **0**(0): 0269881119857204.

(Available in free full text) Background: In the past few years, the issue of 'microdosing' psychedelics has been openly discussed in the public arena where claims have been made about their positive effect on mood state and cognitive processes such as concentration. However, there are very few scientific studies that have specifically addressed this issue, and there is no agreed scientific consensus on what microdosing is. Aim: This critique paper is designed to address questions that need to be answered by future scientific studies and to offer guidelines for these studies. Approach: Owing to its proximity for a possible approval in clinical use and short-lasting pharmacokinetics, our focus is predominantly on psilocybin. Psilocybin is allegedly, next to lysergic acid diethylamide (LSD), one of the two most frequently used psychedelics to microdose. Where relevant and available, data for other psychedelic drugs are also mentioned. Conclusion: It is concluded that while most anecdotal reports focus on the positive experiences with microdosing, future research should also focus on potential risks of (multiple) administrations of a psychedelic in low doses. To that end, (pre)clinical studies including biological (e.g. heart rate, receptor turnover and occupancy) as well as cognitive (e.g. memory, attention) parameters have to be conducted and will shed light on the potential negative consequences microdosing could have.

Martial, C., et al. (2019). "[*Neurochemical models of near-death experiences: A large-scale study based on the semantic similarity of written reports.*](#)" *Consciousness and Cognition* **69**: 52-69.

(Available in free full text on Researchgate) The real or perceived proximity to death often results in a non-ordinary state of consciousness characterized by phenomenological features such as the perception of leaving the body boundaries, feelings of peace, bliss and timelessness, life review, the sensation of traveling through a tunnel and an irreversible threshold. Near-death experiences (NDEs) are comparable among individuals of different cultures, suggesting an underlying neurobiological mechanism. Anecdotal accounts of the similarity between NDEs and certain drug-induced altered states of consciousness prompted us to perform a large-scale comparative analysis of these experiences. After assessing the semantic similarity between $\approx 15,000$ reports linked to the use of 165 psychoactive substances and 625 NDE narratives, we determined that the N-methyl-D-aspartate (NMDA) receptor antagonist ketamine consistently resulted in reports most similar to those associated with NDEs. Ketamine was followed by *Salvia divinorum* (a plant containing a potent and selective κ

receptor agonist) and a series of serotonergic psychedelics, including the endogenous serotonin 2A receptor agonist N,N-Dimethyltryptamine (DMT). This similarity was driven by semantic concepts related to consciousness of the self and the environment, but also by those associated with the therapeutic, ceremonial and religious aspects of drug use. Our analysis sheds light on the long-standing link between certain drugs and the experience of "dying", suggests that ketamine could be used as a safe and reversible experimental model for NDE phenomenology, and supports the speculation that endogenous NMDA antagonists with neuroprotective properties may be released in the proximity of death. [See <https://tinyurl.com/y2tomvf6> for helpful BPS Research Digest discussion of this paper].

Muttoni, S., et al. (2019). "[Classical psychedelics for the treatment of depression and anxiety: A systematic review.](#)" *J Affect Disord* **258**: 11-24.

Background Depression and anxiety are prevalent psychiatric disorders that carry significant morbidity. Pharmacological and psychosocial interventions are used to manage these conditions, but their efficacy is limited. Recent interest into the use of psychedelic-assisted therapy using ayahuasca, psilocybin or lysergic acid diethylamide (LSD) may be a promising alternative for patients unresponsive to traditional treatments. This review aims to determine the efficacy and tolerability of psychedelics in the management of resistant depression. Methods Clinical trials investigating psychedelics in patients with depression and/or anxiety were searched via MEDLINE, EMBASE and PsychINFO. Efficacy was assessed by measuring symptom improvement from baseline, and tolerability was evaluated by noting the incidence and type of adverse effects reported. Risk of bias was assessed. Results Seven studies, with 130 patients, were analysed in this review. Three were conducted in patients with depression, two in patients with anxiety and two in patients with both. In a supportive setting, ayahuasca, psilocybin, and LSD consistently produced immediate and significant anti-depressant and anxiolytic effects that were endured for several months. Psychedelics were well-tolerated. The most common adverse effects were transient anxiety, short-lived headaches, nausea and mild increases in heart rate and blood pressure. Limitations At present, the number of studies on this subject is very limited; and the number of participating patients within these is also limited as the treatment under investigations is a relatively novel concept. Conclusions Though further evidence is required, psychedelics appear to be effective in significantly reducing symptoms of depression and anxiety and are well-tolerated.

