Psilocybin Treatment of Depression and Tobacco Addiction

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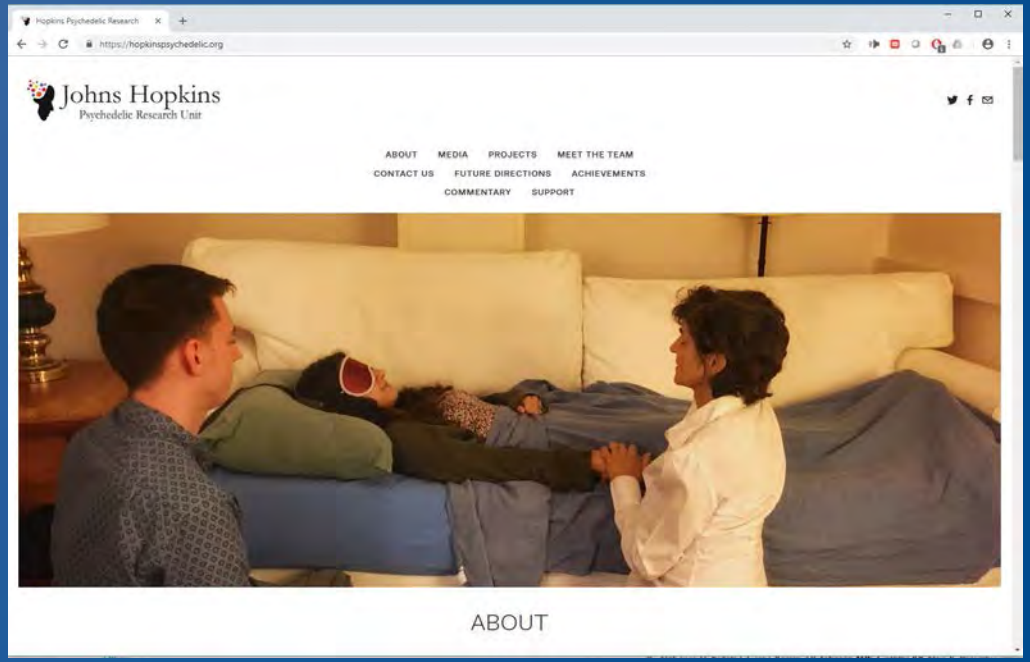
JOHNS HOPKINS MEDICINE



https://hopkinspsychedelic.org

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- Funded by Steven and Alexandra Cohen Foundation, and the Tim Ferriss Collaborative
- World's largest center for psychedelic research
- Opioid addiction
- PTSD
- Anorexia
- fMRI study of alcoholism with comorbid depression
- Anorexia
- Depression in Alzheimer's disease
- Mood symptoms of post-treatment Lyme disease
- Microdosing
- Creativity
- Genetics, biomarkers

The New York Times

Johns Hopkins Opens New Center for Psychedelic Research

The research center, with $17 million from donors, aims to give "psychedelic medicine" a long-sought foothold in the scientific establishment.

- Psilocybin in >100 mushroom species
- “Classic psychedelic”
  - Psilocybin
  - LSD
  - Mescaline (peyote)
  - DMT (ayahuasca)

JOHNS HOPKINS MEDICINE

1940s – 1970s

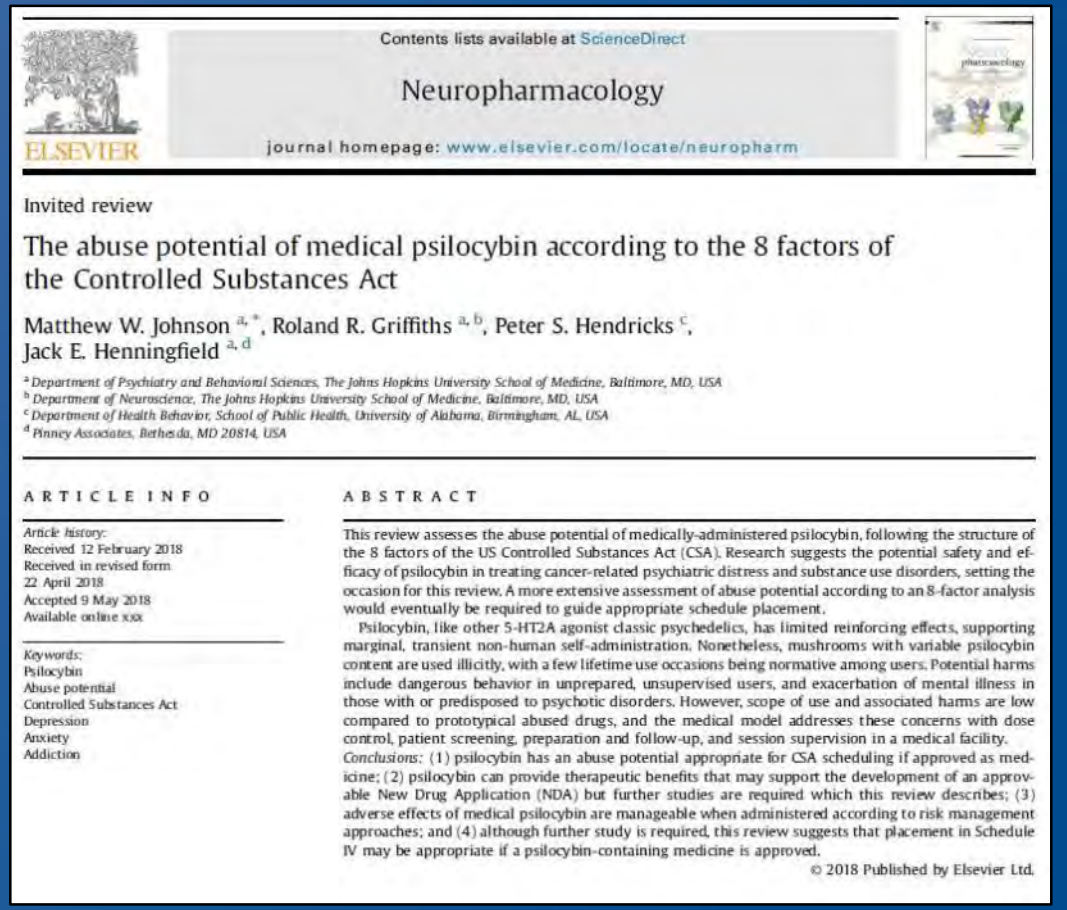
- Psychedelics were intensely investigated as research tools and therapeutics
- Promising findings for:
  - Cancer-related distress
  - Alcoholism

The Dark Ages

- Despite promising preliminary findings, human research with psychedelics became largely dormant
- Dormancy largely a reaction to the association of LSD with the 1960s counterculture

Abuse liability & Risks 2018

- Can cause harm in people with psychosis or predisposition
- For anybody, can cause fear, panic, confusion and potentially dangerous behavior
- Moderate elevations in pulse & blood pressure
- Headaches in day following use
- Persisting perceptual changes
- No addiction



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Invited review

The abuse potential of medical psilocybin according to the 8 factors of the Controlled Substances Act

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ABSTRACT

This review assesses the abuse potential of medically-administered psilocybin, following the structure of the 8 factors of the US Controlled Substances Act (CSA). Research suggests the potential safety and efficacy of psilocybin in treating cancer-related psychiatric distress and substance use disorders, setting the occasion for this review. A more extensive assessment of abuse potential according to an 8-factor analysis would eventually be required to guide appropriate schedule placement.

Psilocybin, like other 5-HT2A agonist classic psychedelics, has limited reinforcing effects, supporting marginal, transient non-human self-administration. Nonetheless, mushrooms with variable psilocybin content are used illicitly, with a few lifetime use occasions being normative among users. Potential harms include dangerous behavior in unprepared, unsupervised users, and exacerbation of mental illness in those with or predisposed to psychotic disorders. However, scope of use and associated harms are low compared to prototypical abused drugs, and the medical model addresses these concerns with dose control, patient screening, preparation and follow-up, and session supervision in a medical facility.

Conclusions: (1) psilocybin has an abuse potential appropriate for CSA scheduling if approved as medicine; (2) psilocybin can provide therapeutic benefits that may support the development of an approvable New Drug Application (NDA) but further studies are required which this review describes; (3) adverse effects of medical psilocybin are manageable when administered according to risk management approaches; and (4) although further study is required, this review suggests that placement in Schedule IV may be appropriate if a psilocybin-containing medicine is approved.

Safety Guidelines 2008

- Assisted in the approval of psychedelic studies by new scientists and universities

Original Papers

Psychopharm

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Human hallucinogen research: guidelines for safety

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RR Griffiths *Department of Psychiatry and Behavioral Sciences, Johns Hopkins University, School of Medicine, Baltimore, MD, USA; Department of Neuroscience, Johns Hopkins University, School of Medicine, Baltimore, MD, USA.*

