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OPAB RESEARCH SUBCOMMITTEE

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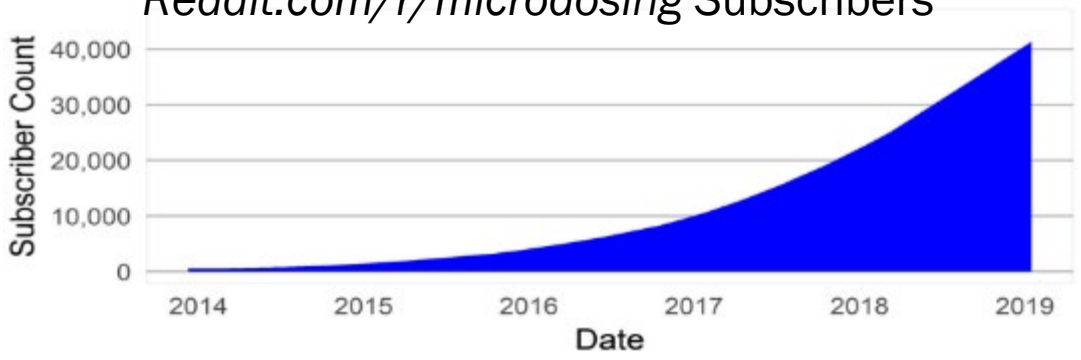
PSILOCYBIN MICRODOSING

- **Definition**: Regularly consuming “very low”, “sub-hallucinogenic”, “sub-threshold or near-threshold perceptible” doses of classic psychedelic substances (e.g., psilocybin, LSD)

- **Typical Psilocybin Microdosage**: <0.1-0.5g of dried mushrooms, 1-4 times per week for several weeks

Reddit.com/r/microdosing Subscribers



(Anderson et al., 2019; Rosenbaum et al., 2020; Kaertner et al., 2021)

MICRODOSING - AVAILABLE DATA

- (Johnstad, 2018) Qualitative interviews; n=21, 100% male, most common psilocybin; reported improved mood, cognition, and creativity; also reports of challenges (e.g., insomnia, inadvertently experiencing effects at doses as low as 0.25g) and some did not find it worth continuing
- (Lea et al., 2020) Cross-sectional online survey; n=525 (55% psilocybin); primary motivations to improve mental health (40%), personal development (31%), and cognitive enhancement (18%); perceived improvements in mood and anxiety, enhanced connection to others and the environment, cognitive enhancement; adverse effects: stronger-than-expected effects, anxiety, "physical" side effects
- (Rootman et al., 2021) Cross-sectional survey on app; n=4050 microdosers (85% psilocybin), n=4653 non-microdosers; 29% reported mental health concerns; microdosers more likely to have history of mental health concerns, microdosers lower level of depression and anxiety; health and wellness most prominent motives and perceived mental health benefits
- (Kaertner et al., 2021) Prospective (before, during, after) web-based survey; baseline to 4-week endpoint, $n=253_1$, 162_2, 115_3, 102_4, 81_5 (63_{ALL}); 47.82% planned to use psilocybin, average age 35.5, 60.5% male, 46.2% reported mental health concerns, 84.9% had previously taken classic psychedelic; *M*(*SD*) 9.2(2.3) dosing days (*range* 4-18); positive changes in well-being, depressive symptoms, and state anxiety; expectations for well-being improvement were significantly associated with change scores
- (Szigeti et al., 2021) Novel self-blinding placebo-controlled "citizen science", n=191 (24% psilocybin); 33% mental health concerns in the past; no significant differences between microdose and placebo group on well-being, mindfulness, life satisfaction, or paranoia; 72% broke blind

MICRODOSING - DUTCH PSILOCYBIN TRUFFLE TRIALS

- (Prochazkova et al., 2018) n=27-38; microdosing event – Psychedelic Society of the Netherlands, premeasured dried psilocybin truffles; baseline + 1.5h post-ingestion; increase in divergent and convergent thinking, no change in fluid intelligence; no control group (practice effects?)
- (van Elk et al., 2021) n=30, self-blinding with placebo obtained at PSN event; 0.7g dried psilocybin truffles (~1.5mg psilocybin) every 3 days for 5-7 doses, crossover after 2 weeks; more “awe” to videos of funny animals and moving objects; 2/3 broke blind, expectancy effects
- (Marschall et al., 2021) N=52, same study design as van Elk et al., 2021; no effect on emotion processing or depression/anxiety symptoms compared to placebo; blind not significantly broken till second block, no expectancy effects

PSILOCYBIN MICRODOSING - SUMMARY

- Popular use has outpaced scientific evidence
- Currently available data:
  - Wide range of dosage protocols
  - Heterogenous samples
  - Gender/SES bias
  - Lack of adequate blinding
  - Expectancy/placebo effects
- More placebo-controlled, randomized controlled trials needed, particularly for mental health indications

LSD RCTS

- (Yanakieva et al., 2019) n=48, healthy older adults; dosing every 3 days for 6 doses – inpatient setting; no changes in self-reported perception, mentation, or concentration
- (Bershad et al., 2019) n=20, healthy; weekly dosing for 4 weeks; dose-related effects for “feel drug”, “feel high”, “like drug”; higher dose “dislike drug” and “vigor”; blood pressure
- (Holze et al., 2020) n=23, healthy; dosing at least every 5 days for 4 doses; lowest dose no significant subjective effects, medium dose significant increase in “under the influence” and “good drug effect”, high dose also “bad drug effects”