

## BACKGROUND

- Opioid use disorder (OUD) is an epidemic in the United States, with at least 130 people dying daily from opioid-related overdoses. OUD often presents with comorbidities, including psychiatric disorders such as depression and anxiety.
- Research shows that depression and anxiety-related comorbidities in opioid-misusing populations are associated with poorer treatment outcomes, including increased substance use.
- Gender differences have been observed in OUD. In 2017, men accounted for nearly 70% of all opioid overdose deaths, with prescription opioids responsible for ~35% of deaths.
- This study explored gender differences in individuals with prescription OUD and the relationship between baseline depression severity, anxiety severity, and opioid use.

## METHODS

- Data from a NIDA-funded human laboratory study was utilized. The larger study assessed the interaction between stress and craving using the Trier social stress task and a novel opioid drug cue paradigm. Analyses for the current study included 20 men and 18 women (N = 38) with OUD.
- Gender differences in presenting clinical characteristics (i.e., depression, anxiety, and opioid use) were examined. Baseline depression and anxiety were then explored as predictors of opioid use (percent days using [PDU]). Independent samples t-tests, Chi-Square tests, and hierarchical linear regression were employed.

## MEASURES

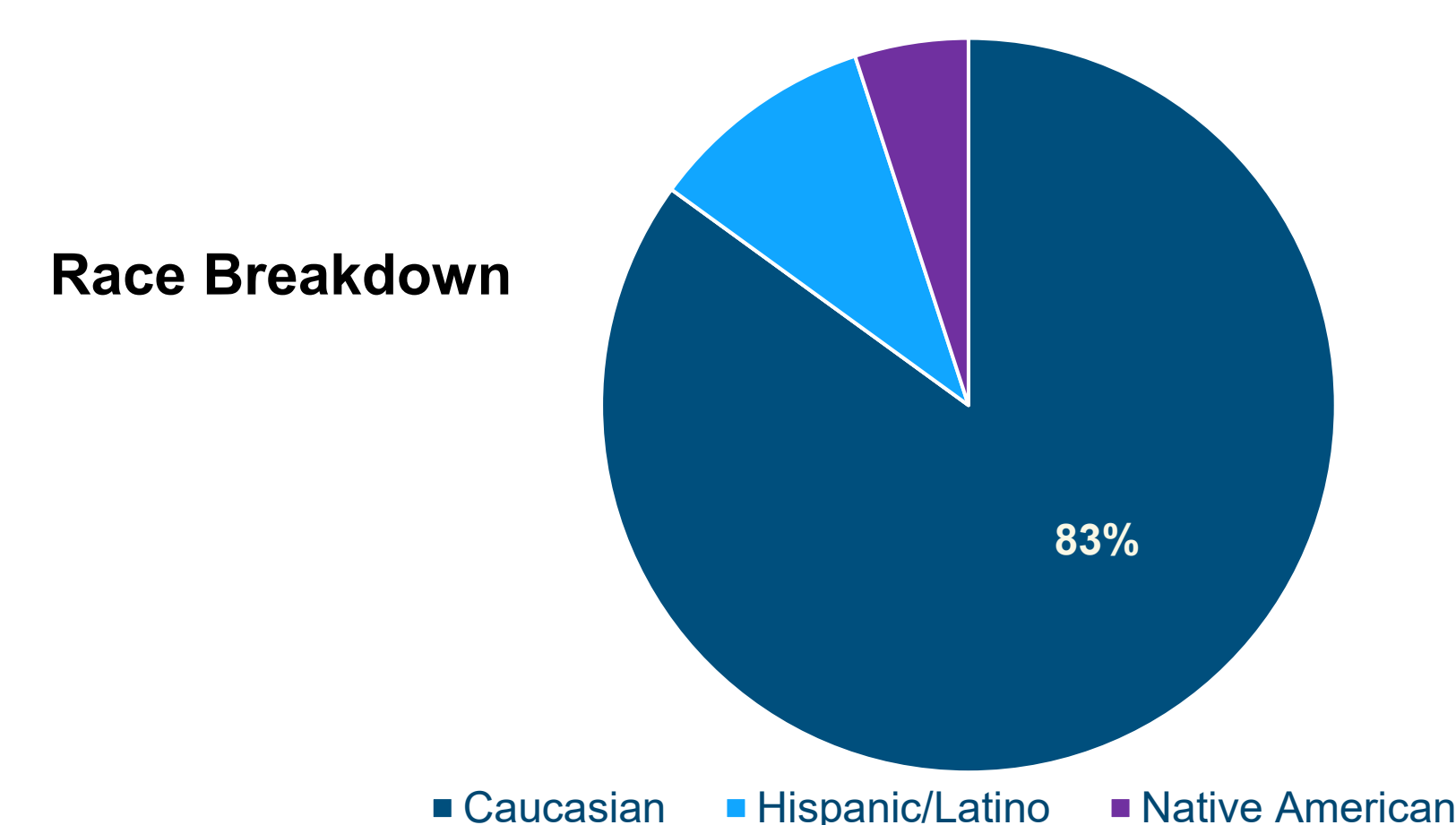
- Beck Depression Inventory – II (BDI-II)** and **Inventory of Depressive Symptomatology (IDS)** assesses depression symptom severity.
- State Trait Anxiety Inventory (STAI)** - Evaluates state and trait anxiety levels.
- Timeline Follow-back (TLFB):** Measures substance use. Percent days using (PDU) opioids were calculated.
- Mini International Neuropsychiatric Interview (MINI):** Assessed presence of anxiety-related disorders including Panic Disorder, Agoraphobia, Social Phobia, Specific Phobia, Obsessive-Compulsive Disorder, PTSD, and Generalized Anxiety Disorder.