Abstract

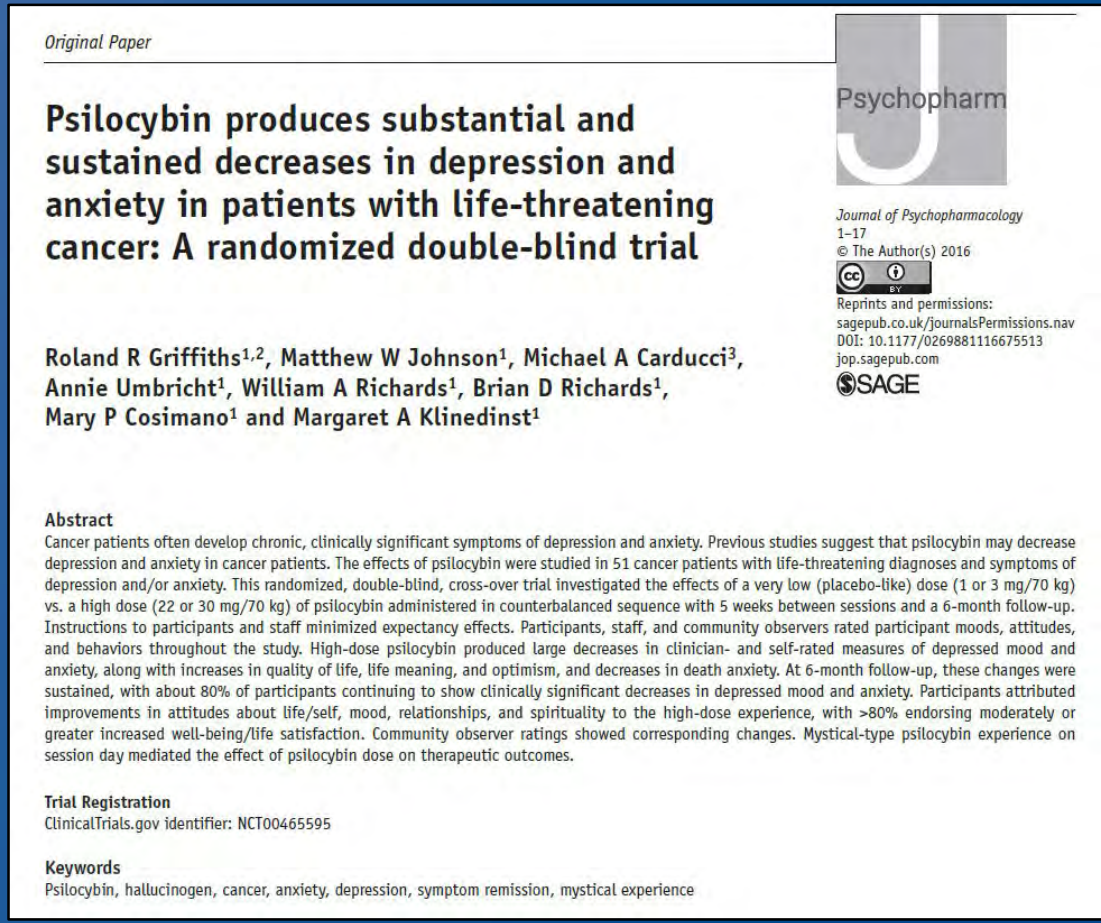
There has recently been a renewal of human research with classical hallucinogens (psychedelics). This paper first briefly discusses the unique history of human hallucinogen research, and then reviews the risks of hallucinogen administration and safeguards for minimizing these risks. Although hallucinogens are relatively safe physiologically and are not considered drugs of dependence, their administration involves unique psychological risks. The most likely risk is overwhelming distress during drug action ('bad trip'), which could lead to potentially dangerous behaviour such as leaving the study site. Less common are prolonged psychoses triggered by hallucinogens. Safeguards against these risks include the exclusion of volunteers with personal or family history of psychotic disorders or other severe psychiatric disorders, establishing trust and rapport between session monitors and volunteer before the session, careful volunteer preparation, a safe physical session environment and interpersonal support from at least two study monitors during the session. Investigators should probe for the relatively rare hallucinogen persisting perception disorder in follow-up contact. Persisting adverse reactions are rare when research is conducted along these guidelines. Incautious research may jeopardize participant safety and future research. However, carefully conducted research may inform the treatment of psychiatric disorders, and may lead to advances in basic science.

Key words
5-HT$_{2A}$ agonists; adverse reactions; DMT; entheogens; hallucinogens; human research; LSD; mescaline; psilocybin; psychedelics; safety guidelines

JOHNS HOPKINS
MEDICINE

Cancer Existential Distress 2016

- 51 patients
- Life threatening cancer
- Depression and/or anxiety disorder



Original Paper

Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with life-threatening cancer: A randomized double-blind trial

Roland R Griffiths[1,2], Matthew W Johnson[1], Michael A Carducci[3], Annie Umbricht[1], William A Richards[1], Brian D Richards[1], Mary P Cosimano[1] and Margaret A Klinedinst[1]

Psychopharm

Journal of Psychopharmacology
1–17

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Abstract

Cancer patients often develop chronic, clinically significant symptoms of depression and anxiety. Previous studies suggest that psilocybin may decrease depression and anxiety in cancer patients. The effects of psilocybin were studied in 51 cancer patients with life-threatening diagnoses and symptoms of depression and/or anxiety. This randomized, double-blind, cross-over trial investigated the effects of a very low (placebo-like) dose (1 or 3 mg/70 kg) vs. a high dose (22 or 30 mg/70 kg) of psilocybin administered in counterbalanced sequence with 5 weeks between sessions and a 6-month follow-up. Instructions to participants and staff minimized expectancy effects. Participants, staff, and community observers rated participant moods, attitudes, and behaviors throughout the study. High-dose psilocybin produced large decreases in clinician- and self-rated measures of depressed mood and anxiety, along with increases in quality of life, life meaning, and optimism, and decreases in death anxiety. At 6-month follow-up, these changes were sustained, with about 80% of participants continuing to show clinically significant decreases in depressed mood and anxiety. Participants attributed improvements in attitudes about life/self, mood, relationships, and spirituality to the high-dose experience, with >80% endorsing moderately or greater increased well-being/life satisfaction. Community observer ratings showed corresponding changes. Mystical-type psilocybin experience on session day mediated the effect of psilocybin dose on therapeutic outcomes.

Trial Registration

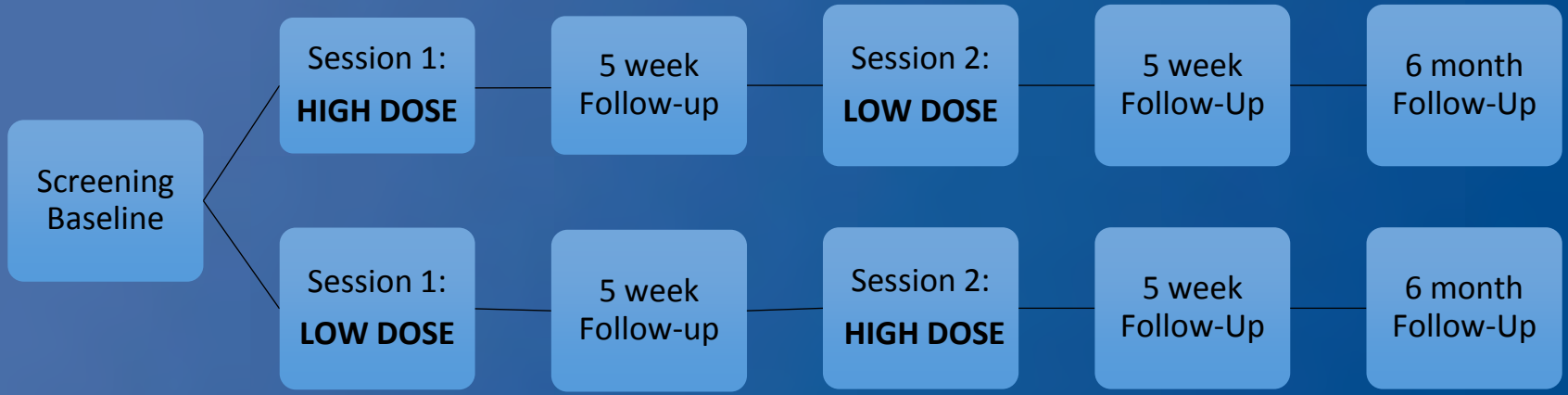
ClinicalTrials.gov identifier: NCT00465595

Keywords

Psilocybin, hallucinogen, cancer, anxiety, depression, symptom remission, mystical experience

Study Design

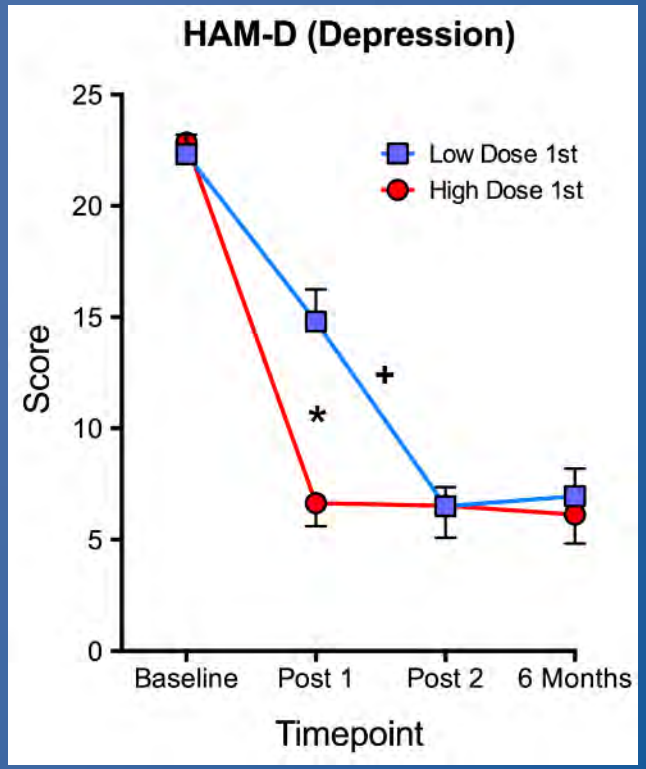
- Two psilocybin sessions 5 weeks apart
- 1 (or 3) mg/70 kg versus 22 (or 30) mg/70 kg



