

# Evaluating DSM-5 diagnostic cut-off scores for self-reported cannabis problem measures

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## INTRODUCTION

- Brief measures that can help differentiate users at risk for cannabis use disorder (CUD) are needed as cannabis use becomes more accessible.
- The Marijuana Problem Index (MPI) and Brief-Marijuana Consequences Questionnaire (BMCQ) are widely used cannabis problem measures based on alcohol problem measures<sup>1,2,3</sup>
- Yet, no studies have identified cut-offs for the MPI or BMCQ to differentiate CUD risk levels.

## METHODS

### Participants

- 77 emerging adults (18-25 years,  $M = 20.51$ ,  $SD = 2.57$ ; 69% cisgender women; 66% White) who endorsed any past year cannabis use.

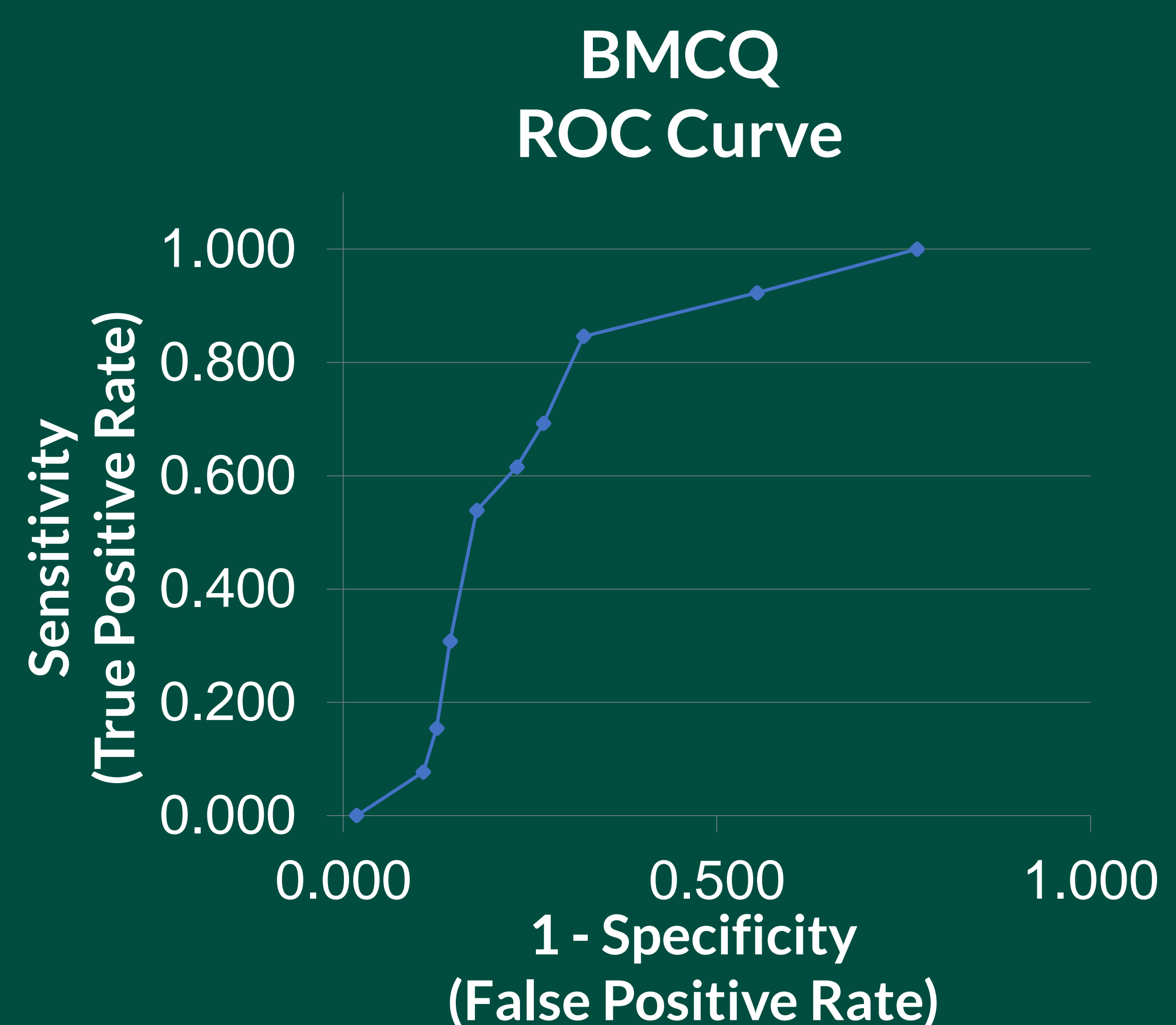
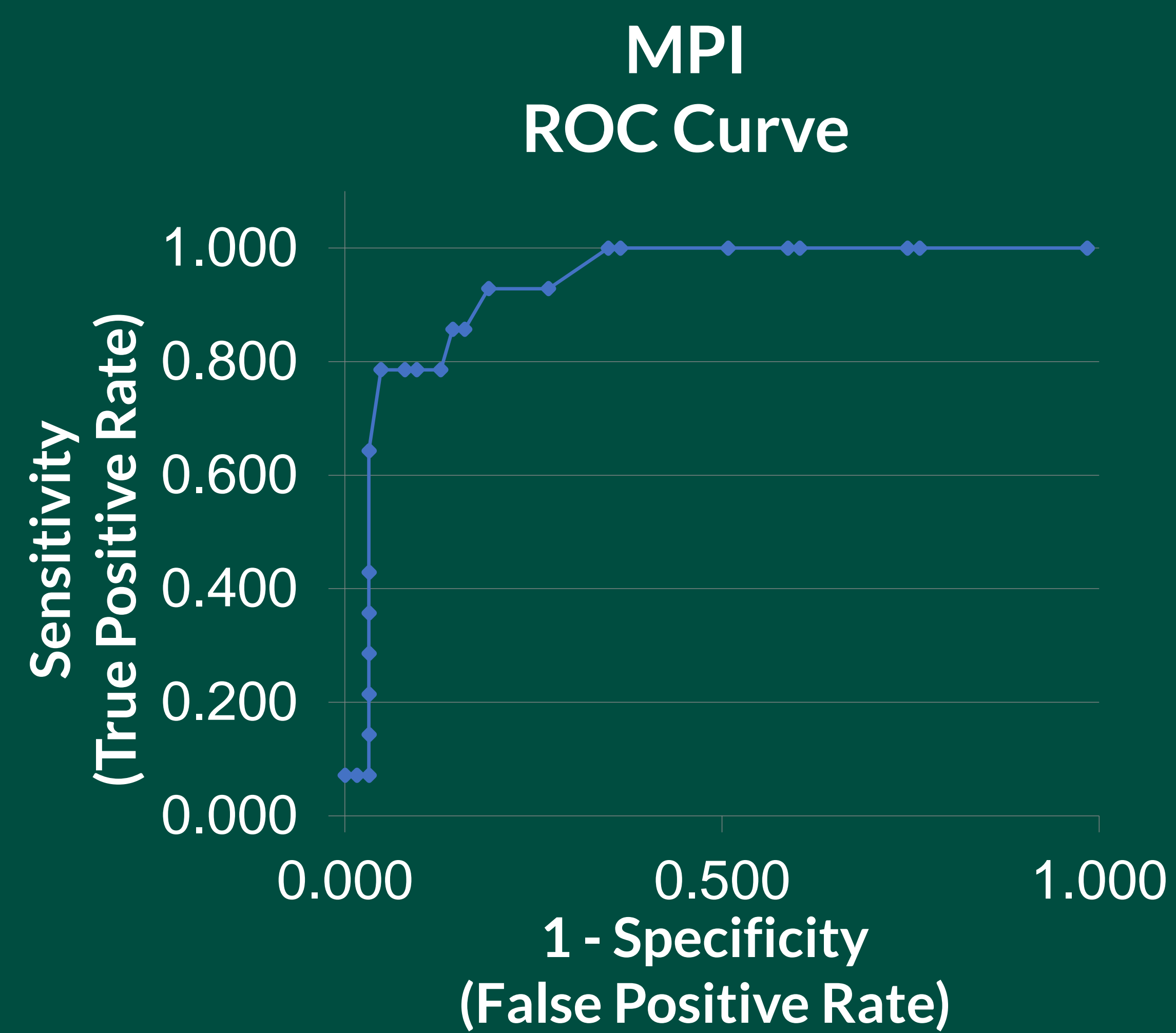
### Measures

