Understanding Psychedelics: State of the Science and Policy Changes in the United States

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Acute Psilocybin Effects:
Mystical Experiences

Mystical experiences are a hallmark of psychedelic drug effects
➢ Mystical/Spiritual
➢ Positive mood
➢ Transcendence of time/space
➢ Ineffability

Effects:
Mystical type
Insight
Challenging

Outcomes:
Improved mental health
Short- and long-term effects
Clinical trials
Naturalistic studies
Acute Psychedelic Effects: Insight Experiences

Can include gaining awareness, realizations, discoveries about:
- Emotions
- Behaviors
- Beliefs
- Memories
- Relationships

Quantum Change:

What happens when insight and mystical experiences happen together?

Rapid, enduring transformations may occur when these experiences happen at the same time (Miller & C’de Baca, 2001; Miller, 2004)

83% of 343 participants reported that after the psychedelic experience they no longer met AUD criteria.
96% of the 444 participants met criteria for SUD before the psychedelic experience, whereas only 27% met SUD criteria afterward.

### Drug use before psychedelic experience

<table>
<thead>
<tr>
<th>Dose of Psychedelic</th>
<th>Mystical Experience</th>
<th>Personally Meaningful</th>
<th>Decrease in Drug Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>No</td>
<td>No</td>
<td>Low</td>
</tr>
<tr>
<td>Moderate</td>
<td>Yes</td>
<td>Yes</td>
<td>Moderate</td>
</tr>
<tr>
<td>High</td>
<td>Yes</td>
<td>Yes</td>
<td>High</td>
</tr>
</tbody>
</table>

### Drug use after psychedelic experience

- **452 participants**
- 2/3 self-reported improvements in depression, anxiety, PTSD, and substance use disorders after mescaline use.
- Most (68−86%) reported subjective improvement following their most memorable mescaline experience.
- Acute mystical-type, psychological insight, and ego dissolution effects were related to improvements.

### Table 3: Comparison of transitory ratings (mean and standard deviations) of mental health symptoms, suicidal ideation, and psychological flexibility in the 30 days before and 30 days after the delayed psychedelic treatment program.

| Variable | Before Implant | Mean | SD | Change | P Value
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD symptoms (0)</td>
<td>4.0 (1.0)</td>
<td>3.5 (0.5)</td>
<td>-0.5 (0.0)</td>
<td>0.000***</td>
<td>-3.0</td>
</tr>
<tr>
<td>Anxiety symptoms (0)</td>
<td>9.0 (2.0)</td>
<td>9.5 (1.5)</td>
<td>+0.5 (1.0)</td>
<td>0.000***</td>
<td>-5.0</td>
</tr>
<tr>
<td>Depression symptoms (0)</td>
<td>11.0 (2.0)</td>
<td>11.5 (1.5)</td>
<td>+0.5 (1.5)</td>
<td>0.000***</td>
<td>-5.0</td>
</tr>
<tr>
<td>Cognitive impairment (0)</td>
<td>15.0 (2.0)</td>
<td>15.5 (1.5)</td>
<td>+0.5 (2.0)</td>
<td>0.000***</td>
<td>-5.0</td>
</tr>
<tr>
<td>Suicidal ideation (0)</td>
<td>15.0 (2.0)</td>
<td>15.5 (1.5)</td>
<td>+0.5 (2.0)</td>
<td>0.000***</td>
<td>-5.0</td>
</tr>
<tr>
<td>Psychological flexibility (0)</td>
<td>2.0 (1.0)</td>
<td>2.5 (1.5)</td>
<td>+0.5 (2.0)</td>
<td>0.000***</td>
<td>-5.0</td>
</tr>
</tbody>
</table>
Greater intensity of mystical-type experiences

Greater reduction in mental health symptoms

Decreases in mental health symptoms

Greater reduction in racial trauma symptoms

Greater reduction in stress symptoms

Greater intensity of mystical-type experiences

Greater intensity of insight experiences

Lower intensity of challenging experiences

Greater reduction in depression symptoms

Greater reduction in anxiety symptoms

9 randomized, placebo-controlled clinical trials of psychedelic-assisted therapy published since 1994.