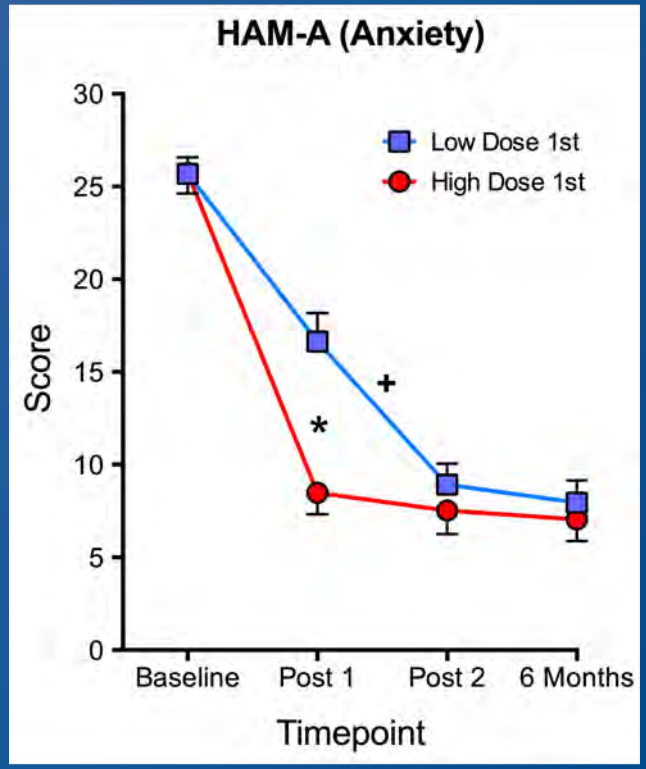
Serious adverse events

- No serious adverse events attributable to psilocybin

Lasting Antidepressant & Anti-Anxiety



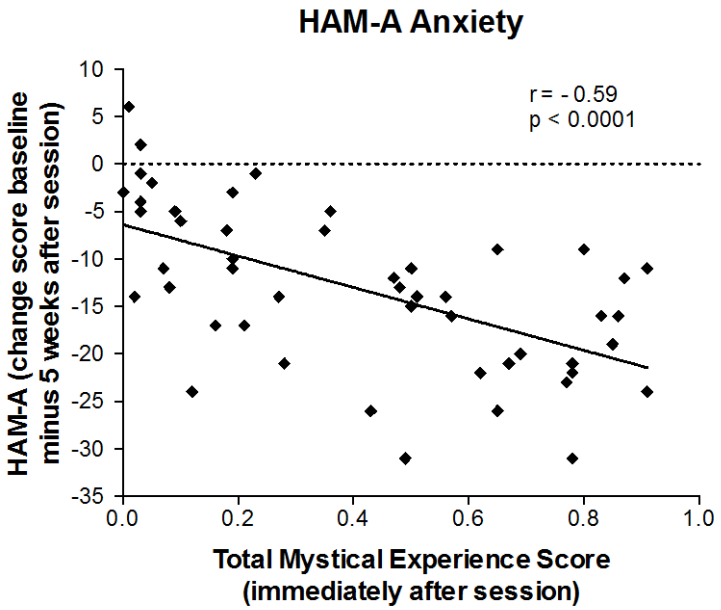
* Cohen's d= 1.30
+ Cohen's d= 3.08

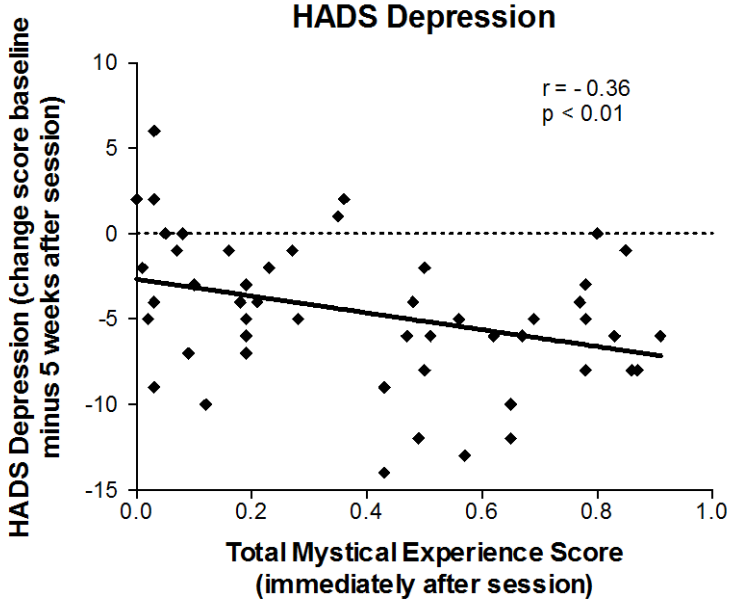


* Cohen's d= 1.22
+ Cohen's d= 3.71

Mystical Experience Correlated with Therapeutic Effects

JOHNS HOPKINS MEDICINE



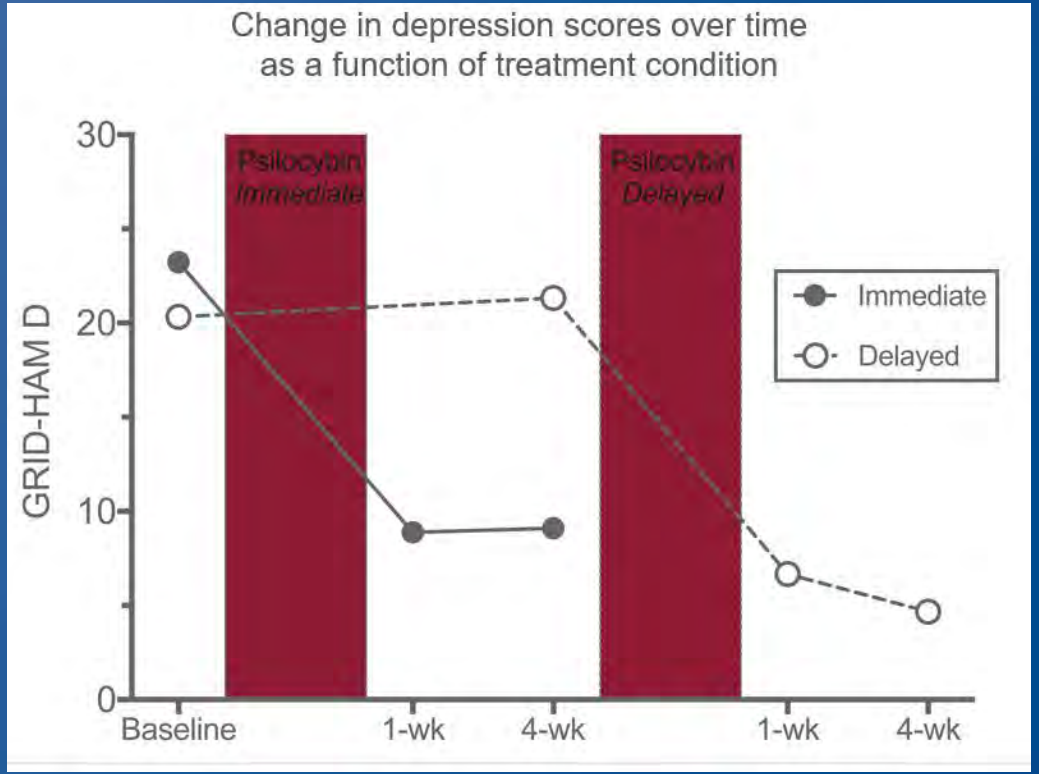


Consistent findings

- Cancer patients:
  - Grob et al., 2011
  - Ross et al., 2016
- Outside of cancer:
  - Carhart-Harris et al., 2016

Depression Pilot

- Wait-list control study
- Current n=12



Smoking Cessation Pilot 2014

- Feasibility and safety

Original Paper

Pilot study of the 5-HT_{2A}R agonist psilocybin in the treatment of tobacco addiction

Psychopharm

Matthew W Johnson[1], Albert Garcia-Romeu[1], Mary P Cosimano[1] and Roland R Griffiths[1,2]

Journal of Psychopharmacology
1–10

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Taylor & F
Taylor & Francis G

ORIGINAL ARTICLE

Long-term follow-up of psilocybin-facilitated smoking cessation

Matthew W. Johnson, PhD[a], Albert Garcia-Romeu, PhD[a], and Roland R. Griffiths, PhD[a,b]

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ABSTRACT

Background: A recent open-label pilot study ($N = 15$) found that two to three moderate to high doses (20 and 30 mg/70 kg) of the serotonin 2A receptor agonist, psilocybin, in combination with cognitive behavioral therapy (CBT) for smoking cessation, resulted in substantially higher 6-month smoking abstinence rates than are typically observed with other medications or CBT alone. *Objectives*: To assess long-term effects of a psilocybin-facilitated smoking cessation program at ≥12 months after psilocybin administration. *Methods*: The present report describes biologically verified smoking abstinence outcomes of the previous pilot study at ≥12 months, and related data on subjective effects of psilocybin. *Results*: All 15 participants completed a 12-month follow-up, and 12 (80%) returned for a long-term (≥16 months) follow-up, with a mean interval of 30 months (range = 16–57 months) between target-quit date (i.e., first psilocybin session) and long-term follow-up. At 12-month follow-up, 10 participants (67%) were confirmed as smoking abstinent. At long-term follow-up, nine participants (60%) were confirmed as smoking abstinent. At 12-month follow-up 13 participants (86.7%) rated their psilocybin experiences among the five most personally meaningful and spiritually significant experiences of their lives. *Conclusion*: These results suggest that in the context of a structured treatment program, psilocybin holds considerable promise in promoting

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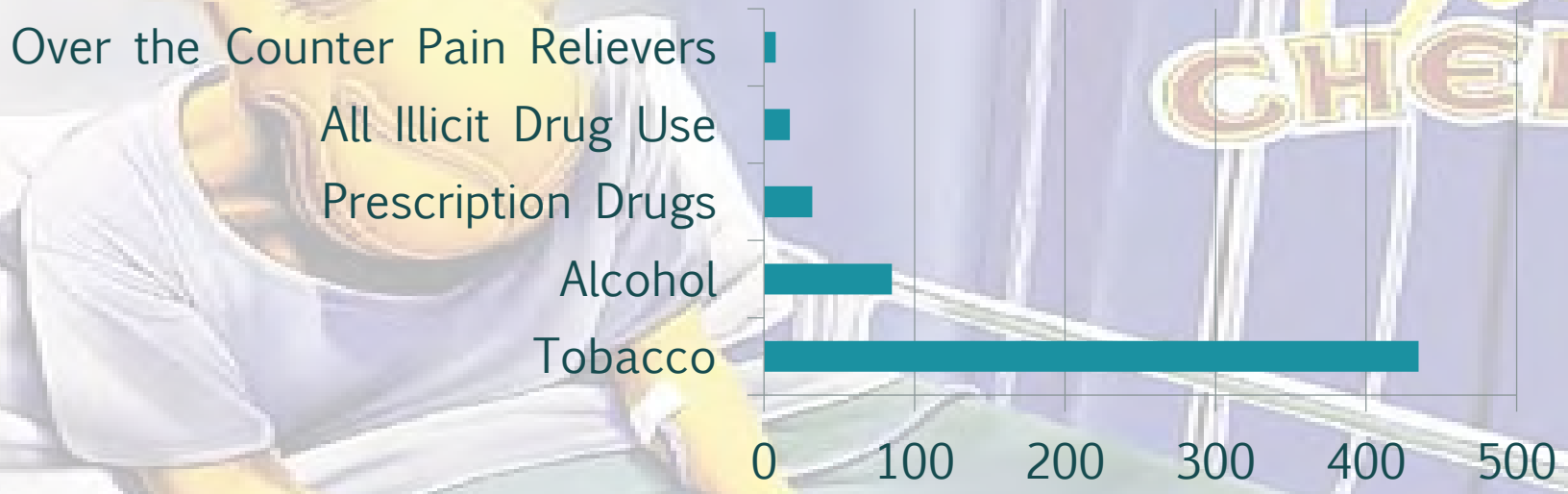
smoking cessation;
addiction; psilocybi
psychedelic; mystic
experience; spiritua

U.S. Drug Related Deaths Per Year (Thousands)

(UN Office on Drugs & Crime, 2009; Mokdad et al., 2004)



- ~5 millions deaths per year world wide (WHO, 2009)
- ~69% of U.S. smokers want to quit (CDC, 2011)
- Even effective medications (Chantix, Zyban, NRT) fail to help ~70-80% of patients remain smoke free for a year

TECH & SCIENCE

Kick Your Smoking Habit With...Magic Mushrooms?

BY PAULA MEJIA 9/11/14 AT 5:42 PM

MARTIN BOND/ALAMY

Table 1. Demographic and smoking characteristics, *N*=15.

