

Mind-Body Exercise Impact on Depression, Anxiety, and Quality of Sleep in College Students

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INTRODUCTION

- Depression, anxiety, and quality of sleep has become a prevalent issue in college students, making it difficult for students to go through their daily lives and accomplish what they need to be successful
- Quality of sleep is oftentimes what suffers the most, little sleep has been shown to negatively affect mental health over a long period of time (Vera, *et al.* 2009)
- Yoga has shown to decrease depressive symptoms in depressed adults (Manicor *et al.* 2016)

RESEARCH PURPOSE

- The aim of this study was to determine the effects of mind-body exercises (yoga) on students at a large public university in China, monitoring their yoga activity impact on their depression, anxiety, and sleep quality in comparison to a control, Latin Dance group of students.

METHODS

PARTICIPANTS:

- 135 College Students (Males: n=28; Females: n=136) at a large public university in China

RESEARCH DESIGN

- Experimental (yoga; n=107) or Control (Latin Dance, n=57)
- One 90-minute class per week for 12 weeks as a university course
- Participants instructed to run 68 kilometers, over the semester, outside of class

MEASURES:

- Anxiety - Generalized Anxiety Disorder(GAD-7)
- Sleep Quality - Pittsburgh Sleep Quality Assessment (PSQI)
- Depression Screening (created by the Center for Epidemiologic Studies Depression (CES-D))
- Scores were collected through an online STAR questionnaire app, where students self-assessed their levels of anxiety, sleep quality, and depression

