



# Cannabis Use is Related to Self-Efficacy but not Sleep or Pain Symptoms: A Survey of Adults Prescribed Opioids for Pain or Opioid Use Disorder

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## Background

- Adults use prescribed opioids for persistent pain (PP) conditions and for medication-assisted treatment for opioid use disorder (OUD).
- Adults with PP and OUD both suffer poor health outcomes such as high pain and poor sleep (Hazekamp et al., 2013; Wilson et al., 2017).
- Self-efficacy is the confidence that one can autonomously manage health, and helps reduce pain and distress in PP (Jackson et al., 2014) and OUD adults (Wilson et al., 2017).
- Cannabis use is reported to manage pain, sleep problems, and psychological distress for PP (Bonn-Miller et al., 2014) and OUD (Wilson et al., 2017).
- Research Question: What are the relationships between cannabis use and sleep quality, pain intensity, and self-efficacy among adults who use opioid medications for OUD or PP?

## Methods

- Valid, reliable measures on sleep quality, pain intensity, self-efficacy for symptom management, and self-efficacy for emotions were analyzed.
  - Patient-Reported Outcomes Measurement Information System (PROMIS) sub-scales for pain intensity and self-efficacy (symptom management and managing emotions).
  - Pittsburg Sleep Quality Index for sleep quality.
- A cannabis use questionnaire assessed frequency of cannabis use in the past month.
- Sample size included 150 adults with OUD and 150 with PP (total N = 300).
  - Baseline comparability between groups analyzed using non-parametric analyses.
- ANOVAs were conducted to explore:
  - Main effects for sample (PP and OUD) and cannabis use in the last month (yes/no), and their interaction.
  - Relationships between sleep quality, pain intensity, and self-efficacy.
  - Relationships among variables with participant type (PP or OUD) as a covariate.

## Sample Demographics

ADULTS WITH OPIOID USE DISORDER			ADULTS WITH PERSISTENT PAIN		
Gender	N	%	Gender	N	%
Female	81	55.1%	Female	103	68.7%
Male	66	44.9%	Male	47	31.3%
Household Income			Household Income		
<\$20,000	92	64.8%	<\$20,000	78	56.5%
\$20-99,000	26	20%	\$20-99,000	55	39.9%
\$100,000+	5	3.5%	\$100,000+	5	3.6%
Highest level of Education			Highest level of Education		
< High School	19	13.3%	< High School	12	8%
High School/GED/Some College	99	69.3%	High School/GED/Some College	77	41.3%
Associate or Technical Certificate	18	12.6%	Associate or Technical Certificate	37	24.7%
Bachelor's/Graduate Degree	7	4.9%	Bachelor's/Graduate Degree	24	16%
Employment Status			Employment Status		
Full time	27	18.9%	Full time	18	12%
Part time	16	11.2%	Part time	6	4%
Unemployed/Disabled/Retired	64	44.8%	Unemployed/Disabled/Retired	113	75.3%
Student/Homemaker/Other	36	25.2%	Student/Homemaker/Other	23	8.7%
Race			Race		
White	123	86.0%	White	119	79.9%
American Indian/Alaska Native	8	5.6%	American Indian/Alaska Native	12	8%
Black	2	1.4%	Black	6	4%
Asian America	1	0.7%	Asian America	1	0.7%
Multiracial/Other	9	6.3%	Multiracial/Other	11	7.3%
Medical Marijuana Registered Patient			Registered Medical Marijuana Patient		
Yes	8	5.3%	Yes	16	10.7%
No	136	90.7%	No	133	89.3%