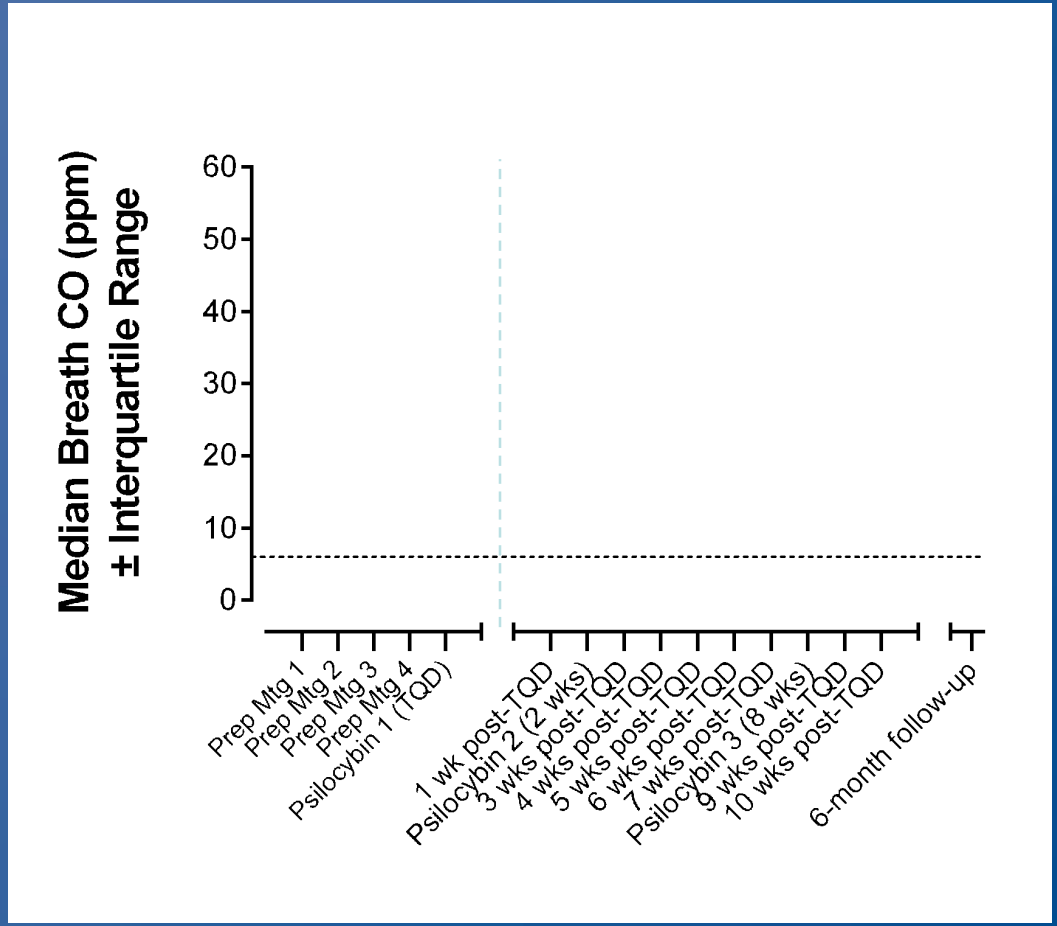
Categories	Mean (SD)	Range
Sex [a]	10 M, 5 F	
Age (years)	51 (10.5)	26-65
Education [b]		
Some college	4 (26.7)	
Bachelor's degree	7 (46.7)	
Graduate degree	4 (26.7)	
Cigarette dependence (FTCD) [c]	5.3 (1.3)	3-8
Years smoking	31 (9.9)	10-49
Previous quit attempts	6 (3.6)	2-12
Cigarettes/day at intake	19 (2.9)	15-25
Breath CO at intake	30 (9.9)	13-53
Urine cotinine at intake	1676 (594)	841-3212

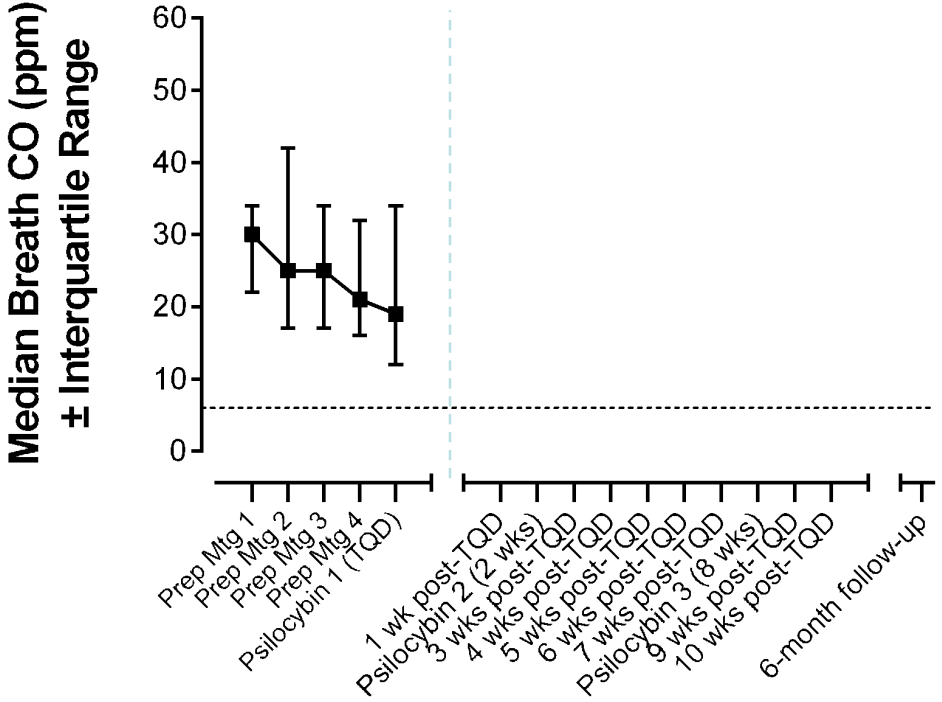
Pilot Study Timeline

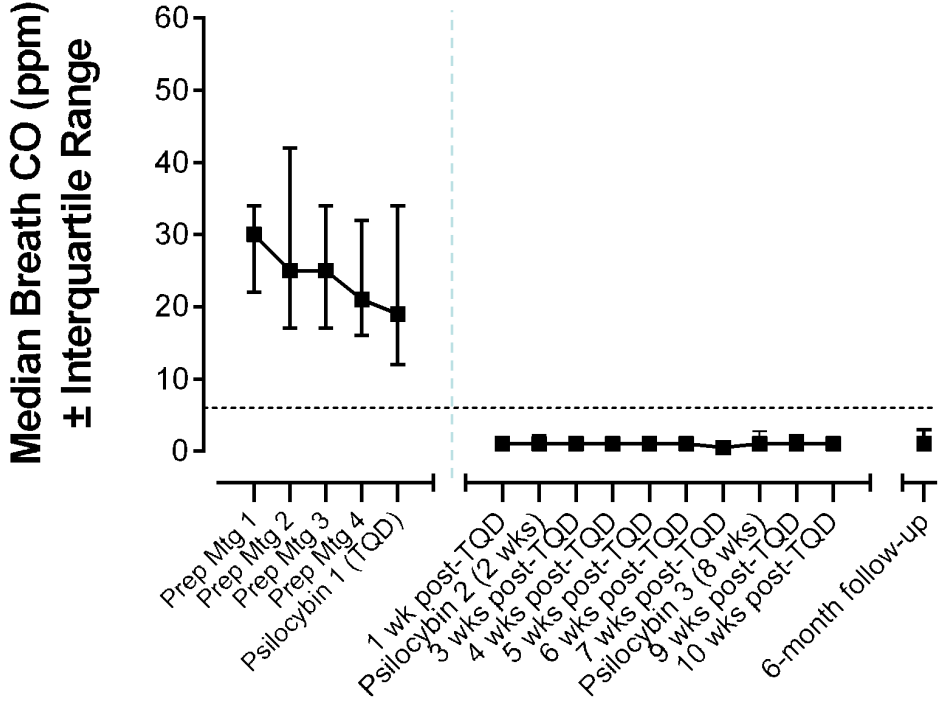
- 15 week protocol with weekly meetings
- Cognitive behavioral therapy
- 3 psilocybin sessions over 8 weeks (20-30 mg/70 kg)
- 1st Psilocybin session on target quit date

Serious adverse events

- No serious adverse events attributable to psilocybin


Median Breath CO (ppm)
± Interquartile Range
60
50
40
30
20
10
0
Prep Mtg 1
Prep Mtg 2
Prep Mtg 3
Prep Mtg 4
Psilocybin 1 (TQD)
1 wk post-TQD
Psilocybin 2 (2 wks)
3 wks post-TQD
4 wks post-TQD
5 wks post-TQD
6 wks post-TQD
7 wks post-TQD
Psilocybin 3 (8 wks)
9 wks post-TQD
10 wks post-TQD
6-month follow-up


Median Breath CO (ppm)
± Interquartile Range
60
50
40
30
20
10
0
Prep Mtg 1
Prep Mtg 2
Prep Mtg 3
Prep Mtg 4
Psilocybin 1 (TQD)
1 wk post-TQD
Psilocybin 2 (2 wks)
3 wks post-TQD
4 wks post-TQD
5 wks post-TQD
6 wks post-TQD
7 wks post-TQD
Psilocybin 3 (8 wks)
9 wks post-TQD
10 wks post-TQD
6-month follow-up


