



Examining the validity of social media addiction: Connections with other mental disorders using questionnaires and QEEG.

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INTRO

- Problematic social media use (PSMU) has been shown to be associated with mental health problems.
- There is presently controversy about whether PSMU should be classified as an addictive behavior using criteria similar to substance use disorder (SUD).
- Despite the controversy, assessments of PSMU tend to use SUD criteria, and do not examine the relationship with traditional measures of SUD.
- In this study we are testing the construct validity of PSMU, by examining the relationship between PSMU and a variety of substance use variables.

METHODS

- 96 undergraduate students filled out a battery of questionnaires assessing demographics, PSMU, depression, perceived stress, social anxiety, perceived worry, alcohol, marijuana and substance use disorders
- Brainwave patterns of 14 participants who were on either extreme of PSMU scale were analyzed using qualitative electroencephalography (QEEG).
- Participants were split into high and low PSMU groups and the two groups were compared using t-tests and χ^2 .

RESULTS

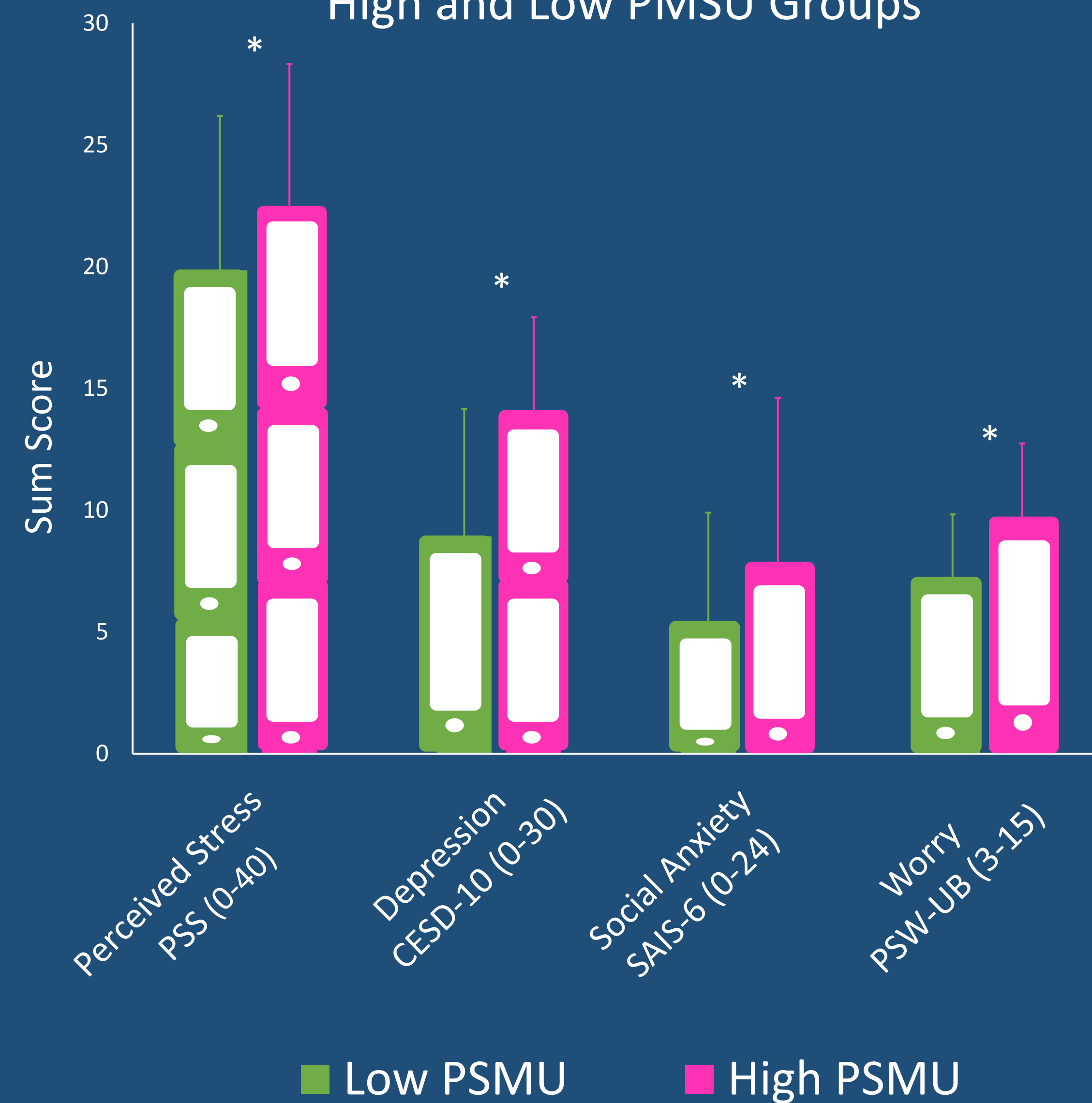
- High PSMU group had higher scores on perceived stress ($t(95)=2.07, p<0.05$), depression ($t(95)=2.07, p<0.05$), social anxiety ($t(95)=2.34, p<0.05$) and worry ($t(95)=3.92, p<0.05$).
- No difference in substance use disorder between the groups was found.
- High PSMU group had significantly lower beta power in left frontal lobe and left central sulcus (and a trend in frontal midline, right frontal lobe and left temporal lobe). High PSMU group had a trend for higher alpha power in the frontal sulcus.

