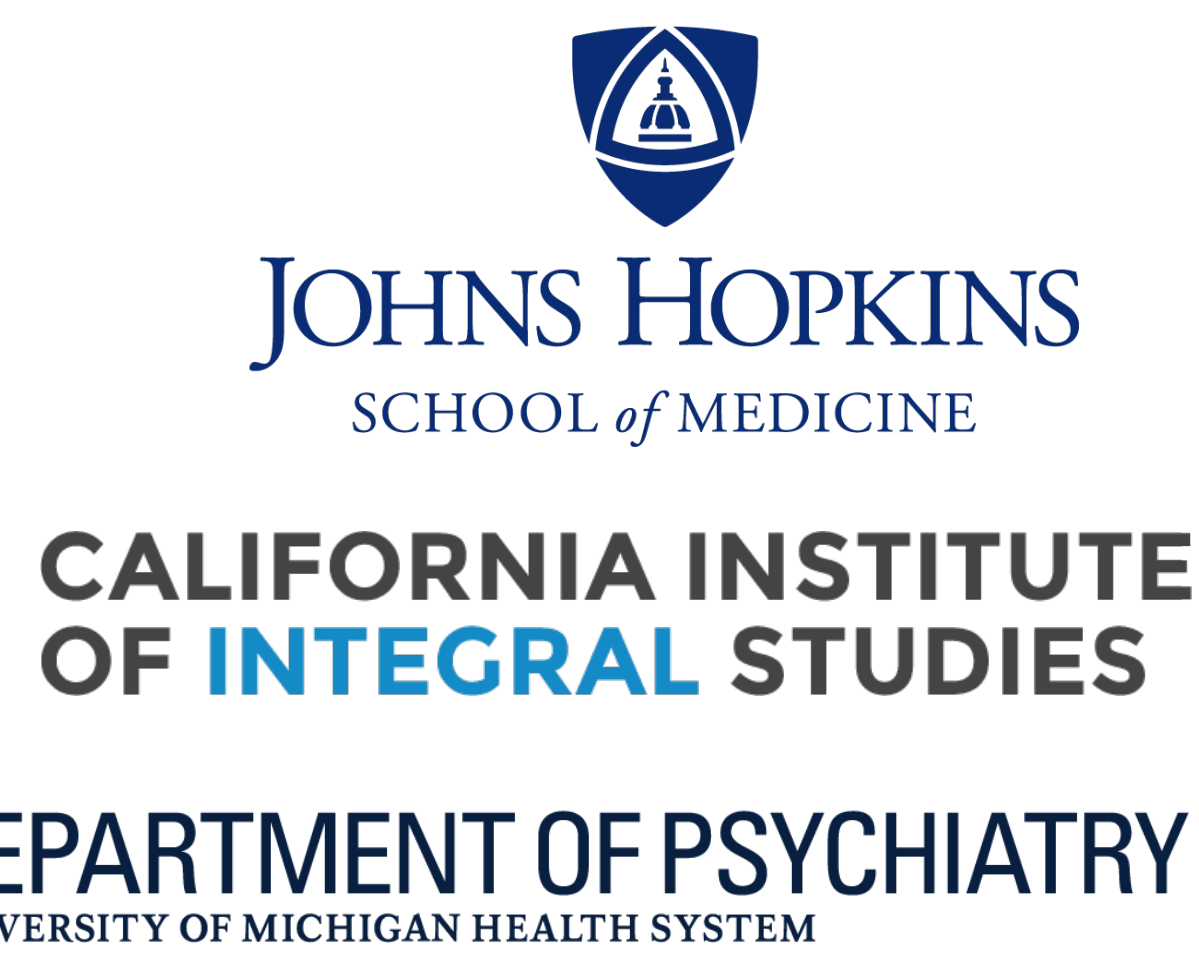




Characterization of Mystical Experiences Occasioned by 5-MeO-DMT-Containing Toad Bufotoxin and Comparison with Prior Psilocybin Studies



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Introduction

- 5-MeO-DMT is a potent tryptamine found in high concentrations in the bufotoxin of the Colorado River Toad.^{1,2}
- Anecdotal reports suggest that vaporized 5-MeO-DMT may occasion mystical experiences that are relatively brief, yet may have comparable or greater intensity than those occasioned by psilocybin.³
- In prospective studies with psychedelics, intensity of mystical experience is a predictor of positive mood changes and decreased substance use.⁴
- 5-MeO-DMT is similar to psilocybin in having a high affinity for 5-HT_{2A} and 5-HT_{1A} receptors, but distinct as an endogenous sigma-1 receptor ligand.⁵
- Quantitative evaluations of 5-MeO-DMT-occasioned mystical experiences have not yet been published.