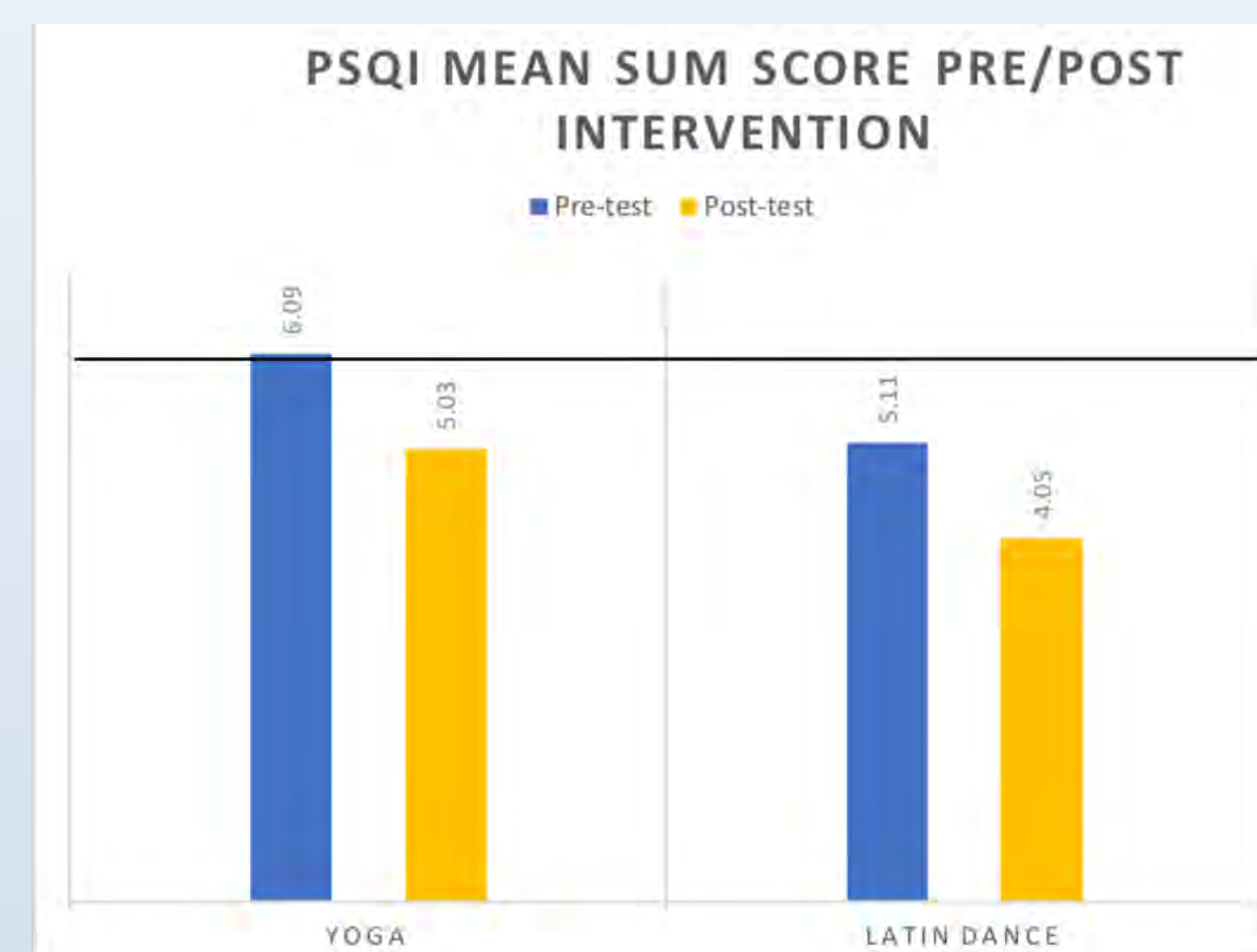
References

Vera *et al.* BIOLOGY PSYCHOLOGY 81 3:164-168 (2009) DOI 10.1016/j.biopsycho.2009.03.008
Manicor *et al.