DISCUSSION

- In questionnaires PSMU was associated with mental health problems but **not** substance use. QEEG patterns in people with high PSMU were similar to alcohol use disorder, and opposite of what is found in depression.
- These findings suggest that PSMU is a unique construct which is characterized with brainwave patterns similar to substance use disorder that are driving mental health problems.

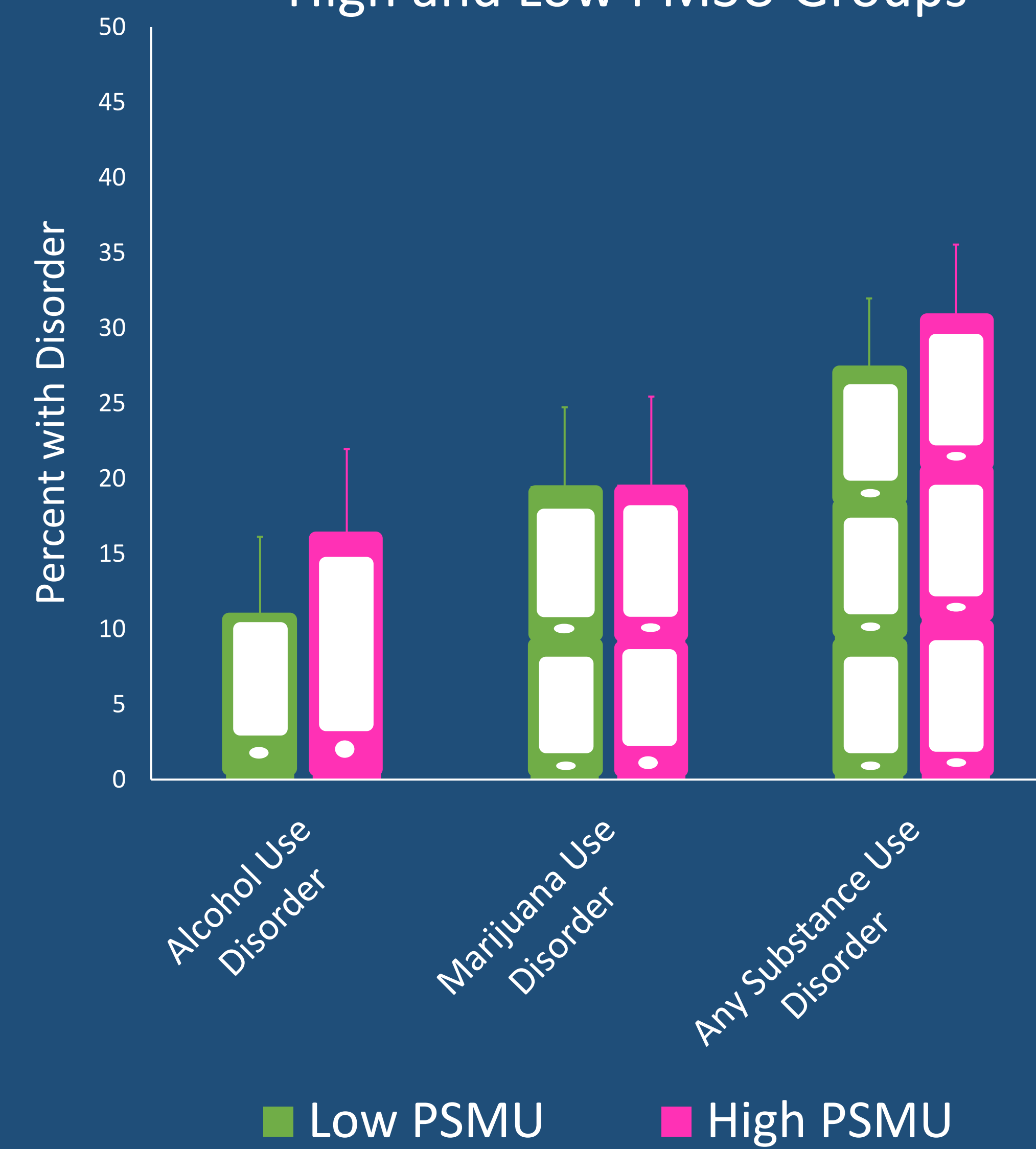
Our data suggests that problematic social media use is an addictive behavior that is distinct from substance use disorder.