Methods

- Study participants were patients (n = 44, 61% male, M_{age} = 34.6 yrs.) from a clinic in Mexico that utilizes 5-MeO-DMT as part of addiction and psychospiritual clinical treatment protocols.
- All patients received vaporized toad-source 5-MeO-DMT at a median effective dose (50mg raw weight, estimated 5-MeO-DMT content = 5-7mg, considered “light” to “common” dose).^{1,6,7}
- Patients completed the States of Consciousness Questionnaire (SOCQ) within 12 hours post-treatment. Individual items are rated from 0 to 5, none to extreme. The SOCQ contains all items of the Mystical Experience Questionnaire (MEQ30).⁸ The MEQ30 has 4 factors (ineffability, transcending time/space, positive mood, and mystical experiences), in addition to a total score. A “complete mystical experience” is counted when ≥60% of the max possible score is endorsed on all four MEQ subscales.
- “Challenging Experience” items were selected based on their intuitive meaning.
- Psilocybin MEQ30 ratings were derived from Griffiths et. al 2011 dose-related effects study, compared with 20mg/70kg moderate/high dose and 30mg/70kg high dose ratings.⁹
- Percentage ratings are presented for individual items and MEQ30 total and subscales; t-tests were used to compare patient subsamples.

Table 1. Patient Demographics

	(n = 44)
Age (years)	34.6 (SD ± 9.97) (Range 21-57)
Gender (males/females)	27M / 17F (60% / 40%)
Education	
<H.S.	1 (2%)
H.S. Diploma	23 (52%)
College Degree	12 (27%)
Graduate Degree	8 (18%)
Ethnicity	
White	33 (75%)
Other / Asian / Multiple	4 (9%) / 3 (7%) / 2 (5%)
Hispanic / Hawaiian/ Pacific Islander	1 (2%) / 1 (2%)
Addiction / Psychospiritual Patients	31 / 13 (70% / 30%)
Religious Affiliation (Y/N)	23 Y / 21 N (51% / 49%)

Results

Table 2. SOCQ Items Rank Ordered Endorsed by ≥ 75% of Sample As Strong or Extreme

SOCQ Items Rank Ordered (out of 100 items)	% endorsed
Sense of awe or awesomeness	86%
Experience of amazement	84%
Feelings of peace and tranquility	84%
Loss of your usual sense of time	84%
Feelings of joy	84%
Feeling that you experienced something profoundly sacred and holy	82%
Feeling that you experienced eternity or infinity	77%
Sense that the experience cannot be described adequately in words	77%
Loss of your usual sense of space	77%
* Experience of overflowing energy	75%
* Feeling of universal or infinite love	75%
Experience of pure Being and pure awareness (beyond the world of sense impressions)	75%