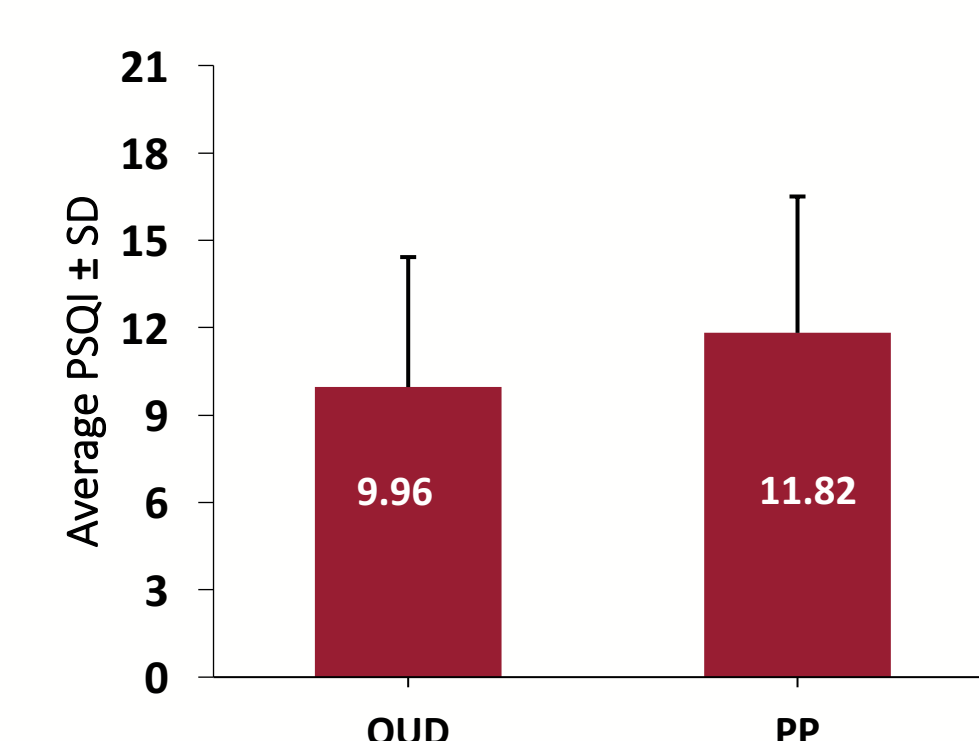
## Findings

- Non-parametric analyses showed that adults with PP were significantly older and had higher education, and less frequently used cannabis than adults with OUD ( $p < 0.01$ ), while there were no statistically significant differences in other demographic factors between the two populations ( $p > 0.05$ ).
- Cannabis use in the last month was not predictive of sleep quality, pain intensity, or self-efficacy for managing symptoms ( $p > 0.21$ ), but was predictive of self-efficacy for managing emotions ( $p < 0.05$ ) where greater frequency of cannabis use was associated with lower self-efficacy for managing negative emotions.
- Better sleep quality was associated with greater self-efficacy ( $F_{1,224}=30.04, p < 0.001$ ) and less pain intensity ( $F_{1,217}=23.41, p < 0.001$ ).
- Adults with PP had poorer sleep quality ( $F_{1,204}=6.41, p = 0.001$ ) and greater pain intensity ( $F_{1,250}=18.01, p < 0.001$ ) than OUD patients while self-efficacy did not differ ( $F_{1,266}=2.76, p = 0.10$ ).

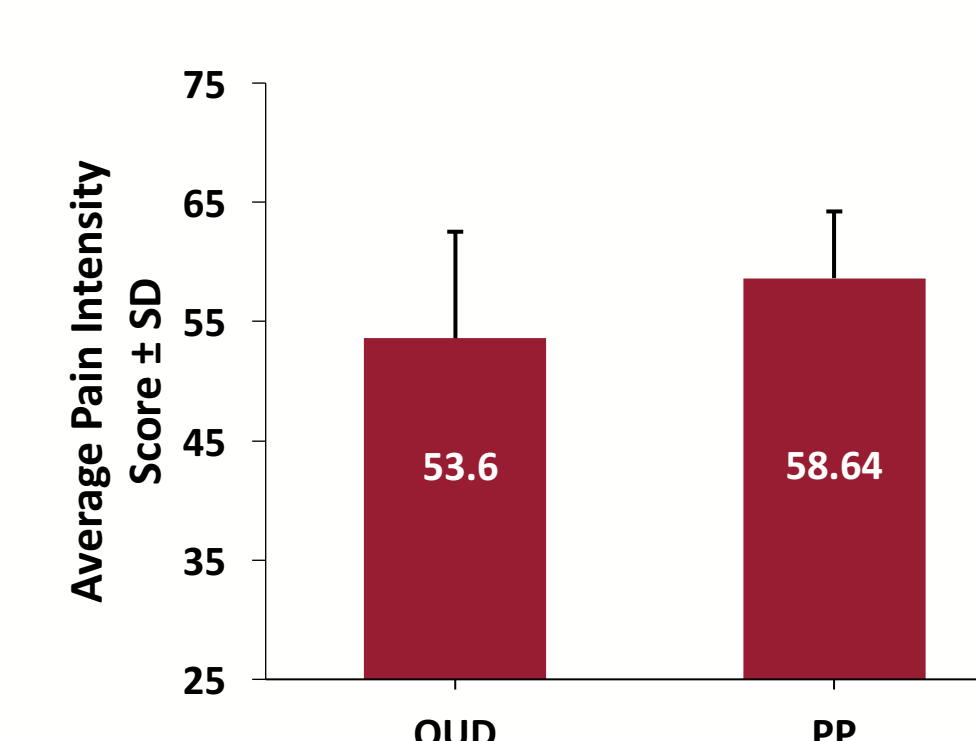
Cannabis Use Differences among OUD and PP

Adults with OUD	Adults with PP
Ever used: 92.7%	Ever used: 69.8%
Past month: 52.7%	Past month: 27.3%
20+ days in last month: 33%	20+ days in last month: 12%