Median Breath CO (ppm)
± Interquartile Range
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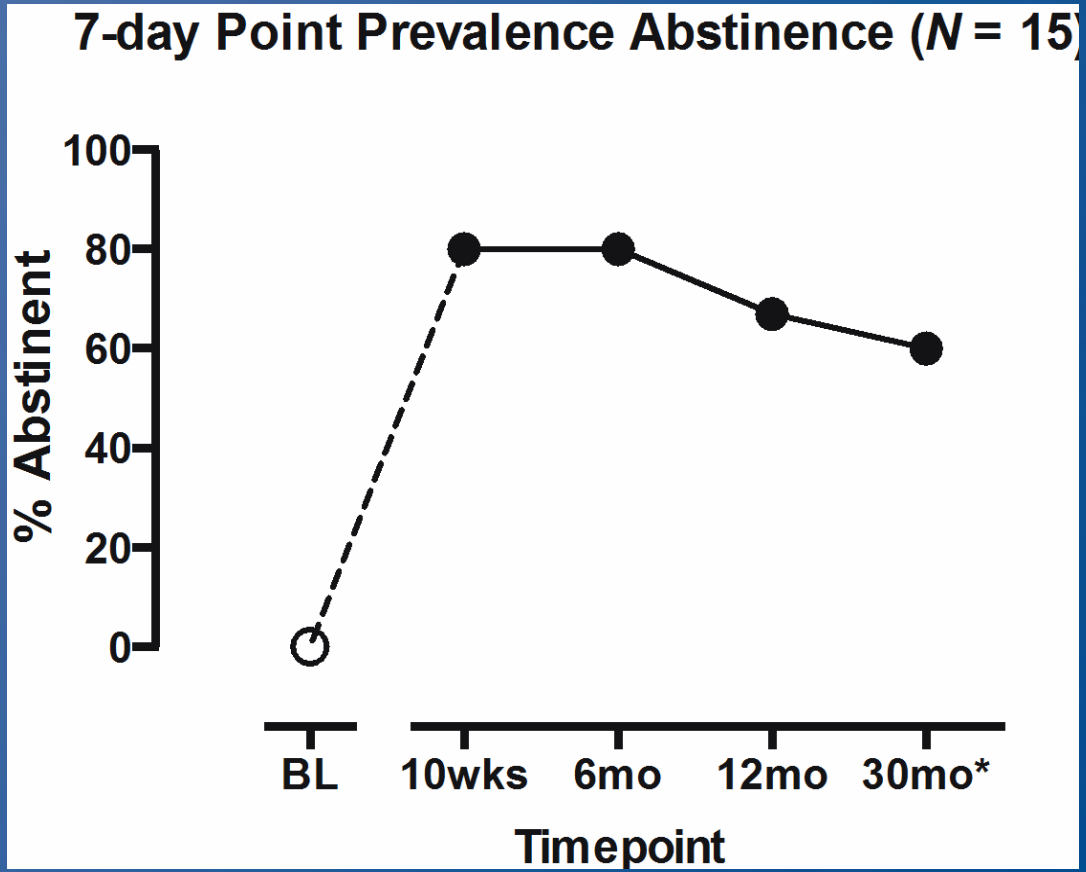
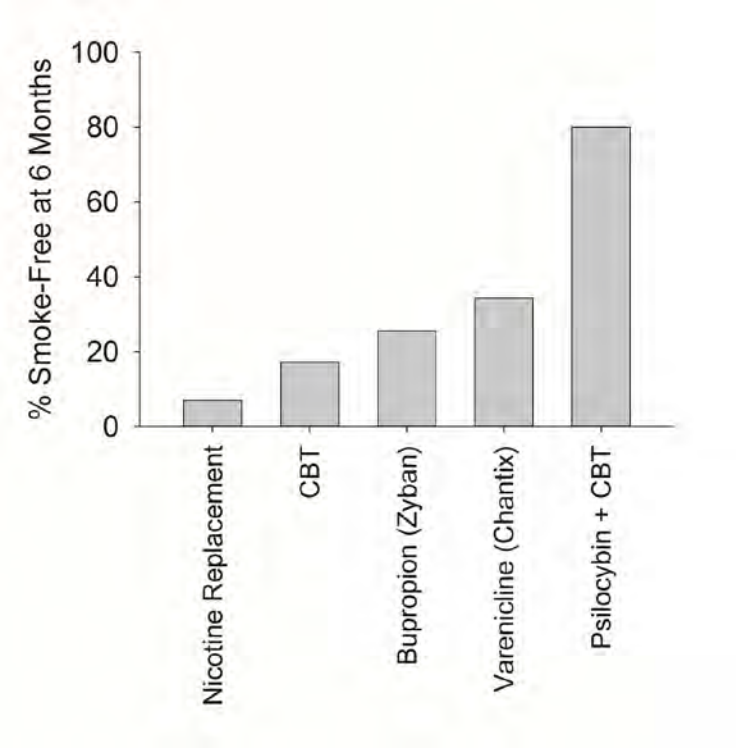
50
40
30
20
10
0
Prep Mtg 1
Prep Mtg 2
Prep Mtg 3
Prep Mtg 4
Psilocybin 1 (TQD)
1 wk post-TQD
Psilocybin 2 (2 wks)
3 wks post-TQD
4 wks post-TQD
5 wks post-TQD
6 wks post-TQD
7 wks post-TQD
Psilocybin 3 (8 wks)
9 wks post-TQD
10 wks post-TQD
6-month follow-up


7-day Point Prevalence Abstinence (N = 15)
100
80
60
40
20
0
% Abstinent
BL
10wks
6mo
12mo
30mo*
Timepoint

Success Rates Substantially Higher than Typical

(Hughes et., 2003; Jorenby et al., 2006; Sykes & Marks, 2001)



Mystical Experience in Smoking Cessation 2015

- Greater success in those who had mystical experience
- Mystical experience associated with craving reduction

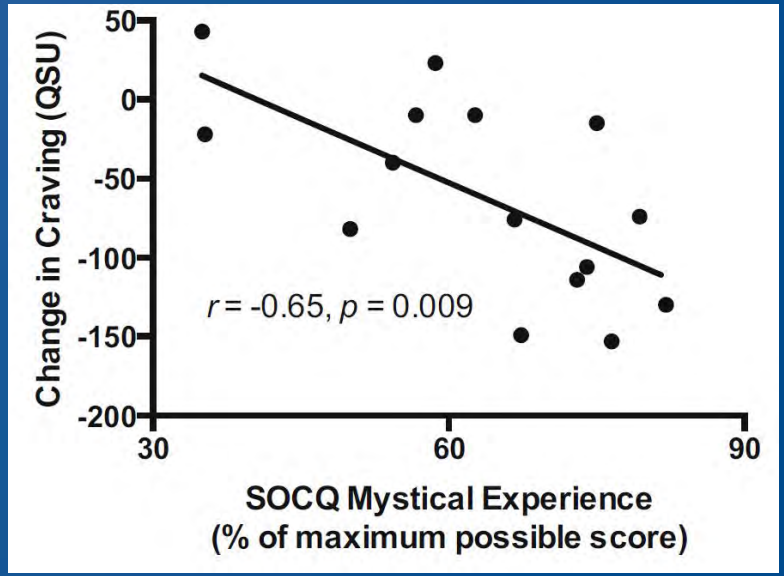
Current Drug Abuse Reviews, 2014, *7*, 157-164

Psilocybin-Occasioned Mystical Experiences in the Treatment of Tobacco Addiction

Albert Garcia-Romeu[1], Roland R. Griffiths[1,2] and Matthew W. Johnson[*,1]

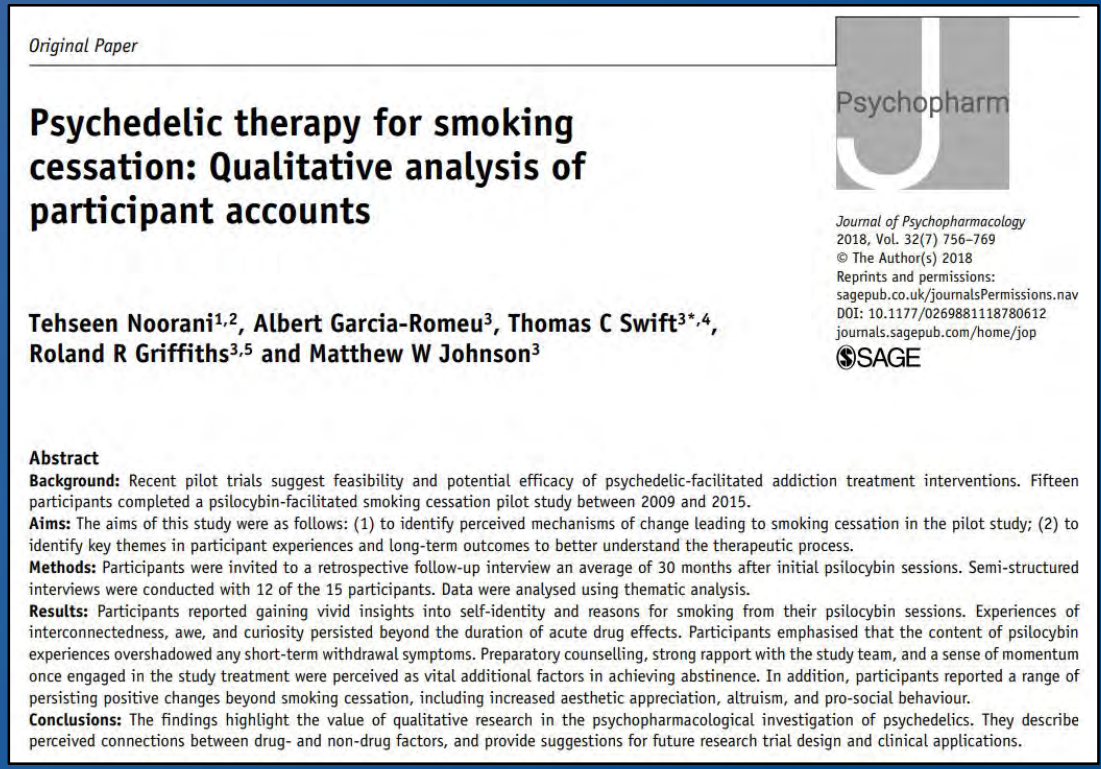
[1]*Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, USA*

[2]*Department of Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD, USA*



Qualitative analysis: Smoking Cessation, 2018

- Persisting sense of interconnectedness, awe, curiosity
- Reduced smoking withdrawal symptoms compared with previous quit attempts
- Other positive changes: Altruism, appreciation for aesthetics
- Insights: self-identity, smoking reasons



Original Paper

Psychedelic therapy for smoking cessation: Qualitative analysis of participant accounts

Tehseen Noorani[1,2], Albert Garcia-Romeu[3], Thomas C Swift[3*,4], Roland R Griffiths[3,5] and Matthew W Johnson[3]

Psychopharm

Journal of Psychopharmacology
2018, Vol. 32(7) 756–769

DOI: 10.1177/0269881118780612
journals.sagepub.com/home/jop
SAGE

Abstract

Background: Recent pilot trials suggest feasibility and potential efficacy of psychedelic-facilitated addiction treatment interventions. Fifteen participants completed a psilocybin-facilitated smoking cessation pilot study between 2009 and 2015.

Aims: The aims of this study were as follows: (1) to identify perceived mechanisms of change leading to smoking cessation in the pilot study; (2) to identify key themes in participant experiences and long-term outcomes to better understand the therapeutic process.

Methods: Participants were invited to a retrospective follow-up interview an average of 30 months after initial psilocybin sessions. Semi-structured interviews were conducted with 12 of the 15 participants. Data were analysed using thematic analysis.

Results: Participants reported gaining vivid insights into self-identity and reasons for smoking from their psilocybin sessions. Experiences of interconnectedness, awe, and curiosity persisted beyond the duration of acute drug effects. Participants emphasised that the content of psilocybin experiences overshadowed any short-term withdrawal symptoms. Preparatory counselling, strong rapport with the study team, and a sense of momentum once engaged in the study treatment were perceived as vital additional factors in achieving abstinence. In addition, participants reported a range of persisting positive changes beyond smoking cessation, including increased aesthetic appreciation, altruism, and pro-social behaviour.

Conclusions: The findings highlight the value of qualitative research in the psychopharmacological investigation of psychedelics. They describe perceived connections between drug- and non-drug factors, and provide suggestions for future research trial design and clinical applications.

BREAKTHROUGH

NEW EPISODE | TUESDAY MAY 2 10/9C |

ADDICTION: A PSYCHEDELIC CURE?

Renegade researchers are exploring a controversial cure for our vices: psychedelic drugs.