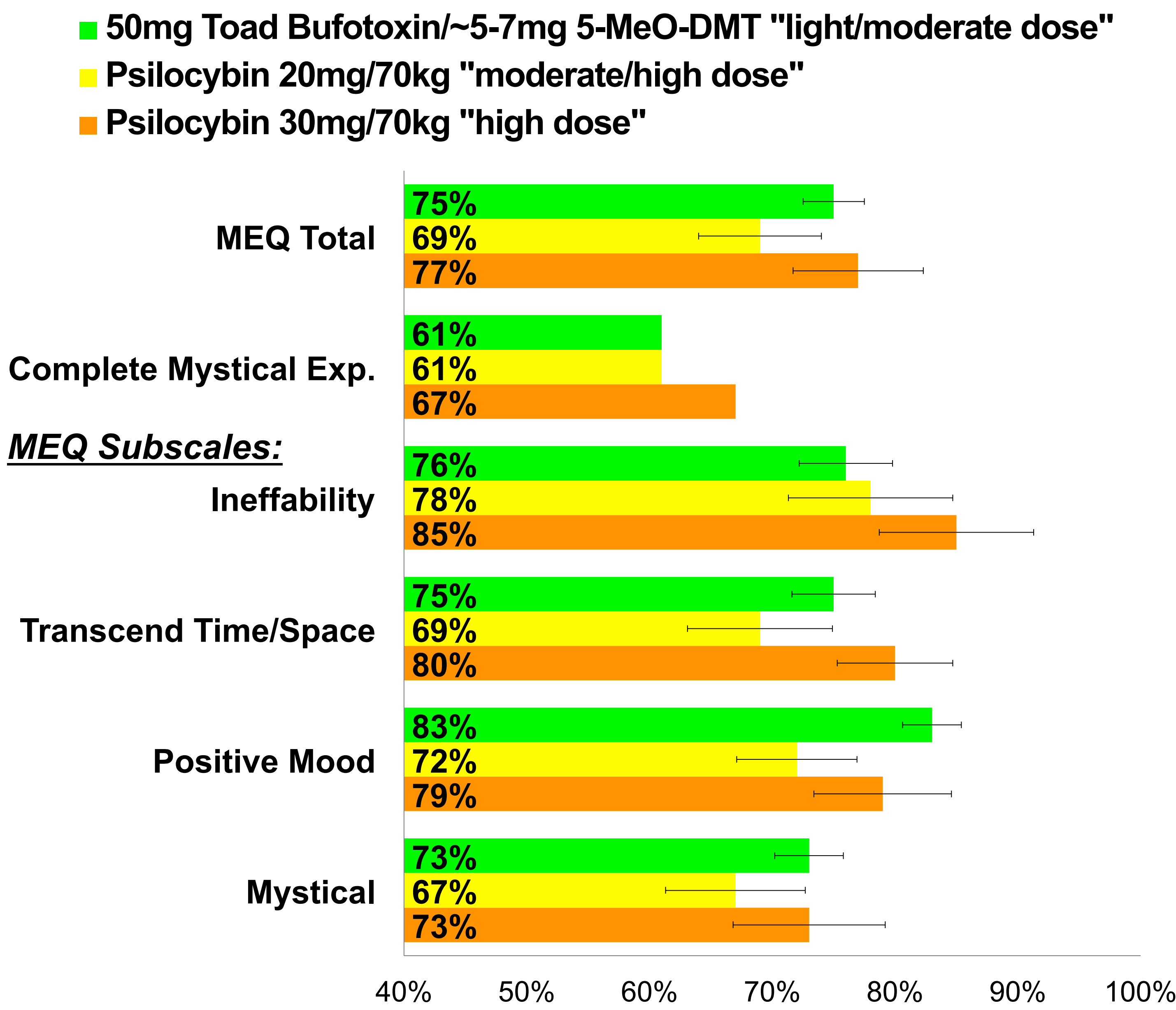
Table 3. SOCQ “Challenging Experience” Items Rank Ordered Endorsed by ≥ 15% of Sample As Strong or Extreme

SOCQ Items Rank Ordered (out of 100 items)	% endorsed
*Profound experience of your own death.	30%
*Feeling of disintegration, falling apart.	30%
*Emotional and/or physical suffering.	25%
*Sense of being separated from the normal world, as though you were enclosed in a thick, silent glass chamber.	16%
*Fear that you might lose your mind or go insane.	16%
*Feelings of grief.	16%
*Feelings of guilt.	16%
*Reliving of sensations and feelings associated with past surgery, illness or accidents.	16%

* Items on SOCQ, not on MEQ30

- Mean endorsement on the MEQ30 following 5-MeO-DMT was 75.5% (±16.5) of the maximum possible total score, suggestive of mystical-type experiences in the sample with a “light/moderate dose”.
- A majority of patients (61.4%) had “a complete mystical experience” (≥60% of the max possible score on all MEQ30 subscales).
- Overall, the MEQ30 exhibited excellent internal consistency (α = .96).
- Several SOCQ items not contained in the MEQ30 were endorsed as strong or extreme by 66%-74% of the sample included: radiant/golden light, closeness with guides, and a hyper-real sense of consciousness.
- Challenging experiences were endorsed with experiences of death or disintegration in one-third of the sample.
- Addiction patients endorsed overall less intense mystical experiences (MEQ30 Total, 72% ± 16%) than psychospiritual patients (85% ± 13%) at the identical dose, t(42) = -2.6, p = .01.

Figure 1. MEQ30 data after 5-MeO-DMT compared to two psilocybin doses from previously published study. Data are MEQ30 total and subscale means (% of maximum scores) and SEMs, and % of participants having “complete” mystical experiences.



- MEQ30 ratings and percent of participants fulfilling criteria for having a complete mystical experience after 5-MeO-DMT were generally similar to those after moderate/high or high doses of psilocybin.

Conclusions

- A “light” to “common” dose of 5-MeO-DMT-containing toad bufotoxin occasions mystical experiences in a majority of individuals, consistent with ratings of moderate/high to high dose psilocybin.⁸
- Subjective effects were lower for addiction versus psychospiritual patients at the same 5-MeO-DMT dose; addiction patients may require higher doses for comparable effects.
- The short duration of action of 5-MeO-DMT may have advantages over longer acting psychedelics for clinical and psychospiritual interventions.
- Additional studies should examine a range of doses of toad-derived and synthetic 5-MeO-DMT. Further studies should assess enduring effects, pharmacokinetics, and safety.

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