



Henry A. Nasrallah, MD
Editor-in-Chief

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Psilocybin's psychological and neurobiological effects have the potential to alter pathological personality traits or beliefs

From neuroplasticity to psychoplasticity: Psilocybin may reverse personality disorders and political fanaticism

One of psychiatry's long-standing dogmas is that personality disorders are enduring, unchangeable, and not amenable to treatment with potent psychotropics or intensive psychotherapy. I propose that this dogma may soon be shattered.

Several other dogmas in psychiatry have been demolished over the past several decades:

- that "insanity" is completely irreversible and requires lifetime institutionalization. The serendipitous discovery of chlorpromazine¹ annihilated this centuries-old dogma

- that chronic, severe, refractory depression (with ongoing suicidal urges) that fails to improve with pharmacotherapy or electroconvulsive therapy (ECT) is hopeless and untreatable, until ketamine not only pulverized this dogma, but did it with lightning speed, dazzling us all²

- that dissociative agents such as ketamine are dangerous and condemnable drugs of abuse, until the therapeutic effect of ketamine slayed that dragon³

- that ECT "fries" the brain (as malevolently propagated by antipsychiatry cults), which was completely disproven by neuroimaging studies that show the hippocampus (which shrinks during depression) actually grows by >10% after a few ECT sessions⁴

- that psychotherapy is not a "real" treatment because talking cannot reverse a psychiatric brain disorder, until studies showed significant neuroplasticity with psychotherapy and decrease in inflammatory biomarkers with cognitive-behavioral therapy (CBT)⁵

- that persons with refractory hallucinations and delusions are doomed to a life of disability, until clozapine torpedoed that pessimistic dogma⁶

- that hallucinogens/psychedelics are dangerous and should be banned, until a jarring paradigm shift occurred with the discovery of psilocybin's transformative effects, and the remarkable therapeutic effects of its mystical trips.⁷

Psilocybin's therapeutic effects

Psilocybin has already proved to have a strong and lasting effect on depression and promises to have therapeutic

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henry.nasrallah
@currentpsychiatry.com



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benefits for patients with substance use disorders, posttraumatic stress disorder (PTSD), and anxiety.⁸ In addition, when the multiple psychological and neurobiological effects of psilocybin (and of other psychedelics) are examined, I see a very promising path to amelioration of severe personality disorders such as psychopathy, antisocial behavior, and narcissism. The mechanism(s) of action of psilocybin on the human brain are drastically different from any man-made psychotropic agent. As a psychiatric neuroscientist, I envision the neurologic impact of psilocybin to be conducive to a complete transformation of a patient's view of himself, other people, and the meaning of life. It is reminiscent of religious conversion.

The psychological effects of psilocybin in humans have been described as follows:

- emotional breakthrough⁹
- increased psychological flexibility,^{10,11} a very cortical effect
- mystical experience,¹² which results in sudden and significant changes in behavior and perception and includes the following dimensions: sacredness, noetic quality, deeply felt positive mood, ineffability, paradoxicality, and transcendence of time and space¹³
- oceanic boundlessness, feeling "one with the universe"¹⁴
- universal interconnectedness, insightfulness, blissful state, spiritual experience¹⁴
- ego dissolution,¹⁵ with loss of one's personal identity
- increased neuroplasticity¹⁶
- changes in cognition and increase in insight.¹⁷

The neurobiological effects of psilocybin are mediated by serotonin 5HT2A agonism and include the following¹⁸:

- reduction in the activity of the medial prefrontal cortex, which regulates memory, attention, inhibitory control, and habit

- a decrease in the connectivity between the medial prefrontal cortex and the posterior cingulate cortex, which regulates memory and emotions

- reducing the default mode network, which is active during rest, stimulating internal thoughts and reminiscing about previous feelings and events, sometimes including ruminations. Psilocybin reverses those processes to thinking about others, not just the self, and becoming more open-minded about the world and other people. This can be therapeutic for depression, which is often associated with negative ruminations but also with entrenched habits (addictive behaviors), anxiety, PTSD, and obsessive-compulsive disorders

- increased global functional connectivity among various brain networks, leading to stronger functional integration of behavior

- collapse of major cortical oscillatory rhythms such as alpha and others that perpetuate "prior" beliefs

- extensive neuroplasticity and recalibration of thought processes and decomposition of pathological beliefs, referred to as REBUS (relaxed beliefs under psychedelics).

The bottom line is psilocybin and other psychedelics can dramatically alter, reshape, and relax rigid beliefs and personality traits by decreasing "neuroticism" and increasing "extraversion," insightfulness, openness, and possibly conscientiousness.¹⁹ Although no studies of psychedelics in psychopathic, antisocial, or narcissistic personality disorders have been conducted, it is very reasonable to speculate that psilocybin may reverse traits of these disorders such as callousness, lack of empathy, and pathological self-centeredness.

Going further, a preliminary report suggests psilocybin can modify political views by decreasing authoritarianism and increasing libertarianism.^{20,21} In the current political zeitgeist, could

Psychedelics offer hope to splinter the dogma of untreatable personality disorders and political extremism

psychedelics such as psilocybin reduce or even eliminate political extremism and visceral hatred on all sides? It would be remarkable research to carry out to heal a politically divided populace.

The dogma of untreatable personality disorders or hopelessly entrenched political extremism is on the chopping block, and psychedelics offer hope to splinter those beliefs by concurrently remodeling brain tissue (neuroplasticity) and rectifying the mindset (psychoplasticity).



Henry A. Nasrallah, MD
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