* DEPRESSION AND ANXIETY 33:816-828 (2016) DOI 10.1002/da.22502

RESULTS

Sleep Quality:

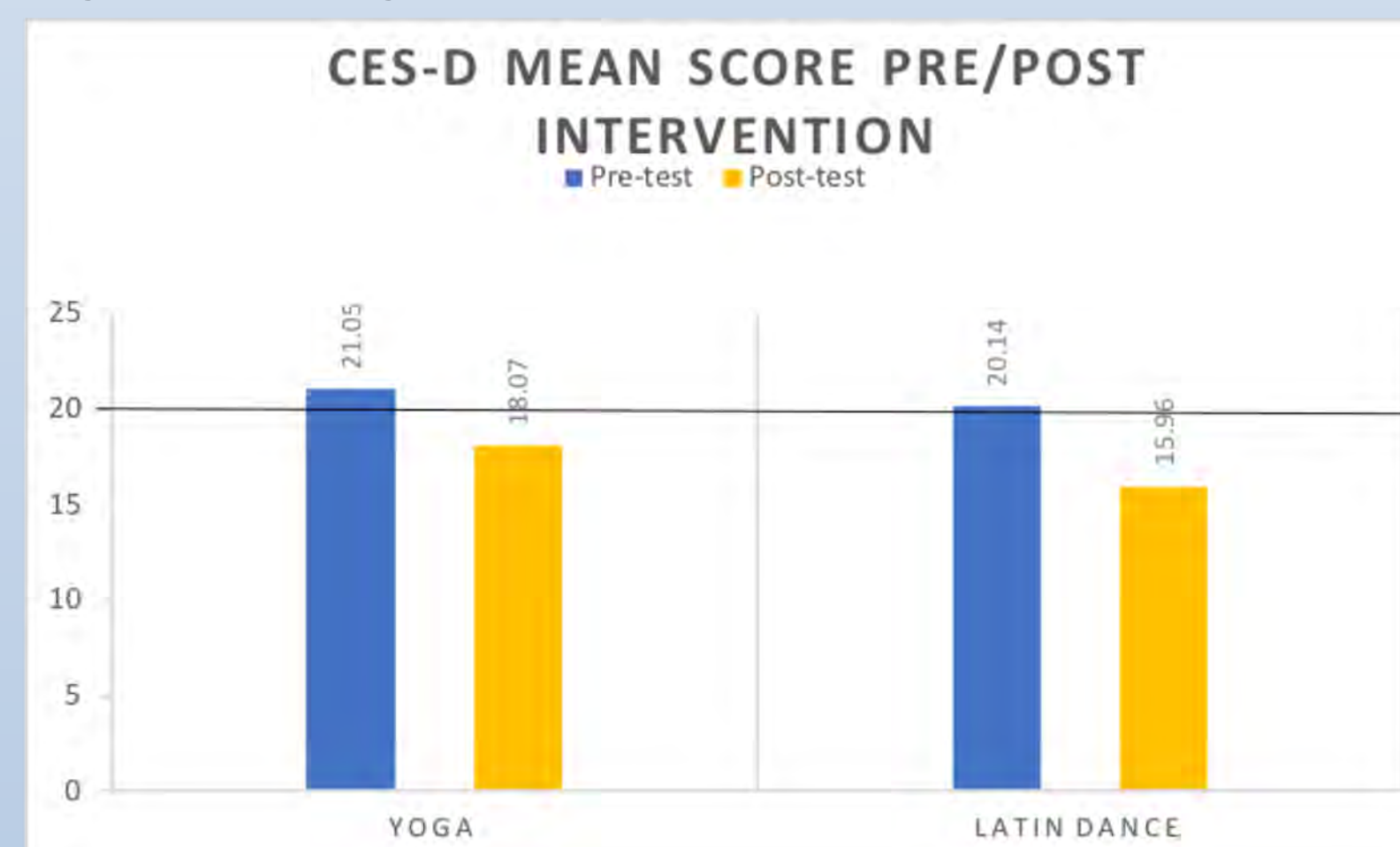
Image 1: Average PSQI Sum Scores Pre and Post Intervention



