

Background

- Both trait and state boredom ^{2, 9} are strong correlates of depression.
- Boredom is also strongly associated with substance misuse and other indices of compromised mental health and well-being ⁴.
- Conversely, suggestive research findings have indicated that psychedelic use in controlled conditions may be effective in reducing clinical depression ^{5, 7}, some types of substance abuse ⁶, and certain psychedelics can be efficacious for reducing PTSD symptoms ⁸.
- It is not known whether these types of effects are observed when psychedelics are used recreationally.
- Moreover, there is a scarcity of research exploring the effects of psychedelic use on boredom.
- Thus, it is unknown whether the relationships between recreational psychedelic use and the severity of boredom, depression, and trauma symptoms are similar to what has been reported with the controlled, therapeutic use of some types of psychedelics (i.e. a negative association) or whether they are more akin to the positive associations typically observed with the recreational use of other psychoactive substances (e.g. cocaine).
- We conducted two studies to examine these questions.
 - Due to limitations in study methodology, Study 1 was unable to separate exclusive psychedelic users from poly-substance users, precluding any conclusions about the nature of the relationship between recreational psychedelic use and the variables of interest.
- In order to provide a nuanced understanding of the differences between psychedelic users and individuals who use other types of substances, Study 2 used screening criteria to identify:
 1. Individuals who use LSD, Psilocybin, and/or Ketamine exclusively (with the exception of alcohol and marijuana)
 2. Individuals who use other substances but do not use psychedelics
 3. Individuals who do not use any substances (with the exception of alcohol and marijuana)

Purpose & Hypotheses

Examine recreational psychedelic users' symptoms of depression, state and trait boredom, traumatic life events, and trauma symptoms as compared to (a) individuals who use other substances recreationally, and (b) individuals who do not use substances (with the exception of alcohol and marijuana).

Methods

Participants

Study 1: Demographic Data		Study 2: Demographic Data		
	N(%)		N(%)	M(SD)
Participants	507	Participants	297	
Used Psychedelics	184 (36%)	Psychedelics	100 (33.6%)	
Didn't Use Psychedelics	323 (64%)	Other Substances	97 (32.7%)	
		No Substances	100 (33.6%)	33.82(11)
Age		Age		
Under 21	12 (2.4%)	Gender		
21-34	333 (65.7%)	Male	161 (54.2%)	
35-44	89 (17.6%)	Female	133 (44.8%)	
45-54	40 (7.9%)	Education		
55-64	24 (4.7%)	Some High School	8 (2.7%)	
65+	9 (1.8%)	H.S. Diploma/GED	35 (11.8%)	
Gender		Some College	70 (23.6%)	
Male	235 (46.4%)	College Degree	132 (44.4%)	
Female	272 (53.6%)	Graduate Degree	52 (17.5%)	
		Employment		
		Employed for wages	199 (67%)	
		Unemployed	98 (33%)	

Study 2: Frequency, Duration, and Dosage of Psychedelic, Alcohol, and Marijuana Use					
	Ketamine	LSD	Psilocybin	Alcohol	Marijuana
N	100	100	100	297	297
Frequency (%)					
Never	32%	26%	13%	22%	46%
Every few months	34%	39%	44%	22%	17%
Monthly	23%	25%	29%	19%	15%
Weekly	8%	6%	13%	30%	10%
Daily	3%	4%	1%	7%	11%
Dosage (%)					
Small	31%	26%	32%	32%	22%
Moderate	35%	41%	49%	38%	22%
Large	2%	7%	6%	8%	10%
Duration (%)					
0-1 Years	18%	19%	18%	6%	8%
1-5 Years	33%	29%	41%	24%	23%
5+ Years	17%	26%	28%	48%	23%

Note: The percentages for the dose and duration variables do not equal 100 due to the percentage of participants who indicated not using that particular substance.

Measures

Self-reported frequency, duration, and dosage of alcohol, marijuana, stimulants, opiates, sedatives, inhalants, LSD, Ketamine, and Psilocybin.

Boredom Measures

- The Boredom Proneness Scale (BPS) ²
- The State Boredom Measure (SBM) ⁹

Depression

- Beck's Depression Inventory (BDI) ¹

Trauma Measures (Study 2 Only)

- Adverse Childhood Experiences (ACE) ³
- PTSD Checklist for DSM-5 (PCL-5) ¹⁰

Procedure

- Recruited via Amazon's Mechanical Turk
- All participants completed a computerized survey through Qualtrics survey platform

Results

Study 1

Self-Reported Psychedelic Use Frequency

Positively correlated with boredom proneness ($r = .36, p < .001$), recent/current state boredom ($r = .46, p < .001$), depressive symptoms ($r = .65, p < .001$), and all other substances included in the study (r 's = .29-.82, all p 's < .001).