## RESULTS

Demographic Characteristics	Total (N = 38)	Men (n = 20)	Women (n = 18)	
M (SD)				
Age	35.2 (12.6)	29.9 (10.3)	41.2 (12.4)*	
N (%)				
Gender		20 (52.6)	18 (47.4)	
Education				
Less than high School	1 (2.6)	1 (5.0)	--	2.7
High School Graduate	13 (34.2)	5 (25.0)	8 (44.4)	
Some College	24 (63.2)	14 (70.0)	10 (55.6)	
Employment Status				
Full-time or Part-time	7 (18.4)	6 (30.0)	1 (5.6)	5.1
Unemployed	25 (65.8)	10 (50.0)	18 (83.3)	
Student	6 (15.8)	4 (20.0)	2 (11.1)	
Relationship Status				
Single/Never Married	20 (52.6)	14 (70.0)	6 (33.3)	7.6
Married	5 (13.2)	2 (10.0)	3 (16.7)	
Separated	3 (7.9)	2 (10.0)	1 (5.6)	
Widowed	2 (5.3)	--	2 (11.1)	
Divorced/Annulled	8 (21.1)	2 (10.0)	6 (33.3)	
Smoking Status, % Yes	31 (81.6)	13 (65.0)	18 (100.0)*	7.7

