



The Moderating Role of Cannabis Use Disorder on Anxiety & Education Functioning in College Students



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Background

- Anxiety is reported to be one of the top reasons college students **seek counseling**¹.
- Anxiety has **doubled** among U.S college students within the past decade² and is associated with worse educational outcomes,³ psychosocial functioning⁴ and substance abuse⁵.
- Anxiety commonly co-occurs with **cannabis use disorder (CUD)** and can **exacerbate** mental health symptoms in college students.⁶
- Cannabis use among young adults is the **highest it has been in decades**⁷ when looking at college students from different universities in the US.⁸
- CUD is associated with **worse education functioning**.^{9,10}
- The aim of the current study** was to examine the impact of anxiety on educational functioning and within the context of co-occurring CUD symptom severity.
- Hypothesis:** College students who endorsed high levels of both anxiety symptoms and CUD symptom severity will have significantly greater levels of education impairment than those who endorse high anxiety, but low CUD, as well as high CUD with low anxiety.

Method

- Participants**
- College students ($N = 450$) enrolled in cross-sectional survey study, recruited via SONA for credit in introductory psych courses.
 - Age:** $M = 20.2$, ($SD: 4.2$)
 - 72.0% Female**
 - 66.0% Hispanic** and **69.8% White**
 - College Classification:** 48.7% Freshman; 24.5% Sophomore; 12.7% Junior; 14.1% Senior
 - Inclusion Criteria:** 1) 18+ years; 2) enrolled at UTSA; 3) allowed access to academic transcripts; 4) used cannabis in the past 6-months.
- Measures**
- CUDIT-R,¹¹ DASS-21,¹² IPF-ES¹³ & PHQ-9¹⁴
- Data Analyses**
- Moderation models in Hayes PROCESS macro

Students who endorsed **greater levels of both anxiety & CUD symptoms** have **worse education functioning** compared to those with **high anxiety and low CUD symptoms**.

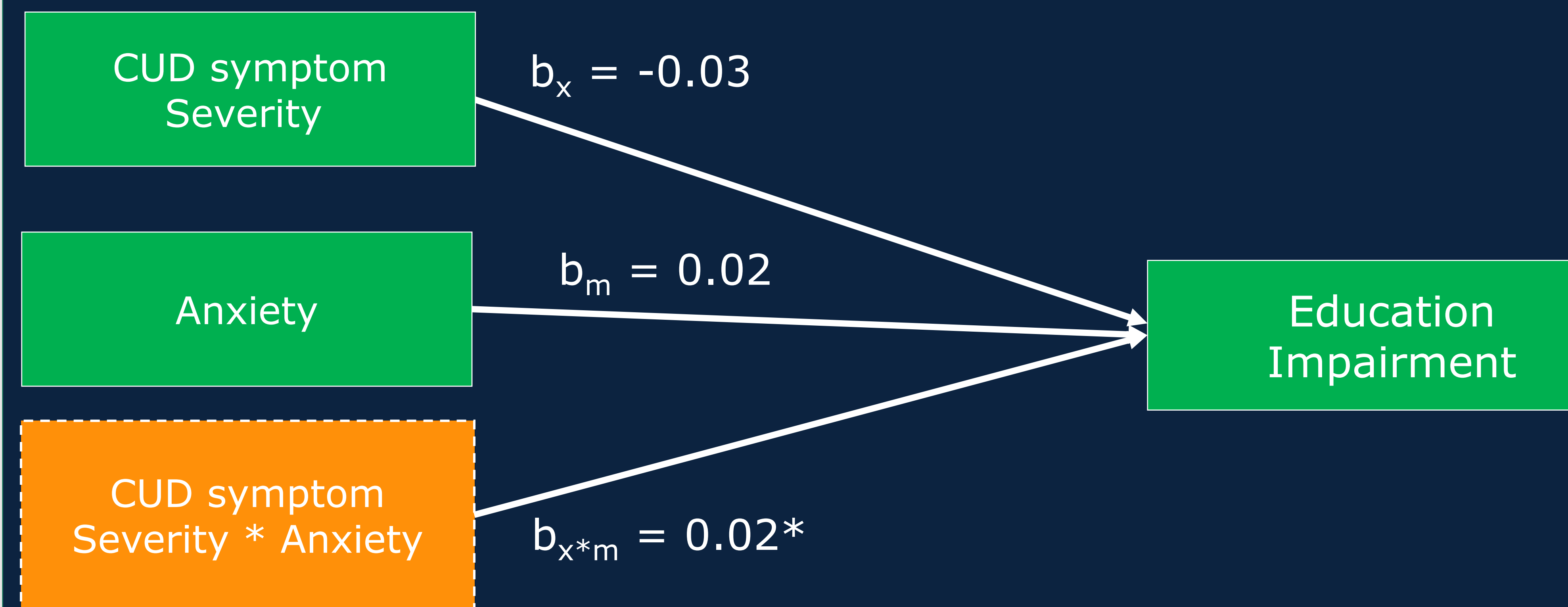


Figure 1. Anxiety (DASS-21 anxiety subscale scores), CUD symptom severity (CUDIT-R total scores), and their interaction (Anx X CUD) on educational impairment (IPF-ES total scores) amongst college students. * $p < .05$.

