



Cannabis Use and Lower Probability of COVID-19 Pandemic Related Stress in the United States

Layan Ibrahim BS¹, Marvin Reid MBBS PhD², Denise C. Vidot PhD³

¹Vanderbilt University School of Medicine; ²The University of the West Indies, Mona; ³University of Miami School of Nursing and Health Studies



COVID-19
Cannabis Health Study

✉ layan.ibrahim@vanderbilt.edu

in <https://www.linkedin.com/in/layanibrahim/>

BACKGROUND

- ✦ Pandemic related stress (PRS): complex construct with subdomains of pandemic and psychosocial impact
- ✦ Previous studies reported cannabis use is associated with psychosocial impacts (stress relief and mitigation of boredom)
- ✦ Relationship between PRS and its components with cannabis use status is unclear

OBJECTIVE

- ✦ To determine the prevalence and the association of cannabis use with PRS along with the association of sociodemographic variables such as age, race/ethnicity, and gender on this relationship

METHODS

- ✦ Included 1,201 adults who completed the COVID-19 Cannabis Health Questionnaire from March 2020 to March 2021
- ✦ The sample was divided into two groups based on cannabis use status
- ✦ Chi-squared test was used for unadjusted comparisons of categorical variables by cannabis use status
- ✦ Logistic models were employed to assess the relationship between measures of PRS by cannabis use status

RESULTS

Table 1: Age and race/ethnicity of COVID-19 Cannabis Health Questionnaire respondents by cannabis use status

| Cannabis Use Status | Total | Non-cannabis users in the past 30 days | Cannabis users in the past 30 days | p-Value |
|--|-------------------|--|------------------------------------|---------|
| Age (yrs); N, mean (sd) | 1201, 45.1 (16.1) | 51, 34.2 (14.2) | 1150, 45.6 (16.0) | *<0.001 |
| Race/Ethnicity | 1195 | 50 | 1145 | *0.004 |
| Non-Hispanic White | 898 | 26 | 872 | |
| Non-Hispanic Black or African American | 67 | 6 | 61 | |
| Non-Hispanic Asian | 15 | 1 | 14 | |
| Hispanic | 175 | 14 | 161 | |
| Other | 40 | 3 | 37 | |
| Pandemic Related Stress | | | | |
| Pandemic Impact (Much or very much impacted) | 816 | 41 | 775 | 0.052 |
| Sleep Impacted | 582 | 36 | 546 | *0.001 |
| Frustration or Boredom | 692 | 37 | 655 | *0.027 |
| Change in Sexual Activity | 284 | 20 | 264 | *0.007 |

- ✦ Significant association between race/ethnicity and cannabis use status, with a greater proportion of Hispanics being non-cannabis users than expected
- ✦ Cannabis users experienced a significantly lower psychosocial impact in three subdomains: sleep ($\chi^2 = 10.4$, $df(1)$, $p = 0.001$), frustration or boredom ($\chi^2 = 4.9$, $df(1)$, $p = 0.027$), and a change in sexual activity ($\chi^2 = 7.2$, $df(1)$, $p = 0.007$)

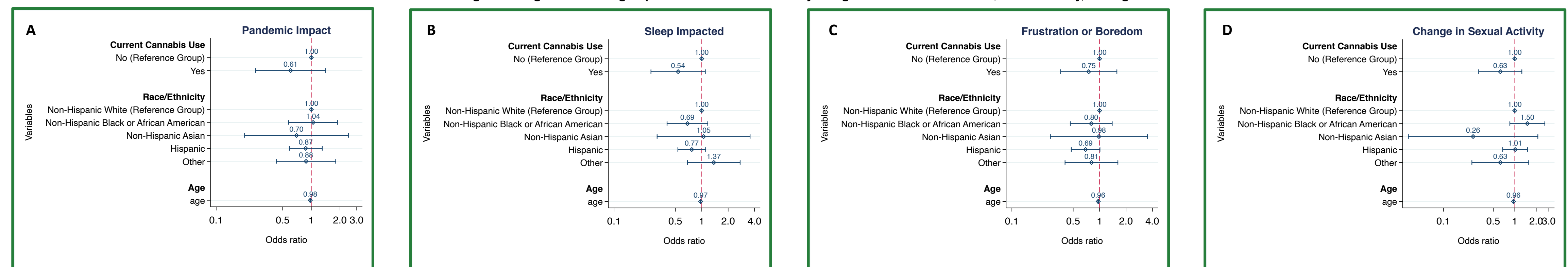
Table 2: Logistic modeling of pandemic related stress adjusting for base variables and cannabis dose variation

| Model Variables | Pandemic Impact | Sleep Impacted | Frustration or Boredom | Change in Sexual Activity |
|--|-----------------------|-----------------------|------------------------|---------------------------|
| Age | 0.98 [0.97, 0.99] | 0.97 [0.97, 0.98] | 0.96 [0.96, 0.97] | 0.96 [0.95, 0.97] |
| Change in dose of cannabis since COVID-19 | | | | |
| Decrease | 0.66 [0.42, 1.04] | 1.63 [1.07, 2.46] | 1.16 [0.76, 1.77] | 1.32 [0.84, 2.07] |
| Same | 0.39 *[0.29, 0.52] | 0.72 *[0.55, 0.94] | 0.95 [0.73, 1.24] | 0.72 *[0.52, 0.99] |
| LL Model, AIC | -666.56, 1351.12 | -738.54, 1495.07 | -725.48, 1468.97 | -553.76, 1125.52 |

LL Model: Log Likelihood Model; AIC: Akaike Information Criterion

- ✦ Individuals who maintained the same dose of cannabis use since COVID-19 relative to those who increased their cannabis dose use, reported a lower odds of pandemic impact (61%), sleep impact (28%), and change in sexual activity (28%)
- ✦ Individuals who decreased their dose of cannabis use since COVID-19 relative to those who increased their cannabis dose use, reported no significant change in odds of any subdomain of PRS

Figure 1: Logistic modeling of pandemic related stress adjusting for cannabis use status, race/ethnicity, and age



- ✦ There was no significant association between cannabis use and all four subdomains of PRS: pandemic impact (panel A), sleep impact (panel B), frustration or boredom (panel C), and change in sexual activity (panel D); adjusting for race/ethnicity and age. However, increasing age was associated with a decreased odds of PRS in all four subdomains.

CONCLUSION

- ✦ Cannabis users and older individuals had a lower probability of reported PRS
- ✦ Strategies to increase accessibility to cannabis may play an important role in mitigating stress

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REFERENCES