Stress, Depression, Social Anxiety and Worry in High and Low PSMU Groups



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Substance Use Disorders in High and Low PSMU Groups



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Demographics in Questionnaire study

Variable	Total (N = 96) n (%)	Low PSMU (n = 40) n (%)	High PSMU (n = 56) n (%)	χ^2 (p)
Sex				
Female	67 (69.8)	25 (62.5)	42 (75.0)	5.4 ^a (0.07)
Male	26 (27.1)	15 (37.5)	11 (19.6)	
Other	3 (3.1)	0	3 (5.4)	
Race				
White	70 (72.9)	30 (75.0)	40 (71.4)	0.63 (0.73)
Black	16 (16.7)	7 (17.5)	9 (16.1)	
Other	10 (10.4)	3 (7.5)	7 (12.5)	
Year in School				
Freshman	68 (70.8)	25 (62.5)	43 (76.8)	2.3 (0.13)

^a χ^2 value is for comparison of men vs women only

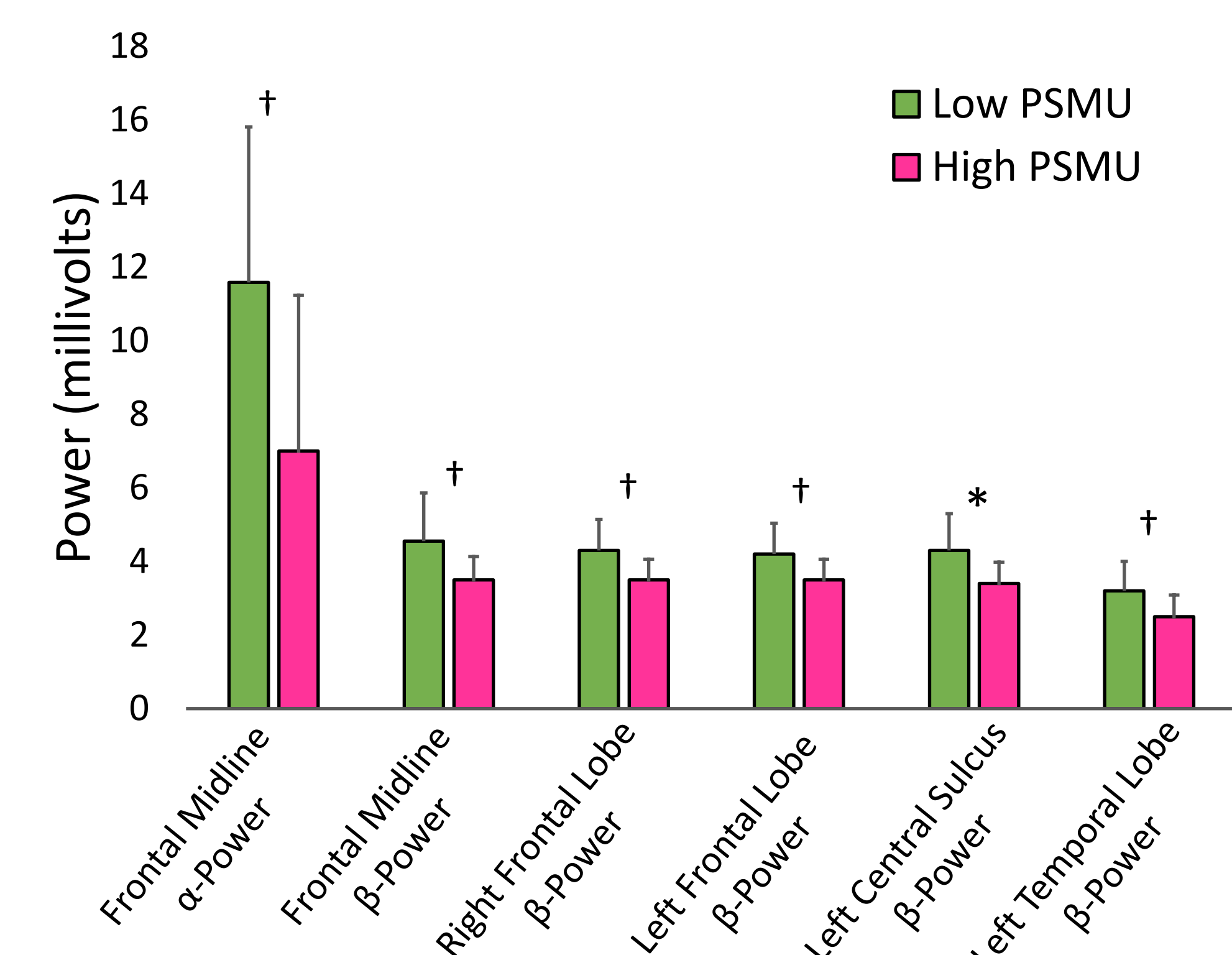
Lifetime drug use by Social Media Group