Studies examined psilocybin, LSD (lysergic acid diethylamide), ayahuasca (which contains a combination of N,N-dimethyltryptamine and harmala monoamine oxidase inhibitor alkaloids), and MDMA (3,4-methylenedioxymethamphetamine).

Results indicated a significant effect (1.21; Hedges g), which is larger than the typical effect size found in trials of psychopharmacological or psychotherapy
Included 34 contemporary experimental studies

Enduring changes in personality/attitudes, depression, spirituality, anxiety, wellbeing, substance misuse, meditative practices, and mindfulness.

Benefits related to mystical experiences, connectedness, emotional breakthrough, and increased neural entropy.

Limited aversive side effects were noted.

14 studies that included baseline states or traits predictive of the acute effects of psychedelics.

Increases in Psychological Flexibility

Decreases in Depression/Anxiety

Acute insight effects

Acute mystical effects

Increases in

Acute mystical effects

Decreases in Depression/Anxiety
Conclusions & Future Directions

Mystical-type AND psychological insight effects produced behavioral and psychological changes in clinical trials and naturalistic settings.

Findings could explain a transdiagnostic psychological mechanism of change.

Psychedelic experiences are among the most psychologically insightful and spiritually significant experiences of people's lives.

Comparing quantum change with emotional breakthroughs, ego dissolution, sensed presence will further elucidate knowledge of mechanisms of action.

Clinical trials with variety of patient populations: PTSD, Opioid Use, Alzheimer’s, Lyme disease, Alcohol/Depression, Spanish-speaking people, BIPOC.

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This presentation is for informational and educational purposes only, and is not legal advice.
Learning Outcomes

• Understand recent state and local policy changes regarding psychedelic substances

• Discuss the implications of policy changes for college/university communities

More specifically . . .

What does federal law say? (Controlled Substances Act and DEA; Federal Food, Drug, and Cosmetic Act and FDA)

What are states and local governments doing, specifically? What does that change, if anything, about federal requirements?

What are the implications?

Poll:

Do you think that US federal law prohibits the distribution or possession of psychedelics?

(A) Generally yes

(B) Generally no
Federal Controlled Substances Act (CSA)

Regulates the production, possession, and distribution of “controlled substances”

Enforced by DEA

Controlled substances = any drugs or substances with the potential for “abuse”

Schedule I: high potential for “abuse” and no currently accepted medical use
Schedule II: high potential for “abuse” and a currently accepted medical use
Schedule III: moderate potential for “abuse” and a currently accepted medical use
Schedule IV: low potential for “abuse” and a currently accepted medical use
Schedule V: lowest potential for “abuse” and a currently accepted medical use

Where do psychedelics fit?

Many psychedelics (e.g., psilocybin) are in Schedule I

CSA reaches intrastate commerce too (see, e.g., Gonzales v. Raich)
What about FDA?

Clinical trials are permissible and underway

What if psychedelics were descheduled?

Under the Federal Food, Drug, and Cosmetic Act (FDA's statute), drugs are:

“articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals”

or

“articles . . . intended to affect the structure or any function of the body of man or other animals . . . ” 21 U.S.C. §321(g)(1).

Poll: Is a psychedelic sold for adult use/recreational use a drug as defined in the Federal Food, Drug, and Cosmetic Act?

(A) Yes

(B) No

But FDA generally only regulates drugs that move in interstate commerce (or have component that does).

What about states and cities?

Oregon
• Psilocybin Services Initiative (Measure 109)
• Drug Addiction Treatment and Recovery Act (Measure 110)

Washington DC: Entheogenic Plants and Fungus Measure
(Initiative 81)

Poll: Is it now legal to distribute or posses psychedelics in Oregon, DC, Denver, Santa Cruz, Oakland, Ann Arbor, and Cambridge?

(A) Generally yes
(B) Generally no
(C) Generally yes in Oregon, generally no everywhere else

Implications
State and local laws and policies cannot eliminate federal requirements.
But enforcement policies matter.
And this can be confusing!
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