Study 2

ANCOVAs controlling for individual differences in dose, duration, and frequency of psychedelic, alcohol, and marijuana use.

Boredom Proneness

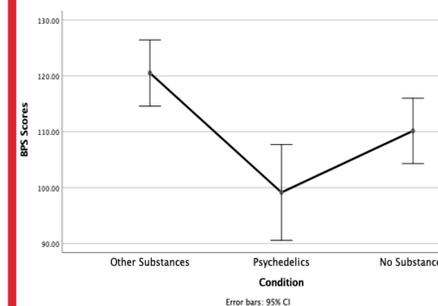


Figure 1. BPS scores differed significantly as a function of condition, $F(2, 289) = 8.04, p < .001, \eta_p^2 = .05$; other substance users scored significantly higher than psychedelic users ($M_{diff} = 21.38, SE = 6.50, p = .003, 95\% CI [5.72, 37.04]$) and non-substance users, ($M_{diff} = 10.36, SE = 3.56, p = .007, 95\% CI [2.28, 18.45]$)

State Boredom

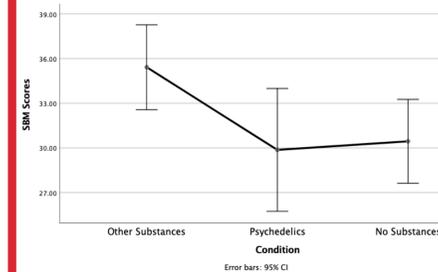


Figure 2. SBM scores differed significantly as a function of condition, $F(2, 289) = 5.23, p = .006, \eta_p^2 = .04$. Other substance users scored significantly higher than non-substance users, ($M_{diff} = 4.98, SE = 1.62, p = .007, 95\% CI [1.08, 8.87]$). Psychedelic users did not differ significantly from either group.

PTSD Symptoms

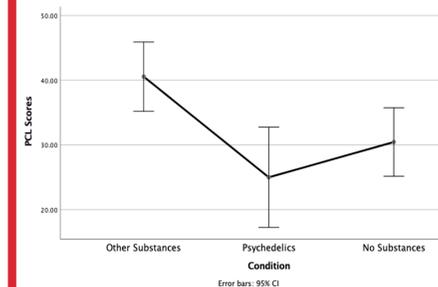


Figure 3. PCL scores differed significantly as a function of condition $F(2, 289) = 7.22, p = .001, \eta_p^2 = .05$. Other substance users scored significantly higher than psychedelic users, ($M_{diff} = 15.56, SE = 5.90, p = .026, 95\% CI [1.41, 29.70]$), and non-substance users, ($M_{diff} = 10.01, SE = 3.04, p = .003, 95\% CI [2.79, 17.41]$).

Adverse Childhood Experiences

ACES scores differed significantly as a function of condition, $F(2, 289) = 4.89, p = .008, \eta_p^2 = .03$. Other substance users scored significantly higher than non-substance users, ($M_{diff} = .89, SE = .33, p = .023, 95\% CI [.09, 1.69]$). Psychedelic users did not differ significantly from either group.

Results Cont.

Depression

BDI scores differed marginally as a function of condition, $F(2, 289) = 2.88, p = .058, \eta_p^2 = .02$. Although psychedelic users scored qualitatively lower than other ($M_{diff} = -7.98$) and non-substance users ($M_{diff} = -4.45$), these differences were not significant ($p = .243$ & $.758$, respectively).

Discussion

- The results of Study 1 suggested that psychedelic use was associated with high rates of state boredom, boredom proneness, and depressive symptoms.
- However, Study 2 demonstrated that when psychedelic use is considered in isolation (i.e., not confounded by the use of other drugs), it is in fact associated with lower rates of boredom proneness and fewer PTSD symptoms than other types of substance use.
- Notably, psychedelic users did not fare worse than non-substance users in any of the analyses, and interestingly, they displayed qualitatively lower scores than this group in many of the analyses.
- Although support was not found for fewer depressive symptoms, it is worth noting that on average, psychedelic users scored ~7 points lower on the BDI than did individuals who used other substances.
- Finally, these results must be interpreted with caution. Study 2 captured a subset of individuals who used psychedelics exclusively, however, the results of Study 1 suggest that typical psychedelic use does not occur in isolation and is often associated with other types of substance use.

References

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