Survey Study of Smoking Cessation

- 1110 people claiming to have quit or reduced smoking as the result of a psychedelic experience

Original Paper

An online survey of tobacco smoking cessation associated with naturalistic psychedelic use

Matthew W Johnson[1], Albert Garcia-Romeu[1], Patrick S Johnson[2] and Roland R Griffiths[1,3]

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1–10

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jop.sagepub.com
SAGE

Abstract

Data suggest psychedelics such as psilocybin and lysergic acid diethylamide (LSD) may hold therapeutic potential in the treatment of addictions, including tobacco dependence. This retrospective cross-sectional anonymous online survey characterized 358 individuals (52 females) who reported having quit or reduced smoking after ingesting a psychedelic in a non-laboratory setting ⩾1 year ago. On average, participants smoked 14 cigarettes/day for 8 years, and had five previous quit attempts before their psychedelic experience. Of the 358 participants, 38% reported continuous smoking cessation after psychedelic use (quitters). Among quitters, 74% reported >2 years' abstinence. Of the 358 participants, 28% reported a persisting reduction in smoking (reducers), from a mode of 300 cigarettes/month before, to a mode of 1 cigarette/month after the experience. Among reducers, 62% reported >2 years of reduced smoking. Finally, 34% of the 358 participants (relapsers) reported a temporary smoking reduction before returning to baseline smoking levels, with a mode time range to relapse of 3–6 months. Relapsers rated their psychedelic experience significantly lower in personal meaning and spiritual significance than both other groups. Participants across all groups reported less severe affective withdrawal symptoms (e.g. depression, craving) after psychedelic use compared with previous quit attempts, suggesting a potential mechanism of action for psychedelic-associated smoking cessation/reduction. Changes in life priorities/values were endorsed as the most important psychological factor associated with smoking cessation/reduction. Results suggest psychedelics may hold promise in treating tobacco addiction as potentially mediated by spiritual experience, changed priorities/values, and improved emotional regulation.

Keywords

Hallucinogen, tobacco, smoking cessation, nicotine, addiction, psilocybin, psychedelic, mystical experience

Table 4. Withdrawal severity after psychedelic-associated smoking cessation or reduction in comparison with previous quit attempts. Modal responses shown in bold.

Withdrawal symptoms' severity (*n*)[a]	Much less severe, *n* (%)	Less severe, *n* (%)	Same, *n* (%)	More severe, *n* (%)	Much more severe, *n* (%)
Weight gain (258)	77 (29.8)	49 (19.0)	**121 (46.9)**	8 (3.1)	3 (1.2)
Increased eating (269)	71 (26.4)	61 (22.7)	**121 (45.0)**	14 (5.2)	2 (0.7)
Digestive problems (242)	69 (28.5)	40 (16.5)	**127 (52.5)**	6 (2.5)	0 (0)
Nausea (240)	74 (30.8)	41 (17.1)	**118 (49.2)**	7 (2.9)	0 (0)
Headaches (255)	84 (32.9)	54 (21.2)	**106 (41.6)**	9 (3.5)	2 (0.8)
Drowsiness (251)	80 (31.9)	42 (16.7)	**123 (49.0)**	6 (2.4)	0 (0)
Fatigue (257)	74 (28.8)	55 (21.4)	**119 (46.3)**	8 (3.1)	1 (0.4)
Insomnia (257)	76 (29.6)	51 (19.8)	**122 (47.5)**	5 (1.9)	3 (1.2)
Heart pounding/sweating (237)	78 (32.9)	29 (12.2)	**125 (52.7)**	4 (1.7)	1 (0.4)
Difficulty concentrating (268)	88 (32.8)	67 (25.0)	**104 (38.8)**	7 (2.6)	2 (0.7)
Anxiety (268)	**93 (34.7)**	72 (26.9)	**93 (34.7)**	6 (2.2)	4 (1.5)
Restlessness (272)	**92 (33.8)**	76 (27.9)	90 (33.1)	7 (2.6)	7 (2.6)
Depression/low mood (271)	**114 (42.1)**	69 (25.5)	80 (29.5)	7 (2.6)	1 (0.4)
Irritability (277)	**118 (42.6)**	73 (26.4)	73 (26.4)	10 (3.6)	3 (1.1)
Craving tobacco (284)	**133 (46.8)**	89 (31.3)	52 (18.3)	4 (1.4)	6 (2.1)

[a]Sample size varies by symptom (range = 237–284), as some participants reported no previous quit attempts as a basis for comparison, and others had never experienced particular withdrawal symptoms. Percentages were calculated based on the number of individuals who reported a particular withdrawal symptom.

One survey participant sent in a “selfie” of the last cigarette she ever smoked

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Randomized Comparative Efficacy Trial

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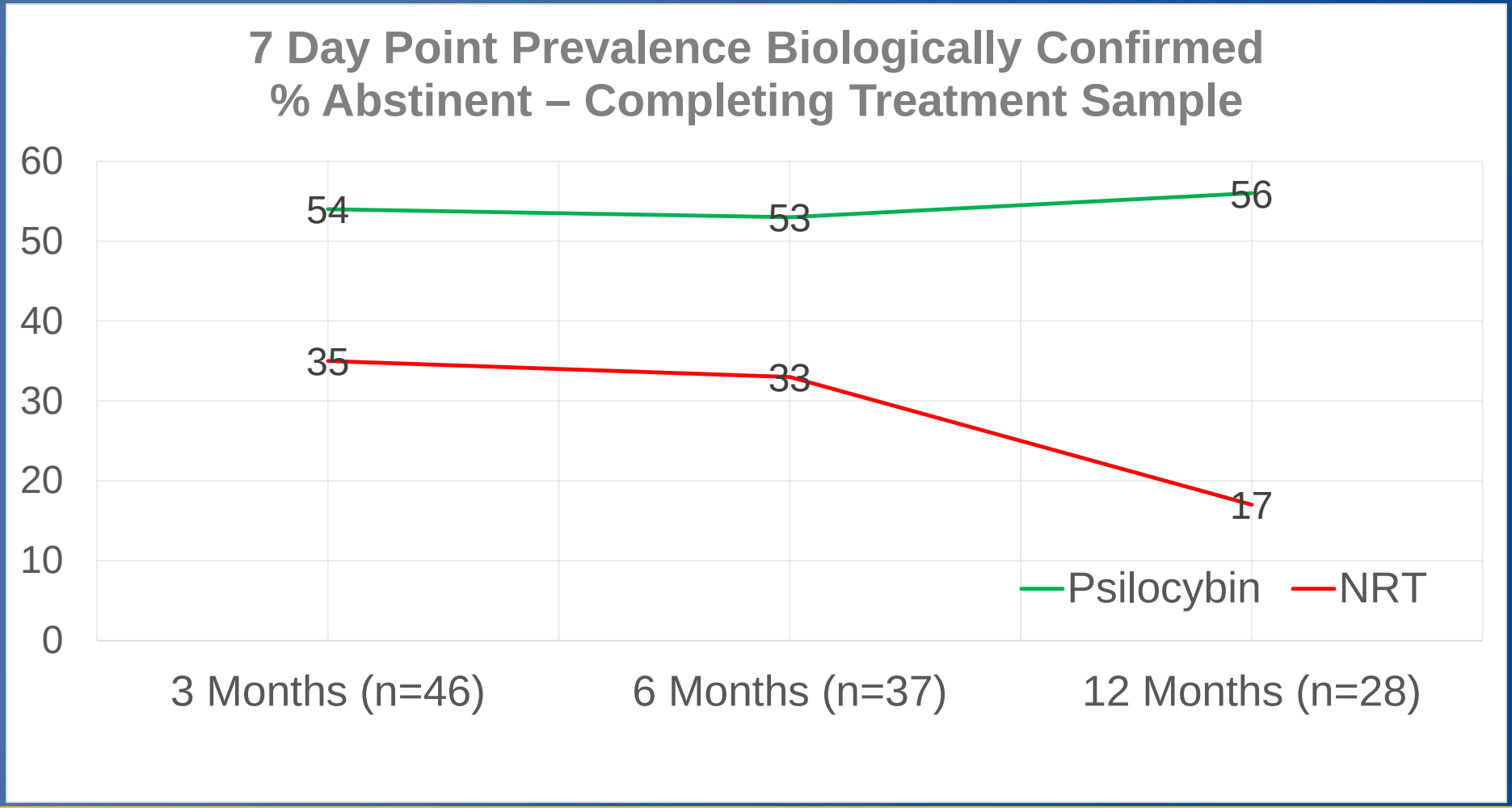
- 80 treatment-resistant smokers
- Randomized to psilocybin or nicotine patch
- Same cognitive behavior therapy
- 1 psilocybin session


7 Day Point Prevalence Biologically Confirmed
% Abstinent – Completing Treatment Sample
60
50
40
30
20
10
0
54
53
56
35
33
17
Psilocybin
NRT
3 Months (n=46)
6 Months (n=37)
12 Months (n=28)

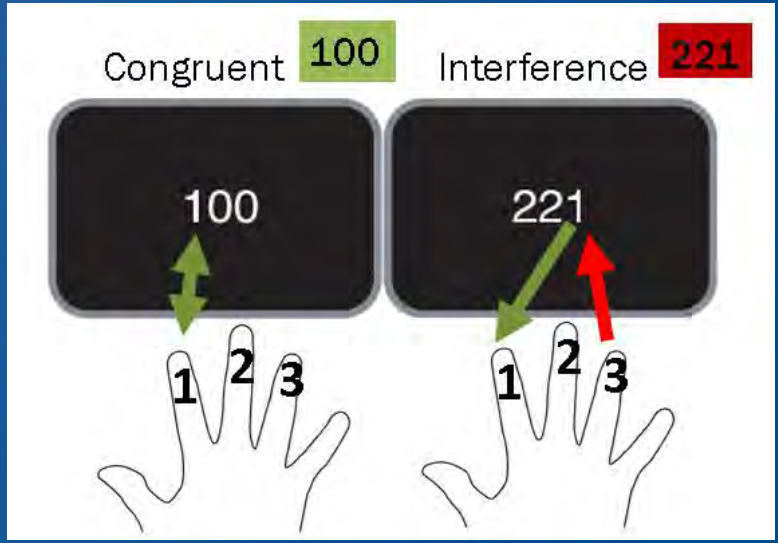
Psilocybin improves cognitive control and downregulates parietal cortex in treatment-seeking smokers