Scores ABOVE black line indicate mean PSQI sum scores that are indicative of poor sleep (>5)

Depression:

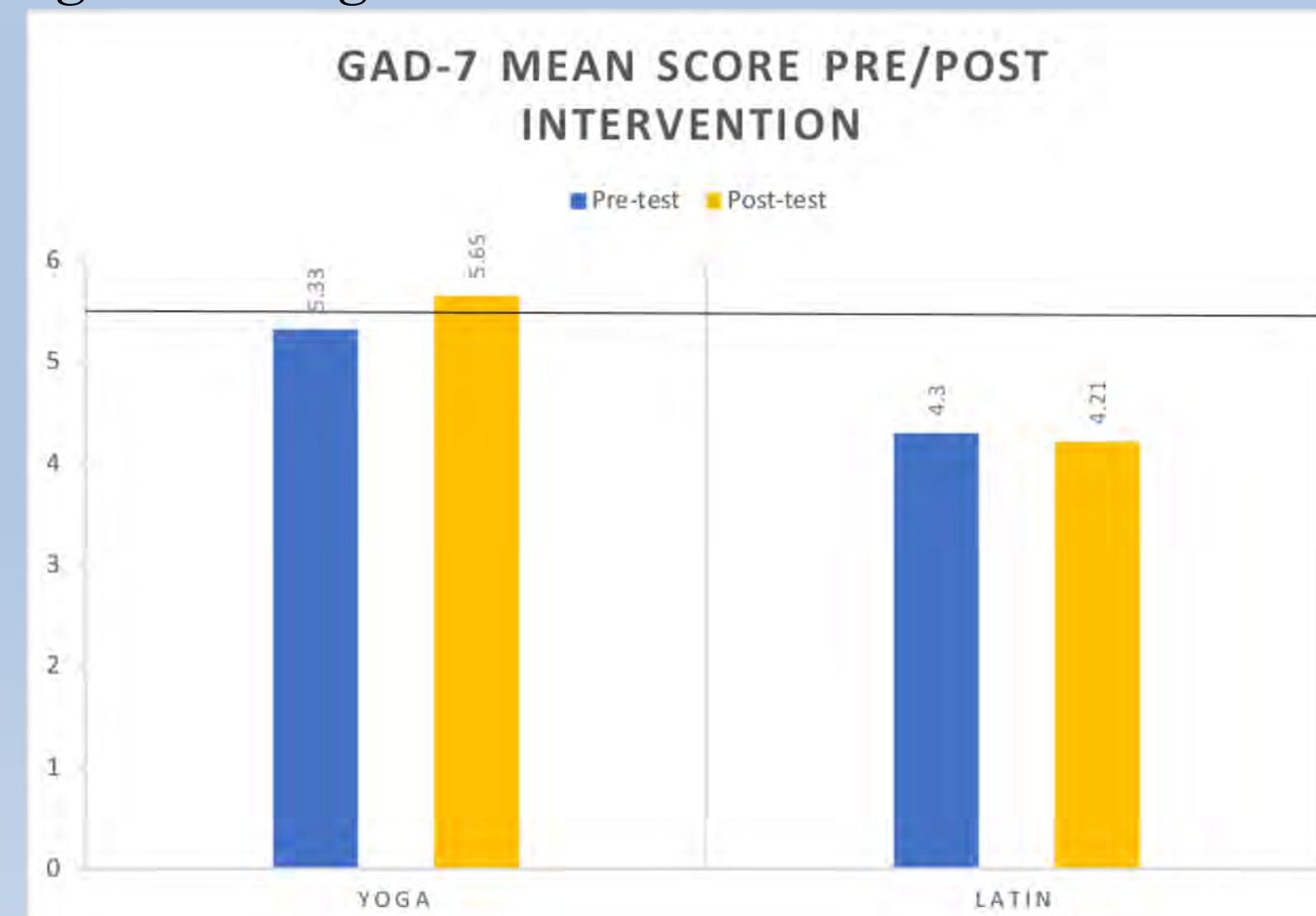
Image 2: Average CES-D Scores Pre and Post Intervention



scores BELOW the line indicate mean CES-D scores considered depressed (>16)

Anxiety:

Image 3: Average GAD-7 Scores Pre and Post Intervention



scores ABOVE the line indicate mean GAD-7 scores indicative of mild anxiety (5-10)

RESULTS, Cont'd

- Sleep Quality ANOVA results: In overall global/sum PSQI score ANOVA results, time had significant effect on score ($F = 26.49$, $p = 0.000$), but there was no significant impact on score by group ($F = 0.000$, $sig = 0.993$)
- Depression ANOVA Results: The ANOVA results showed a significant difference in overall mean CES-D score over time ($F = 20.235$, $p = 0.000$). ANOVA results indicated that there was no significant effect by group in CES-D scores ($F = 0.5640$, $p = 0.454$)
- Anxiety ANOVA Results: ANOVA results across yoga and Latin dance groups did not show a significant impact of time on mean score ($F = .111$, $p = .740$). ANOVA results also indicated there was no significant effect by group ($F = .340$, $p = .551$) on mean score of participants

CONCLUSIONS & FURTHER DIRECTIONS

- ANXIETY - The interventions of both Yoga and Latin Dance did not have significant impact on anxiety score post-intervention, and did not have significantly difference in their impact
- SLEEP QUALITY - Both interventions had a positive impact on sleep quality, but there was no significant difference in how the interventions impacted PSQI scores.
- DEPRESSION - Both interventions, Yoga and Latin Dance, had a significant positive impact on depression scores in college students. There was no significant difference in how the interventions impacted depression scores.

Confounding Variables: Considering that the intervention was conducted during the university semester, final exams played a role in the worsening of mean scores due to increased stress.

Future directions for this studies include (but are not limited to):

- Yoga interventions with a focus on certain poses that alleviate depression
- Yoga courses with an emphasis on the importance of meditation