Psilocybin has long-term positive effects on some measures of cognition, suggesting potential utility for treating persistent post-concussion symptoms in athletes.

Scoping Review

Introduction

- 1990s “psychedelic renaissance”: wave of research led by psilocybin, a psychedelic which occurs naturally in “magic mushrooms”1,2,3
- Psilocybin has shown promise in treating treatment-resistant depression4, end-of-life care5,6, and substance addiction7,8
- Despite many of these conditions involving cognitive impairment, few studies have considered the effects of psilocybin on cognition
- This OSF pre-registered9 scoping review synthesizes existing research into the effects of psilocybin on cognition and creativity

Methods

Figure 1. Simplified PRISMA 2020 flow diagram10.

Searches were performed in APA PsycINFO, MEDLINE, Cochrane, and Web of Science databases on January 14, 2022. Additional grey literature searches were completed on February 22, 2022.

Results & Conclusion

- Hallucinogenic “macrodoses” of psilocybin tended to impair cognitive performance minutes to hours post-intake, while sub-hallucinogenic “microdoses” tended to enhance creativity
- The few “macrodosing” studies that included long-term follow-ups found neutral and positive long-term effects on both cognitive performance and creativity
- Future research should include well-validated measures of cognitive performance and creativity both acutely and at multiple post-acute timepoints

Survey

Introduction

- Concussion can cause physical, cognitive, and affective symptoms11,12, with athletes having increased risk12
- 10–30% of athletes who experience a concussion have persistent post-concussion symptoms (PPCS) lasting beyond the typical recovery period of approximately 10–days13,14,15,16
- Despite psilocybin’s demonstrated efficacy at improving affect4,5,6,17 and its potential long-term cognitive benefits9, athletes’ openness to using it to treat PPCS remains unclear

Methods

Analysis Plan & Significance

- Frequency analyses will determine the proportion of participants who report (i) experience taking psychedelics and (ii) openness to using psilocybin to treat PPCS in athletes
- Given the widespread prevalence of sport concussions and the significant impact of PPCS on mental health and cognition17,18 identifying and assessing novel treatments is of critical importance
- The findings of this survey will provide valuable insight into the feasibility of assessing psilocybin as a treatment for PPCS in athletes; may indirectly lead to improved outcomes in affected individuals

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Psilocybin for Post-Concussion Symptoms: Assessing Feasibility

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