\*p < .05

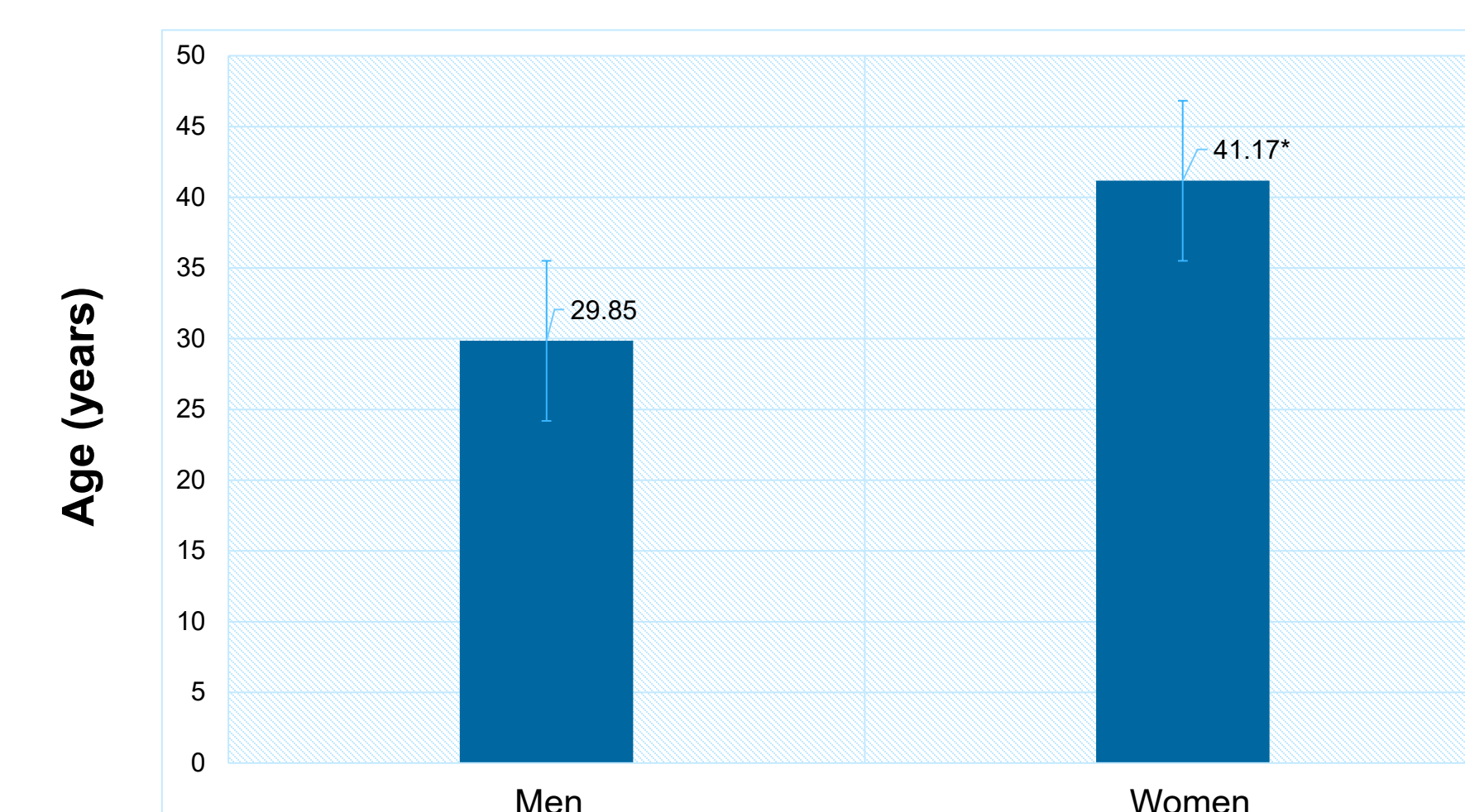
### Demographic Information



Clinical Characteristics	Total (N = 38)	Men (n = 20)	Women (n = 18)	
M (SD)				
AUD Symptom Severity				
TLFB-PD	18.4 (8.6)	56.7 (28.0)	66.9 (28.9)	
M (SD)				
Mood and Health Outcomes				
BDI-II	13.3 (8.1)	12.0 (7.0)	14.2 (9.1)	2.7
IDS	21.9 (12.7)	20.9 (11.6)	22.9 (14.1)	
STAI	42.4 (10.1)	39.1 (7.1)	46.1 (11.8)*	
N (%)				
Mood Diagnosis				
History of Major Depressive Disorder, % Yes	10 (26.3)	4 (20.0)	6 (33.3)	.87
History of Anxiety-related Disorder, % Yes	7 (18.4)	4 (20.0)	2 (3.3)	.07