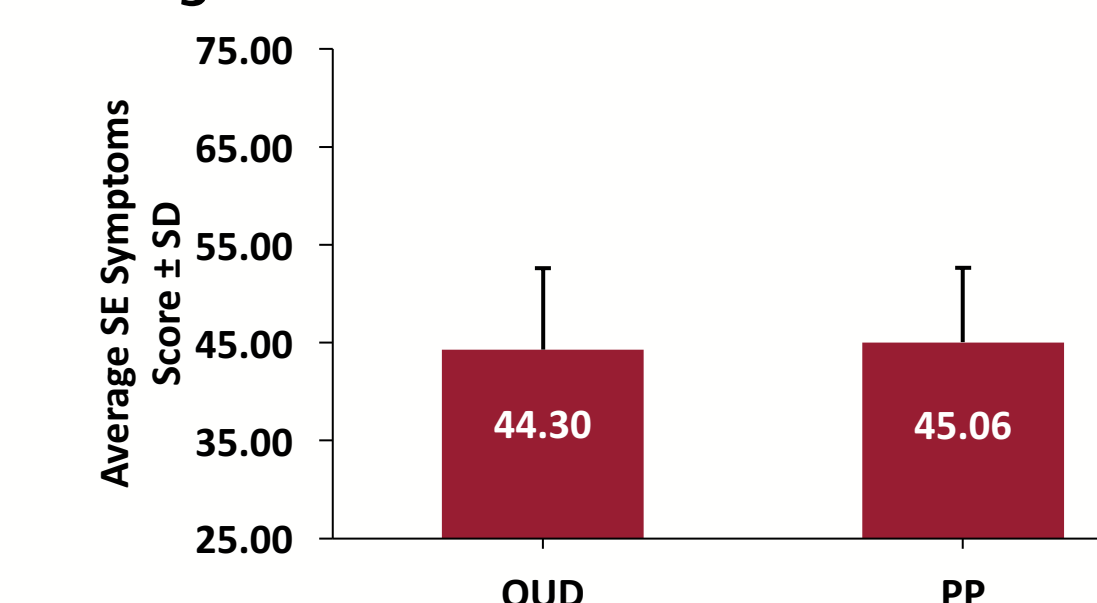
Sleep Quality Differences among OUD and PP



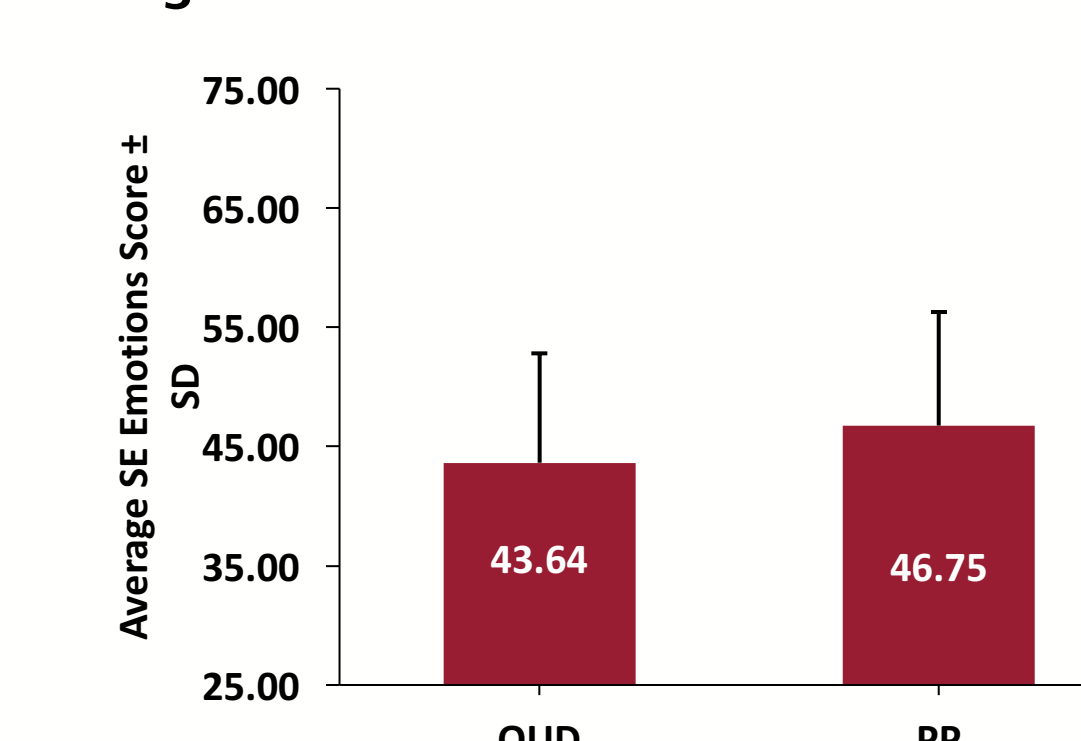
Pain Intensity Differences among OUD and PP



Self-Efficacy for Symptoms Differences among OUD and PP



Self-Efficacy for Emotions Differences among OUD and PP



## Discussion

- Adults with PP have worse sleep quality and pain intensity than those with OUD.
- Cannabis is used more frequently among OUD than PP.
- This study provides no evidence that cannabis use influences pain, sleep, or confidence in symptom control.
- Higher frequency of cannabis use may reduce confidence in managing emotions.

## Implications

- Adults with PP or OUD who frequently use cannabis have less confidence in managing distressing emotions.
- Targeted interventions that reduce symptoms and enhance self-efficacy are needed, as well as research that can test causal relationships between cannabis use and symptoms.

## References

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