Russ, S. L., et al. (2019). "[Replication and extension of a model predicting response to psilocybin.](#)" *Psychopharmacology*.

"psychedelics appear to be effective in significantly reducing symptoms of depression and anxiety and are well-tolerated."

Background Recent research demonstrated the potential of psychedelic drugs as treatment for depression and death-related anxiety and as an enhancement for well-being. While generally positive, responses to psychedelic drugs can vary according to traits, setting, and mental state (set) before and during ingestion. Most earlier models explain minimal response variation, primarily related to dosage and trust, but a recent study found that states of surrender and preoccupation at the time of ingestion explained substantial variance in mystical and adverse psilocybin experiences. **Objectives** The current study sought to replicate the previous model, extend the model with additional predictors, and examine the role of mystical experience on positive change. **Method** A hierarchical regression model was created with crowdsourced retrospective data from 183 individuals who had self-administered psilocybin in the past year. Scales explored mental states before, during, and after psilocybin ingestion, relying on open-ended memory prompts at each juncture to trigger recollections. Controlled drug administration was not employed. **Results** This study replicated the previous model, finding a state of surrender before ingestion a key predictor of optimal experience and preoccupation a key predictor of adverse experience. Additional predictors added to the explanatory power for optimal and adverse experience. The model supported the importance of mystical experiences to long-term change. **Conclusion** Mental states of surrender or preoccupation at the time of ingestion explain variance in mystical or adverse psilocybin experiences, and mystical experiences relate to long-term positive change. The capacity to recognize this optimal preparatory mental state may benefit therapeutic use of psilocybin in clinical settings.

Smigielski, L., et al. (2019). [*Characterization and prediction of acute and sustained response to psychedelic psilocybin in a mindfulness group retreat.*](#) *Scientific Reports* **9**(1): 14914.

(Available in free full text) Meditation and psychedelics have played key roles in humankind's search for self-transcendence and personal change. However, neither their possible synergistic effects, nor related state and trait predictors have been experimentally studied. To elucidate these issues, we administered double-blind the model psychedelic drug psilocybin (315 µg/kg PO) or placebo to meditators (n = 39) during a 5-day mindfulness group retreat. Psilocybin increased meditation depth and incidence of positively experienced self-dissolution along the perception-hallucination continuum, without concomitant anxiety. Openness, optimism, and emotional reappraisal were predictors of the acute response. Compared with placebo, psilocybin enhanced post-intervention mindfulness and produced larger positive changes in psychosocial functioning at a 4-month follow-up, which were corroborated by external ratings, and associated with magnitude of acute self-dissolution experience. Meditation seems to enhance psilocybin's

"Compared with placebo, psilocybin enhanced post-intervention mindfulness and produced larger positive changes in psychosocial functioning at a 4-month follow-up, which were corroborated by external ratings."

positive effects while counteracting possible dysphoric responses. These findings highlight the interactions between non-pharmacological and pharmacological factors, and the role of emotion/attention regulation in shaping the experiential quality of psychedelic states, as well as the experience of selflessness as a modulator of behavior and attitudes. A better comprehension of mechanisms underlying most beneficial psychedelic experiences may guide therapeutic interventions across numerous mental conditions in the form of psychedelic-assisted applications. [Note 315µg/kg is equivalent to about 22mg of psilocybin for a 70kg subject].