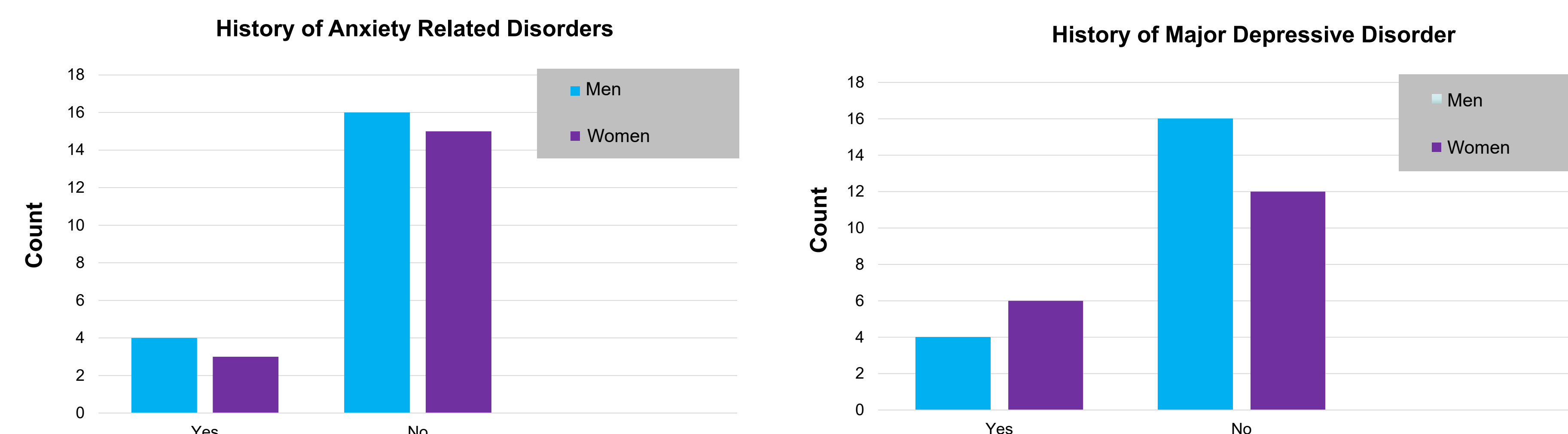
\*p = .025

### Age

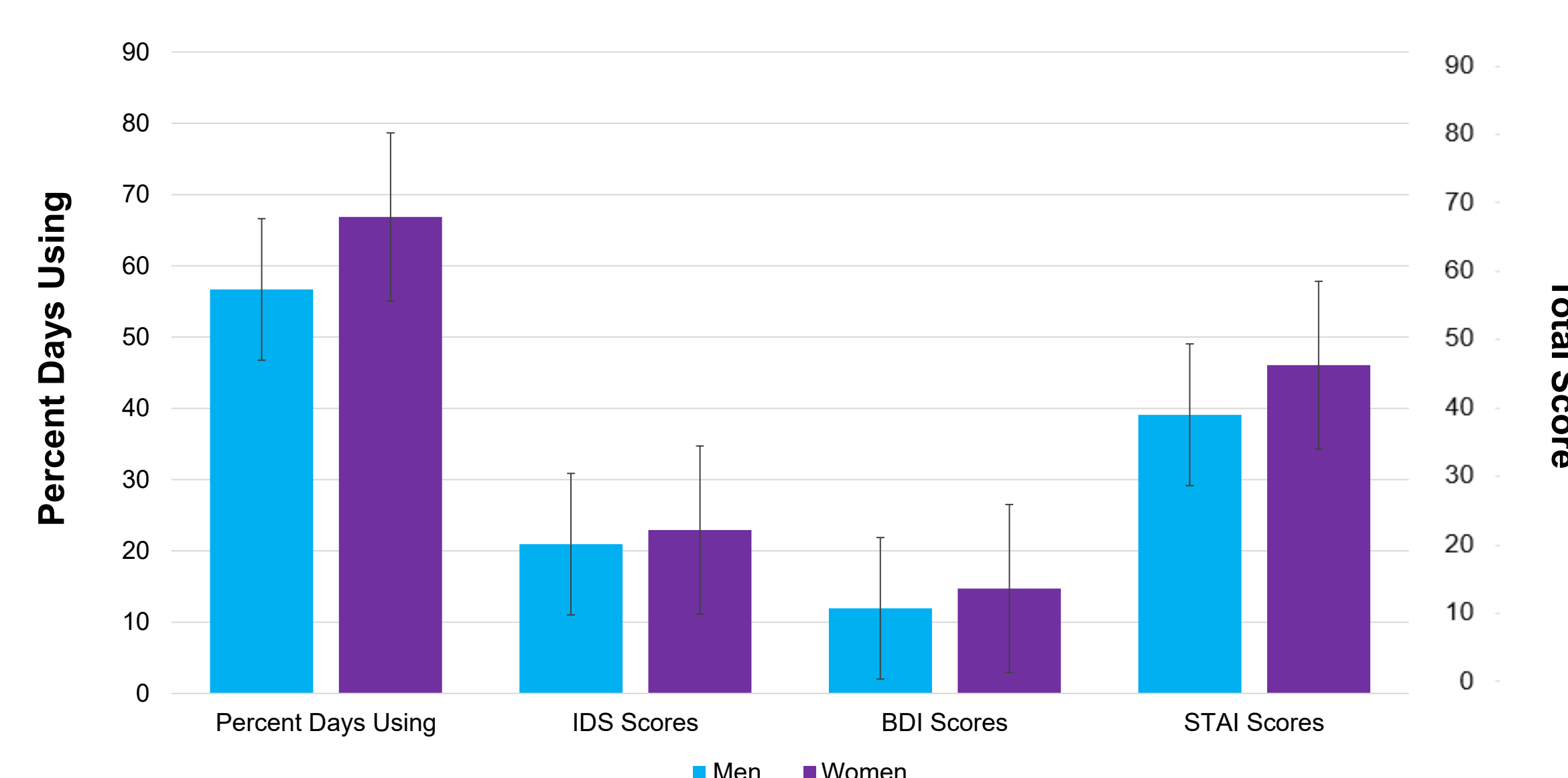


\*p = .004 (2-tailed)

### Anxiety and Depressive Disorders



### TLFB (PDU), IDS, BDI-II, and STAI Total Scores



## RESULTS CONTINUED

- Women with OUD reported significantly higher anxiety levels than men with OUD as measured by the STAI (46.0 vs. 39.1, p = .025).
- Women with OUD were significantly more likely to smoke cigarettes than men with OUD (100.0% vs 65.0%, p < .05).
- Women with OUD endorsed higher levels of depression than men with OUD on the IDS (22.9 vs. 20.9) and BDI-II (14.7 vs. 11.9), and higher percent days using opioids (66.9% PDU vs. 56.8% PDU), although these do not reach statistical significance.
- Demographic and clinical characteristics were not significant predictors of PDU opioids.
- Limitations include the small sample size, self-report assessments, and low diversity. In addition, collinearity diagnostics revealed some multicollinearity among the predictors.

## CONCLUSION

- Notable gender differences were found in age, smoking habits, and anxiety levels among individuals with prescription OUD, with women showing higher smoking and anxiety.
- Baseline anxiety and depressive symptoms did not significantly predict opiate use frequency.
- Future studies should explore additional predictors and use larger, more diverse samples to better understand these associations.
- Addressing multicollinearity and incorporating a broader range of predictors may improve model predictive power and inform targeted interventions for OUD.

## REFERENCES



## ACKNOWLEDGEMENTS

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