

Cannabis' link to schizotypy: Phenomenon, measurement bias, or delusion?



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Introduction

- Cannabis users score higher on measures of schizotypy than non-users; however, groups do not differ when relevant biased items are removed^{1,2}
- Measurement issues with the SPQ-B might inadvertently make cannabis users appear more problematic

The Present Study:

To examine links between cannabis use and schizotypy in a large community sample

Methods

Participants

- Respondents were recruited from Amazon's MTurk platform
- 72.5% of the sample reported lifetime cannabis use
- Participants report using cannabis nearly 4 days per week, consuming ~34 grams per month, and experiencing mild cannabis problems ($M = 10.27$)

N	705
Mean age	36.15
% female	61
% Caucasian	68

Measures

- Demographics
- Cannabis Use (e.g. frequency, quantity, average high)
- Cannabis-Associated Problems Questionnaire (CAPQ)³
- Schizotypal Personality Questionnaire-Brief (SPQ-B)⁴

Results

- Cannabis users and non-users did not differ on total SPQ-B scores nor any of the three existing subscales when applying a Bonferroni adjusted p -value ($p < .0125$)

	t	p	Cohen's d
Global Scale	1.821	.069	.15
Cognitive-Perceptual	2.34	.020	.20
Interpersonal Deficits	0.48	.630	.04
Disorganized	2.24	.024	.19

- An EFA of the SPQ-B sans one item revealed a four-factor model accounting for 47.74% of the scale's variance: "Difficulty opening up to others," "Hyperawareness," "Odd or unusual behavior," and "Social Anxiety"
- Cannabis users score outscored non-users on the new "Odd or unusual behavior" subscale ($t = 2.91, p < .01$) but no other subscales
- Logistic-regression tests of differential item functioning (DIF) revealed that all but one item of the "Odd or unusual behaviors" subscale showed user-based bias

"Odd or unusual behavior" subscale items	DIF Present
3. "People sometimes comment on my odd or unusual mannerisms."	✓
6. "Some people think that I am a very bizarre person."	✓
13. "I sometimes use words in unusual ways."	
19. "I am an odd, unusual person."	✓

- Responses to Item 13 varied based on user status, with users endorsing "Yes" more frequently ($t = -2.67, p < .01, d = .22$)

Discussion

- Among our sample, cannabis users and non-users did not differ in their endorsements to the SPQ-B or its known subscales
- A new four-factor model demonstrated greater nuance in conceptualizing schizotypy features; still, cannabis use only varied with one subscale that contained biased items
- Our findings confirm previous concerns and call for cautious interpretation of differences between cannabis users and non-users on schizotypal personality features

References

- ¹Szoke, A., Galliot, A. M., Richard, J. R., Ferchiou, A., Baudin, G., Leboyer, M., & Schürhoff, F. (2014). Association between cannabis use and schizotypal dimensions—a meta-analysis of cross-sectional studies. *Psychiatry Research, 219*(1), 58-66.
- ²Earleywine, M. (2006). Schizotypy, marijuana, and differential item functioning. *Human Psychopharmacology: Clinical and Experimental, 21*(7), 455-461.
- ³Lavender, J.M., Looby, A., & Earleywine, M. (2008). A brief cannabis-associated problems questionnaire with less potential for bias. *Human Psychopharmacology, 23*, 487-493.
- ⁴Raine, A., & Benishay, D. (1995). The SPQ-B: A brief screening instrument for schizotypal personality disorder. *Journal of Personality Disorders, 9*(4), 346-355.

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