

A Review of the Effects of Psilocybin on Depression and Personality

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Introduction

- Depressive disorders among the most common mental disorders that are commonly reported in adults (Kessler et al., 2012)
- Current antidepressants can lead to “emotional blunting,” impairing the ability to identify feelings.
- Antidepressant use reduces positive affect and emotional awareness (Kajanoja et al., 2018).
- Alternatives involve the use of psilocybin to combat depression

Overview of Psilocybin

- Psilocybin, an indoleamine hallucinogen, is an agonist of the serotonin 5-HT_{2A} receptor (Vollenweider, et al., 1998)
- Produces symptoms similar to individuals who experience psychosis (Vollenweider, et al., 1998)
- Produces a potent dream-like state and distortions in space and time perception (Brown et al., 2017)
- Serotonin 5-HT_{2A} receptor has been known to play a role in depression (Eison & Mullins, 1995)
- Relaxation of high-level beliefs (Carhart-Harris, 2019)

Psilocybin and Depression

Ross et al. (2016) study involving 29 patients with cancer-related depression and anxiety

- Single dose of psilocybin (0.3 mg/kg) or niacin along with psychotherapy.
- Decreased anxiety and depression in cancer patients after dose

Carhart-Harris et al. (2016) study involving 12 patients with treatment-resistant depression

- Reduced depression and anxiety after 3 months

Psilocybin may reduce depression and can lead to personality changes.



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Figure 1. *Psilocybe semilanceata*

Psilocybin and Personality

Roseman et. al (2018) examined changes in personality measures with psilocybin therapy in patients with clinical depression

- Significant decrease in Neuroticism and trend-level increases in Conscientiousness
- Significant increases in Openness and Extraversion
- Study suggests that greater insightfulness occurred after treatment

Discussion

- Most studies involving psilocybin have rather small sample sizes
- Legality of psilocybin may hinder psilocybin research
- No adverse effects
- No control group within some of these studies
- Possible cofound within studies due to addition of psychotherapy which may explain reduction in depression
- Further research with better experimental designs should be conducted to assess efficacy of psilocybin