PHP Scotland News

A group of health professionals interested in the therapeutic potential of psychedelics has been meeting here in Scotland to discuss setting up a support network. Currently we see its main aims as *Education, Support & Outreach*. The plan is to provide education through a number of outlets, including this newsletter, a WhatsApp group, orientation & integration meetings, supervision, experience retreats in the Netherlands, lectures, articles, and a website. We're using the term 'health professionals' broadly to cover the numerous areas that research suggests psychedelics may be useful for – these include a variety of applications in counselling, psychotherapy & psychiatry, coaching, substance misuse, grief work, end of life care, meditation training, and positive psychology & wellbeing. Since most of our activities will be online (or in the Netherlands where psilocybin truffles are legal), health professional members are welcome to join from anywhere in the world, not just Scotland. We also plan to have a 'PHP friends' membership open to interested members of the general public. The annual membership fee is only £10, for which one gets access to the research updating WhatsApp group, the regular orientation/integration circle, this quarterly newsletter, and the option of applying for experience retreats in the Netherlands. For more details, email Dr James Hawkins at jh.edinburgh@gmail.com.

A group of private donors has given \$17 million to start the Center for Psychedelic and Consciousness Research at Johns Hopkins Medicine.

Other Developments

Hub (2019). "[*Johns Hopkins launches center for psychedelic research.*](#)" September 4.

A group of private donors has given \$17 million to start the Center for Psychedelic and Consciousness Research at Johns Hopkins Medicine, making it what's believed to be the first such research center in the U.S. and the largest research center of its kind in the world. "The center's establishment reflects a new era of research in therapeutics and the mind through studying this unique and remarkable class of pharmacological compounds," says [*Roland Griffiths*](#), the center's director and professor of behavioral biology in

the Department of Psychiatry and Behavioral Sciences and the Department of Neuroscience at the Johns Hopkins University School of Medicine. "In addition to studies on new therapeutics, we plan to investigate creativity and well-being in healthy volunteers that we hope will open up new ways to support human thriving."

Science Review Team (2019). "[*Chicago follows Oakland, introduces resolution to decriminalize psychedelic plants.*](#)" Psychedelic Science Review, October 19.

Last night, the City of Chicago became the latest US city to introduce a resolution that would effectively decriminalize psychedelic plants and fungi. Members of Chicago's Committee on Health and Human Relations unanimously voted (50-0) on "A Resolution supporting Entheogenic Plant practice, declaring that the investigation and arrest of individuals involved with the Adult Use of Entheogenic Plants on the Federal Schedule 1 List be amongst the lowest priority for the City of Chicago and the Chicago Police Department..." Chicago's effort follows in the footsteps of [*Denver*](#) and [*Oakland*](#), two other large US cities which passed similar measures earlier this year.

The Idler (2019). "[*The science of psychedelics with Dr Robin Carhart-Harris.*](#)" It costs £42 to take this 3-hour, 6-lesson online course.

Compass Pathways (2019). "[*The safety and efficacy of psilocybin in participants with treatment resistant depression \(P-TRD\).*](#)" [Clinicaltrials.gov](https://clinicaltrials.gov).

This dose-ranging, multi-centre study is looking at the effects of low, medium & high doses of psilocybin for 216 subjects suffering from treatment-resistant depression. This record gives contact details for the various centres involved (including Bristol, London, Manchester & Newcastle). Estimated study completion date is June '20.

Usona (2019). "[*A randomized, double-blind, support-of-concept phase 2 study of single-dose psilocybin for major depressive disorder \(MDD\).*](#)" [Clinicaltrials.gov](https://clinicaltrials.gov).

The FDA have granted psilocybin a second breakthrough therapy designation for this study: Eighty participants, ages 21 to 65, who meet Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria for major depressive disorder (MDD) will be stratified by study site and randomized with a 1-to-1 allocation under double-blind conditions to receive a single 25 mg oral dose of psilocybin or a single 100 mg oral dose of niacin. Niacin will serve as an active placebo. The purpose of this study is to evaluate the potential efficacy of a single 25 mg oral dose of psilocybin for MDD compared to the active placebo in otherwise medically-healthy

participants, assessed as the difference between groups in changes in depressive symptoms from Baseline to Day 8 post-dose.

Iacobucci, G. (2019). *"Tackling drug deaths in Scotland: five minutes with . . . Emilia Crighton."* *BMJ* **367**: l6878.

