



# Frequency of Cannabis Use and Pain Intensity: Results from a National Sample

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## PROBLEM

- Chronic pain has become a leading public health concern with roughly 20% of Americans currently living with chronic pain.
- Many individuals have initiated cannabis use to manage their pain as an alternative to opioid use.
- However, studies examining associations between cannabis use and pain intensity rarely include the frequency of cannabis.

## AIM

- Our study aimed to address this scientific gap by elucidating the frequency of cannabis use and its association with pain intensity in an adult sample from across the United States.

## METHODS

### DESIGN/SETTING

- In a cross-sectional study, we surveyed N=2,206 adults using three sampling approaches, a national panel, a Florida panel, and a community-engaged sample.

### MEASURES

- Pain intensity was measured using the Pain Intensity Number Scale (PINS, 0-10 scale) by asking participants to rate their current pain and least and worst in the past 24 hours.
- Average Pain Intensity (API) was the mean of the aforementioned PINS scores.
- Frequency of cannabis use was measured by asking individuals to indicate any past 30 day use and to indicate how often they currently use cannabis: once a month, more than once a month but less than weekly, 1 to 6 days a week, or every day.

### DATA ANALYSIS

- Bivariate and multiple linear regressions were utilized to identify associations between pain intensity, cannabis use, and sociodemographic factors.

## RESULTS

**Table 1. Bivariate Characteristics of the Study Sample (N=2206)**

Variables	Pain Intensity Mean (SD)	P-Value
<b>Gender</b>		0.3903
Female (N=1194)	1.46 (2.44)	
Male (N=1012)	1.55 (2.54)	
<b>Race</b>		<b>0.0036</b>
Non-Hispanic White (N=1391)	1.62 (2.56)	
Non-Hispanic Black (N=264)	1.40 (2.56)	
Hispanic (N=375)	1.42 (2.46)	
Non-Hispanic Other (N=176)	0.92 (1.74)	
<b>Employment</b>		<b>&lt;.0001</b>
Employed (N=1199)	1.51 (2.48)	
Disabled (N=108)	3.42 (3.50)	
Retired (N=449)	1.37 (2.30)	
Student (N= 110)	0.95 (1.75)	
Unemployed (N = 201)	1.18 (2.31)	
Missing (N=139)	1.19 (2.24)	
<b>Lifetime Cannabis Use</b>		<b>&lt;0.001</b>
No (N=1124)	0.98 (2.03)	
Yes (N=1028)	2.13 (2.81)	
Missing (N=54)	0.28 (1.10)	
<b>Frequency of Cannabis Use</b>		<b>&lt;0.001</b>
Non-User (N=1606)	1.12 (2.15)	
Once a month (N=193)	2.80 (3.05)	
Once a month but less than weekly (N =121)	2.03 (2.84)	
1 to 6 days a week (N= 85)	2.87 (3.13)	
Every day (N= 131)	2.72 (3.02)	
<b>Lifetime and Current Cannabis Use</b>		<b>&lt;.0001</b>
Non-Users (N=1124)	0.98 (2.03)	
Lifetime Users Only (N=484)	1.62 (2.48)	
Current users (N=11)	1.65 (2.44)	
One a month (N=193)	2.80 (3.05)	
More than once a month but less than weekly (N=121)	2.03 (2.84)	
1 to 6 days a week (N=85)	2.87 (3.13)	
Everyday Users (N=131)	2.72 (3.02)	
<b>Alcohol Use</b>		<b>&lt;0.001</b>
Non-drinkers (N=746)	1.32 (2.34)	
Drinkers (N=1212)	1.86 (2.70)	
Missing (N=248)	0.48 (1.45)	

## RESULTS (cont)

**Table 2. Multivariate Predictors of Pain Intensity**

Variable	Estimate	P-value
<b>Age</b>	-0.001	0.7937
<b>Gender</b>		
Male	Ref	
Female	0.071	0.5803
<b>Ethnicity</b>		
Non-Hispanic White	Ref	
Non-Hispanic Black	0.024	0.9064
Hispanic	0.133	0.4575
Non-Hispanic Other	-0.253	0.2972
<b>Frequency of Cannabis Use</b>		
Non-User	Ref	
Once a month	<b>1.879</b>	<b>&lt;.0001</b>
More than once a month but less than weekly	<b>0.981</b>	<b>0.0001</b>
1 to 6 days a week	<b>1.830</b>	<b>&lt;.0001</b>
Everyday	<b>1.491</b>	<b>&lt;.0001</b>
<b>Alcohol</b>		
Non-Drinkers	Ref	
Current Drinkers	0.258	0.8463

## CONCLUSIONS

- Our study noted below low average pain intensity in this sample and about 48% of respondents reported current cannabis use.
- Increased frequency of cannabis use was statistically associated with higher average pain intensity after controlling for sociodemographic and substance use factors.
- As individuals continue to use cannabis, researchers should continue to assess frequency of cannabis use within the context of pain.

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