M. R. McKenna[1], J. R. Fedota[1], A. Garcia-Romeu[2], R. R. Griffiths[2], M. W. Johnson[2], and E. A. Stein[1]

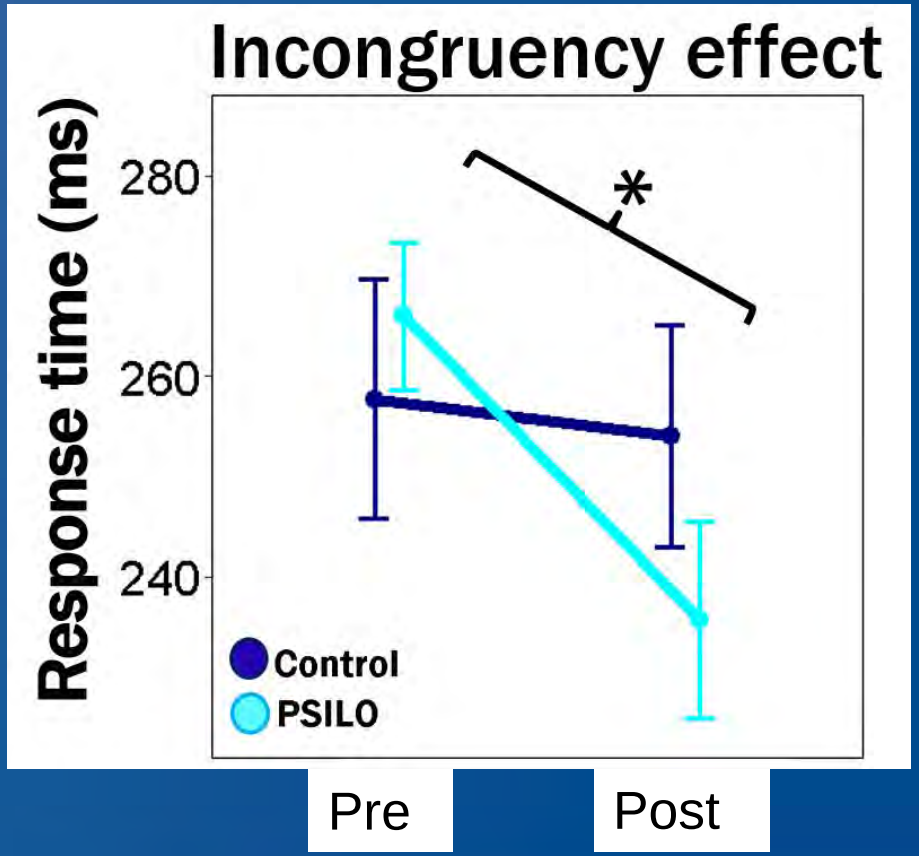
Neuroimaging Research Branch, National Institute on Drug Abuse, Intramural Research Program, National Institutes of Health, Baltimore, MD[1]
Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD[2]

Preliminary Cognitive and fMRI Results (17 Psilocybin, 10 NRT)

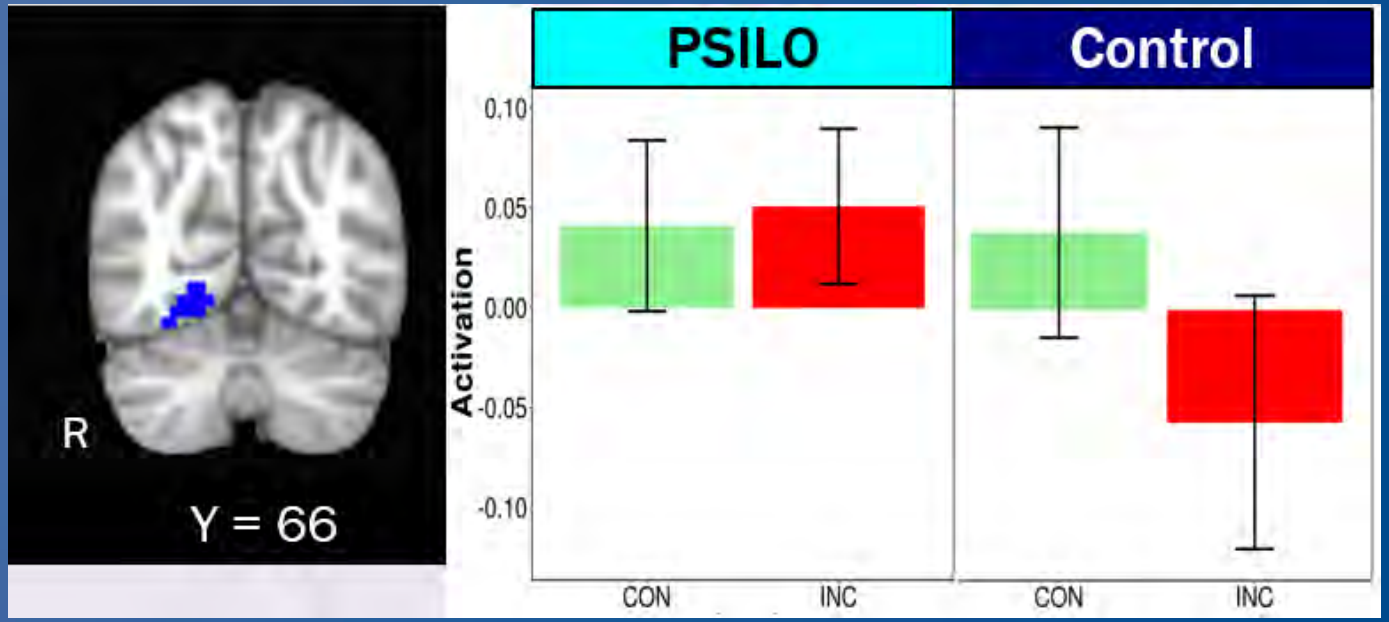
- Multi-Source Interference Task (MSIT) (Bush & Shin, 2006)
  - Cognitive interference
  - Congruency effect:
    - Reaction time of incongruent – congruent trials



Psilocybin group shows less “cognitive interference” the day after quitting



Normalization of task associated fMRI response in the right lingual gyrus the day after quitting for the psilocybin group



Alcohol Dependence Pilot

- 10 alcohol-dependent participants
- Motivational Enhancement Therapy
- 2 sessions of .3 mg/kg and .4 mg/kg psilocybin

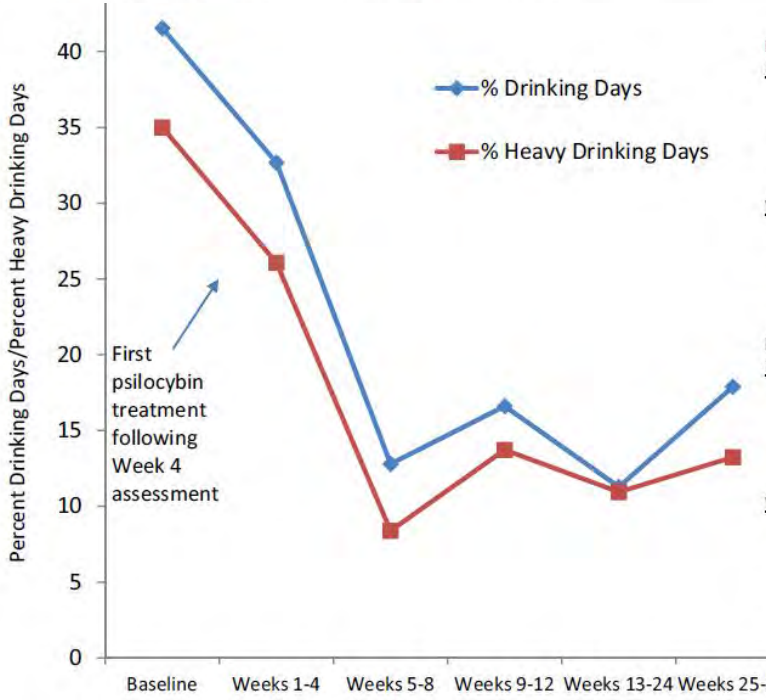
Original Paper

Psychopharm

Journal of Psychopharmacology
2015, Vol. 29(3) 289–299

Psilocybin-assisted treatment for alcohol dependence: A proof-of-concept study

Michael P Bogenschutz[1], Alyssa A Forcehimes[1], Jessica A Pommy[1], Claire E Wilcox[1], PCR Barbosa[2] and Rick J Strassman[1]



Drinking Days

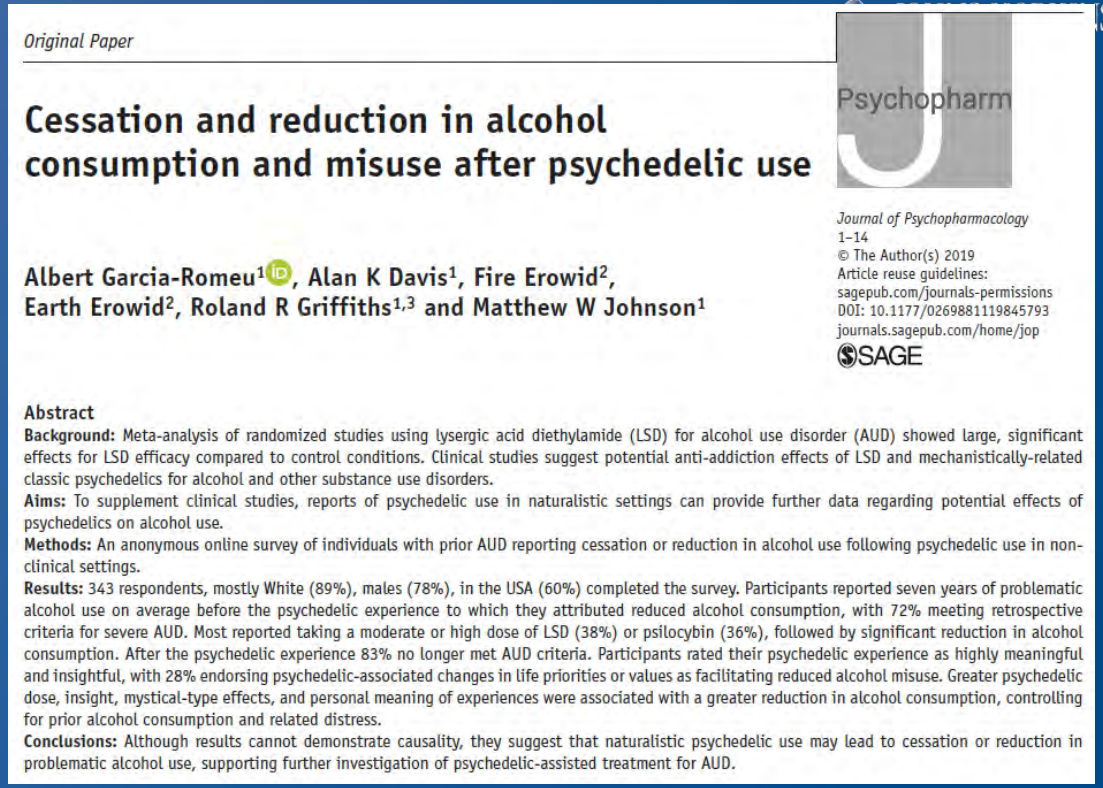
Baseline vs.		
Weeks 1-4	$p = .164$	$d = 0.490$
Weeks 5-8	$p = .009$	$d = 1.194$
Weeks 9-12	$p = .015$	$d = 1.033$
Weeks 13-24	$p = .006$	$d = 1.332$
Weeks 25-36	$p = .007$	$d = 1.187$
Weeks 1-4 vs.		
Weeks 5-8	$p = .016$	$d = 1.109$
Weeks 9-12	$p = .033$	$d = 0.869$
Weeks 13-24	$p = .014$	$d = 1.163$
Weeks 25-36	$p = .013$	$d = 1.036$