The public health consultant explains why reducing the number of deaths from substance misuse must be an urgent government priority "We know that in Scotland we have a public health emergency related to drugs. The public health minister, Joe Fitzpatrick, has mentioned this and has said that he wants to amend the Drugs Misuse Act to facilitate interventions. Every single day, three people in Scotland die because of an overdose, which is an absolute disgrace. These are real people that are affected, somebody's son, daughter, or friend. We contemplate, we talk about failing people's human rights, but we don't seem to do what should be done. There is a stigma that people face, but there is hope. There's research coming from Liverpool University that shows that, on the back of the work done in Glasgow, the discourse around drug deaths has slightly changed, with it now being seen more as a public health problem. There are meaningful things that can be done. We can provide the first aid—naloxone—where people actually are, administered by peers, the police, and others; that's something that can be done today without any additional legislation. We can put in place services to treat people that actually take drugs — so, expanding the full range of opiate replacement treatment. And then there are supervised injecting facilities which we need to go ahead with. To make that happen the Lord Advocate (the chief legal officer of the Scottish government) must waiver operators from prosecution. We have to decriminalise drug possession. There are some sections of society that get it. Glasgow has fully bought into it, but the Scottish government was slow to come on board. We call for immediate action to allow supervised drug taking facilities to operate. The experience with Portugal has completely changed things. They decriminalised possession and they see harm reduction and participating in treatment as the key element. They have seen massive changes and reductions in drug related deaths."

"The UK's drugs policy has "gone backwards" in the past 10 years, representing a "litany of failure," a former chief adviser to the government has said."

Wise, J. (2019). *"Drug policy in UK has regressed in past decade, says former chief adviser."* *BMJ* **367**: l6323.

The UK's drugs policy has "gone backwards" in the past 10 years, representing a "litany of failure," a former chief adviser to the government has said. David Nutt was speaking at an event to mark the 10th anniversary of his dismissal as chair of the Advisory Council on the Misuse of Drugs. Nutt, professor of neuropsychopharmacology at Imperial College London, was sacked after stating that ecstasy and LSD were less dangerous than alcohol. His dismissal led to several other council members resigning and an outcry from leading scientists. Just a few weeks

ago Alex Stevens, professor in criminal justice at the University of Kent, resigned from the council after accusing the government of "political vetting" of members. At his lecture at King's College London, organised by the educational charity the Centre for Crime and Justice Studies, Nutt called for drug policies to be guided by harm reduction, not prohibition. He criticised the UK's drug laws for not being evidence based and said he believed that the Misuse of Drugs Act was "immoral and illegal." Deaths in England and Wales related to drugs rose to a record high of 4359 last year, with the biggest annual increase (16%) since the time series began in 1993. Nutt predicted that it was "very likely" that the UK would see an epidemic of fentanyl deaths, as had happened in the US. "Fentanyl is so cheap and very powerful," he said. Dealers were increasingly mixing it with other drugs such as opioids and ecstasy, he added. He called for regulated access to drugs and said that decriminalisation would be a good start. He pointed to the evidence from Portugal, which in 2001 decriminalised the personal possession and consumption of all drugs, including heroin. In the past 15 years opiate deaths have doubled in Britain, whereas in Portugal they were now a third of what they were before 2001, Nutt said. He pointed out that alcohol was the leading cause of death of men under 50 and was likely to become so among women. He praised Scotland for introducing minimum unit pricing for alcohol and criticised England for "continuing to do what the drinks industry tells them to do." Responsibility for drug policy should be moved from the Home Office to the Department of Health and Social Care, Nutt argued. He also called for more access to drug testing for consumers, such as at festivals; safe injection rooms; and a major roll out of naloxone to thwart the expansion of fentanyl misuse.

To receive future copies of this quarterly newsletter, have access to regular research & information updates on a WhatsApp group, be able to participate in monthly online orientation/integration groups, and be able to apply for PHP psychedelic experience retreats (run in the Netherlands), you will need to join PHP Scotland. Annual membership costs just £10 both for full professional members and for general public 'friend' members. As most PHP activities are online or based in the Netherlands, membership is open both to people resident in Scotland and elsewhere in the world. Professional membership is for all who are involved in fields of helping work where emerging research suggests psychedelics may have a useful part to play. For more information and to apply, please contact Dr James Hawkins at jh.edinburgh@gmail.com