- Self-reported MPI (23 items on a 1-5 scale) and BMCQ (21 items on a yes/no scale).
- The Structured Clinical Interview for DSM-5-Research Version (SCID-5-RV)<sup>4</sup> assessed past year CUD.

### Analyses

- Receiver Operating Curves (ROC) were used to identify scores on the MPI and BMCQ that balances sensitivity ( $< .80$ ) and specificity (1-specificity  $> .20$ ) for CUD, indicated by Area Under the Curve (AUC) values  $\geq .80$ .

## A Marijuana Problems Index (MPI) cutoff of 30.5 differentiated cis- men and women past year users with Cannabis Use Disorder. Useable cutoffs were not identified for the Brief Marijuana Consequences Questionnaire (BMCQ).



## RESULTS

- 14 participants (18.2%) met criteria for past year CUD.
- Both the MPI (AUC = .874, SE = .078) and BMCQ (AUC = .675, SE = .083) discriminated CUD diagnoses better than chance (i.e., AUC = .50), but only the MPI demonstrated adequate discrimination.
- A MPI score of 30.5 correctly identified 71.4% of the sample with an excellent balance of sensitivity (.90) and 1-specificity (.14).
- However, the best cut-off score for the BMCQ only correctly identified 52.5% of the sample with good sensitivity (.85) and poor 1-specificity (.32).
- Independent samples tests did not indicate gender differences in score discrimination on the MPI ( $\Delta AUC = .010$ ) or BMCQ ( $\Delta AUC = .066$ ,  $p$ 's  $> .05$ ).

## DISCUSSION

- The 30.5 cutoff score on the MPI can be used to differentiate emerging adults with and without a past year CUD.
- Notably, the 30.5 MPI cutoff has also been replicated among adolescents<sup>5</sup>.
- Findings reinforce the need for more psychometric work on widely used measures to establish construct validity.

## REFERENCES

- <sup>1</sup>Knapp, A. A., Babbitt, S. F., Budney, A. J., Walker, D. D., Stephens, R. S., Scherer, E. A., & Stanger, C. (2018). Psychometric assessment of the marijuana adolescent problem inventory. *Addictive Behaviors*, 79, 113-119. <https://doi.org/10.1016/j.addbeh.2017.12.013>.
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- <sup>3</sup>White, H. R., & Labouvie, E. W. (1989). Towards the assessment of adolescent problem drinking. *Journal of Studies on Alcohol*, 50(1), 30-37. <https://doi.org/10.15288/jasa.1989.50.30>.
- <sup>4</sup>First, M. B., Williams, J. B. W., Karg, R. S., & Spitzer, R. L. (2015). *Structured Clinical Interview for DSM-5: Research Version*. American Psychiatric Association.
- <sup>5</sup>Stone, L. B., Cloutier, R. M., Hasan, F., Herrera, C., Rueger, S. Y., Blumenthal, H. (2020, August 6-9). *Validation of the MPI to assess cannabis-related risks among community-recruited adolescents* [Poster presentation]. APA, 2020 Washington, DC.

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