Heavy Drinking Days

Baseline vs.		
Weeks 1-4	$p = .158$	$d = 0.492$
Weeks 5-8	$p = .007$	$d = 1.249$
Weeks 9-12	$p = .019$	$d = 0.985$
Weeks 13-24	$p = .010$	$d = 1.161$
Weeks 25-36	$p = .004$	$d = 1.383$
Weeks 1-4 vs.		
Weeks 5-8	$p = .022$	$d = 1.046$
Weeks 9-12	$p = .059$	$d = 0.750$
Weeks 13-24	$p = .038$	$d = 0.876$
Weeks 25-36	$p = .018$	$d = 1.040$

Survey Study of Alcohol Cessation

- 343 people claiming to have quit or reduced smoking as the result of a psychedelic experience
- 83% no longer qualified as having a alcohol use disorder



Original Paper

Cessation and reduction in alcohol consumption and misuse after psychedelic use

Albert Garcia-Romeu[1], Alan K Davis[1], Fire Erowid[2], Earth Erowid[2], Roland R Griffiths[1,3] and Matthew W Johnson[1]

Journal of Psychopharmacology
1–14

DOI: 10.1177/0269881119845793
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SAGE

Abstract

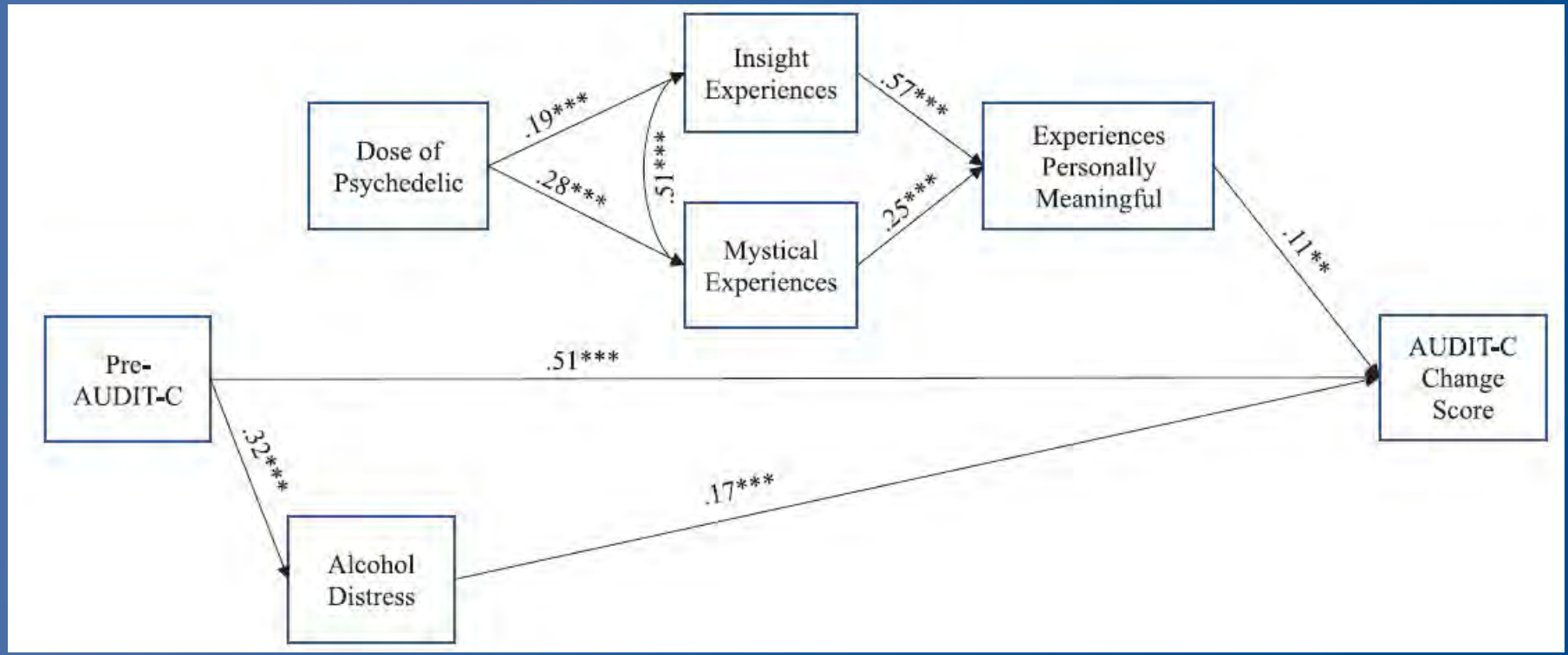
Background: Meta-analysis of randomized studies using lysergic acid diethylamide (LSD) for alcohol use disorder (AUD) showed large, significant effects for LSD efficacy compared to control conditions. Clinical studies suggest potential anti-addiction effects of LSD and mechanistically-related classic psychedelics for alcohol and other substance use disorders.

Aims: To supplement clinical studies, reports of psychedelic use in naturalistic settings can provide further data regarding potential effects of psychedelics on alcohol use.

Methods: An anonymous online survey of individuals with prior AUD reporting cessation or reduction in alcohol use following psychedelic use in non-clinical settings.

Results: 343 respondents, mostly White (89%), males (78%), in the USA (60%) completed the survey. Participants reported seven years of problematic alcohol use on average before the psychedelic experience to which they attributed reduced alcohol consumption, with 72% meeting retrospective criteria for severe AUD. Most reported taking a moderate or high dose of LSD (38%) or psilocybin (36%), followed by significant reduction in alcohol consumption. After the psychedelic experience 83% no longer met AUD criteria. Participants rated their psychedelic experience as highly meaningful and insightful, with 28% endorsing psychedelic-associated changes in life priorities or values as facilitating reduced alcohol misuse. Greater psychedelic dose, insight, mystical-type effects, and personal meaning of experiences were associated with a greater reduction in alcohol consumption, controlling for prior alcohol consumption and related distress.

Conclusions: Although results cannot demonstrate causality, they suggest that naturalistic psychedelic use may lead to cessation or reduction in problematic alcohol use, supporting further investigation of psychedelic-assisted treatment for AUD.


Insight Experiences
Dose of Psychedelic
Mystical Experiences
Experiences Personally Meaningful
Pre-AUDIT-C
AUDIT-C Change Score
Alcohol Distress
.19***
.28***
.51***
.57***
.25***
.11**
.51***
.32***
.17***

Understanding Psychedelic Behavior Change

Common Mechanisms?

- Narrowing of behavioral and mental repertoire
  - Addiction broadly defined
  - Supported by overly rigid brain networks

Endogenous role for 5-HT2A receptors in modulating meaning and mental/behavioral plasticity?

The Dope Slap Effect

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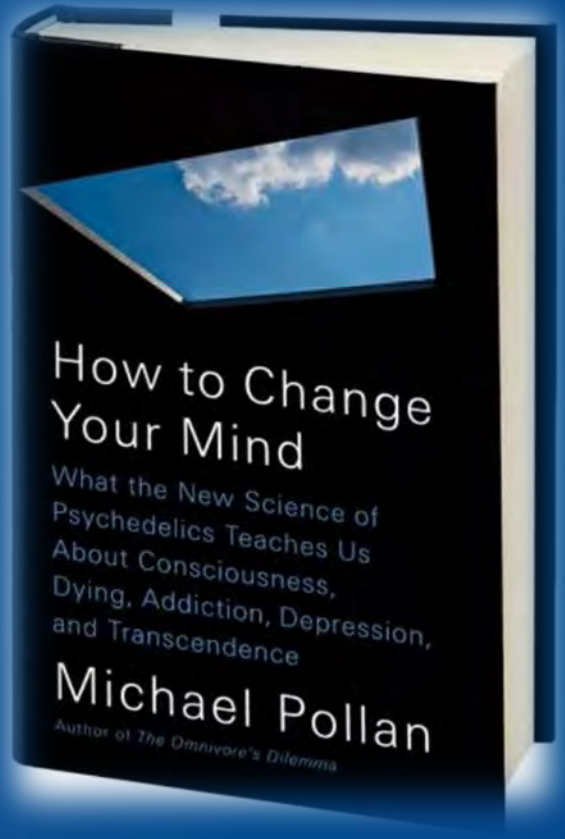
“Matt Johnson believes that psychedelics can be used to change all sorts of behaviors, not just addiction. The key, in his view, is their power to occasion a sufficiently dramatic experience to ‘dope-slap people out of their story...’ Psychedelics open a window of mental flexibility in which people can let go of the mental models we use to organize reality.’”



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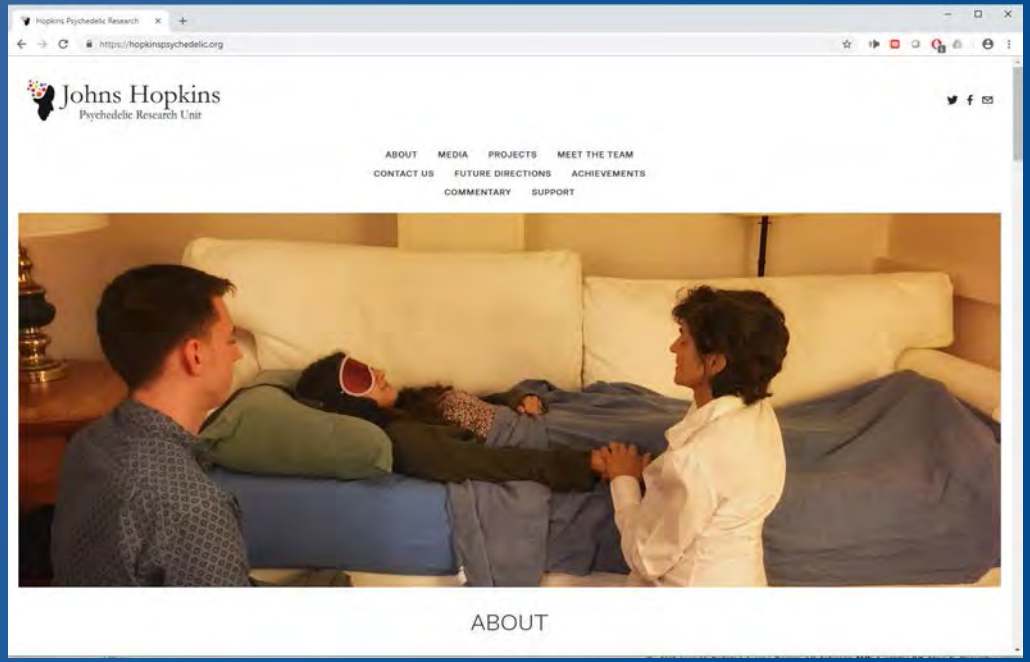

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