Variable	Total (N = 96) n (%)	Low PSMU (n = 40) n (%)	High PSMU (n = 56) n (%)	χ^2 (p)
Ever Used Alcohol	81 (84.4)	32 (80.0)	49 (87.5)	0.99 (0.32)
Ever Used Marijuana	67 (69.8)	26 (65.0)	41 (73.2)	0.75 (0.39)
Ever Used Cocaine	11 (11.5)	4 (10.0)	7 (12.5)	0.14 (0.71)
Ever Smoked Cigarettes	28 (29.2)	11 (27.5)	17 (30.4)	0.09 (0.76)
Ever Vaped	66 (68.8)	26 (65.0)	40 (71.4)	0.45 (0.50)

Demographics in EEG study

Variable	Total (N = 14) n (%)	Low PSMU (n = 6) n (%)	High PSMU (n = 8) n (%)	Fishers Exact test p
Sex				
Female	8 (57.1)	2 (33.3)	6 (75.0)	0.47
Male	6 (42.9)	4 (66.7)	2 (25.0)	
Race				
White	12 (85.7)	6 (100.0)	6 (75.0)	0.28
Black	2 (14.3)	0	2 (25.0)	
Year in School				
Freshman	5 (38.5)	1 (20.0)	4 (50.0)	0.56

EEG Differences in High and Low PSMU Groups



* $p < 0.05$, † $p < 0.10$