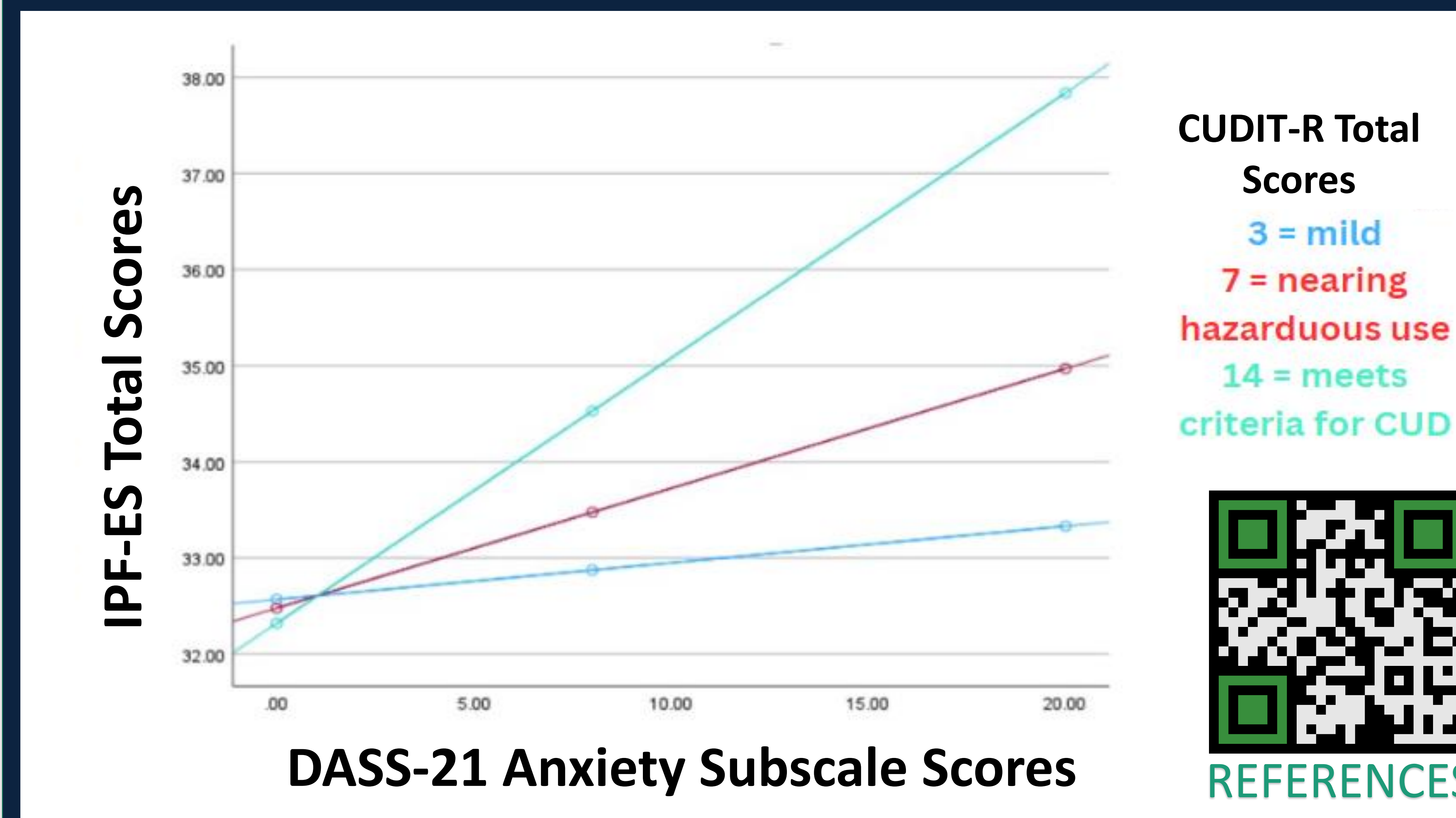


Figure 2. The interaction between anxiety and CUD on education functioning

Results

Measures

- CUDIT-R:** $M = 8.4$ ($SD = 6.0$)
 - Hazardous use (scores ≥ 8): 42%
 - Probable CUD (scores ≥ 13): 20.4%
- PHQ-9:** $M = 8.4$ ($SD = 6.8$)
 - Moderate (scores ≥ 10) = 34.2%
 - Moderate-Severe (scores ≥ 15) = 18.7%
- Anxiety:** $M = 9.1$ ($SD = 9.4$)
 - Moderate (scores ≥ 10) = 34.2%
 - Severe (scores ≥ 15) = 18.7%
- Educational Functioning:** $M = 34.5$, ($SD: 11.86$)
 - Range: 15-105, higher scores indicate greater impairment.

Model Summary

- The overall model accounted for 14% of the variance in education impairment.
 - $R^2 = .1365$; $F(5, 444) = 14.04$, $p < .001$.
- After controlling for gender and depression symptoms, the interaction between anxiety and CUD symptom severity was significant and contributed to 1% of the variance in education impairment.
 - $\Delta R^2 = .01$, $F = 5.22$ (1, 444), $p < .05$.

Discussion

- Findings suggest a synergistic negative effect between anxiety and CUD symptoms on educational functioning, albeit the explained variance was small.
- More research is needed to study the effects of anxiety and CUD on educational functioning in college students, especially given the potential impairments to attention, memory, and learning⁹ among those who endorse chronic and heavy cannabis use.
- Future longitudinal studies should address the long-term outcomes of anxiety and CUD on academic functioning.
- Although students commonly present to counseling centers for anxiety, given high rates of cannabis use, clinicians should also assess for CUD to address impact on educational functioning.
- In the context of rapid legalization of cannabis, these data suggest that university counseling centers may need to incorporate CUD into treatment planning and psychoeducation, particularly when students are experiencing educational challenges.

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