

4-16-2021

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Recommended Citation

Nguyen, Joseph; Santa-Pinter, Landon; Thomas, Neenu; Bell, Caleb; Leffler, Emma; Drinnon, Sally; Drinnon, Stephen; and Appeddu, Lisa, "Measures of Anxiety and Mindfulness in Student Pharmacists after Conducting a Relaxation Activity" (2021). *Student Research*. 6.
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Measures of Anxiety and Mindfulness in Student Pharmacists after Conducting a Relaxation Activity

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Background

- Student pharmacists experience stress, work overload, and burnout throughout the intensive Doctor of Pharmacy curriculum^{1,2}
- In Spring 2016, ninety-five student pharmacists from the first three didactic years of the curriculum were recruited from Southwestern Oklahoma State University College of Pharmacy (SWOSU COP) to be a part of a study to investigate the potential usefulness of relaxation techniques in improving personal well-being and mindfulness.³ Mindfulness is the focusing of one's awareness on the present moment while acknowledging and accepting one's feelings, thoughts, and bodily sensations, used as a therapeutic technique.⁴
- Study participants in that study were assigned to conduct one of the following activities: body scan, mindful meditation, 4x4 breathing meditation, power posing, or mental stimulation by using the Word Streak mobile app. After conducting the activity and providing saliva samples for evaluation of physiological biomarkers, participants completed validated surveys to assess anxiety (Generalized Anxiety Disorder, GAD-7⁵, and Four System Anxiety Questionnaire, FSAQ⁶) and mindfulness (Kentucky Inventory of Mindfulness Skills, KIMS⁷).
- In preparation for an upcoming mindfulness study, it was determined that the 2016 survey data was never analyzed.

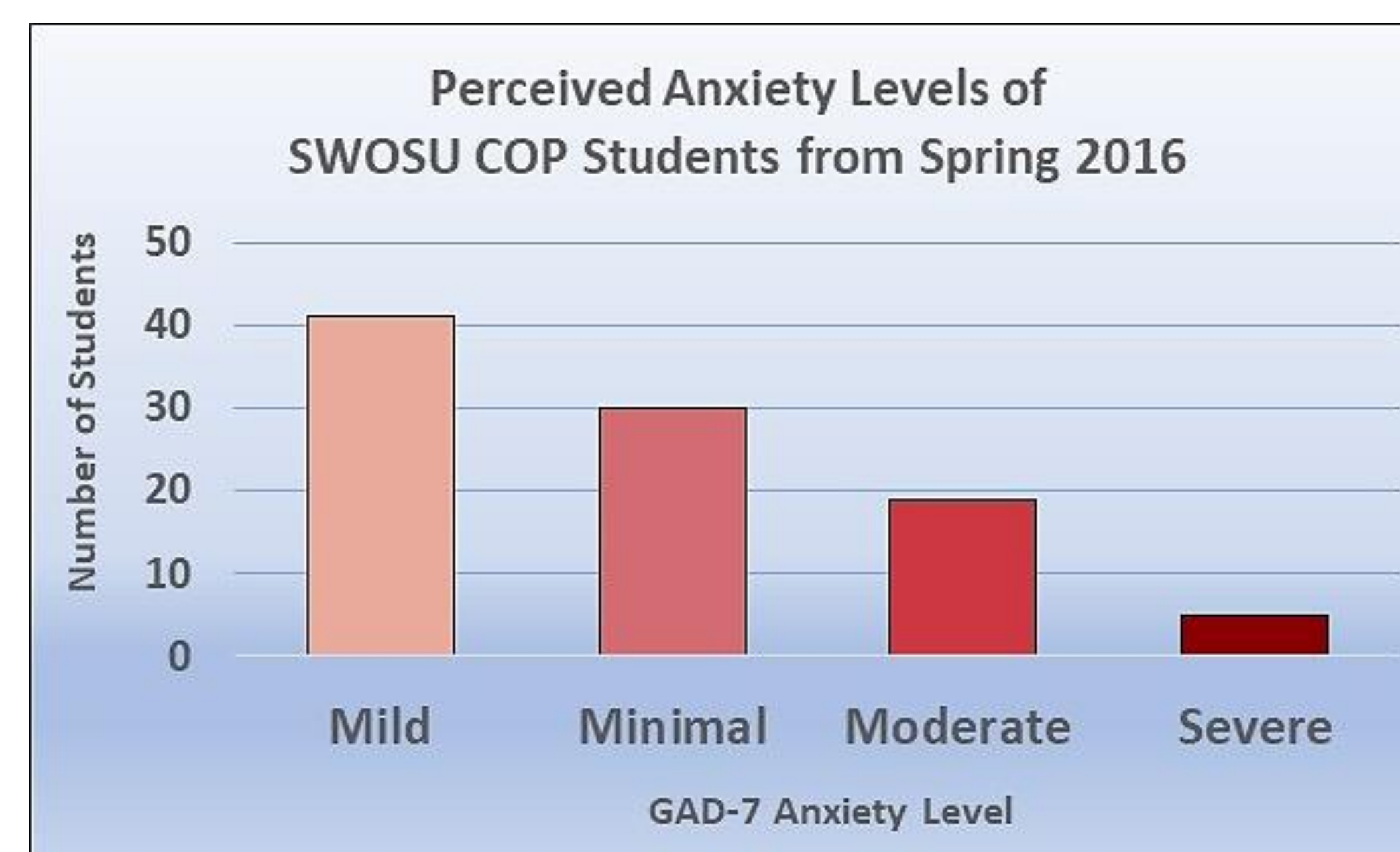
Purpose

- To examine past levels of anxiety and mindfulness in student pharmacists.
- To evaluate factors such as assigned activity, gender, and year in pharmacy school which could have impacted their anxiety and mindfulness levels.

Methods

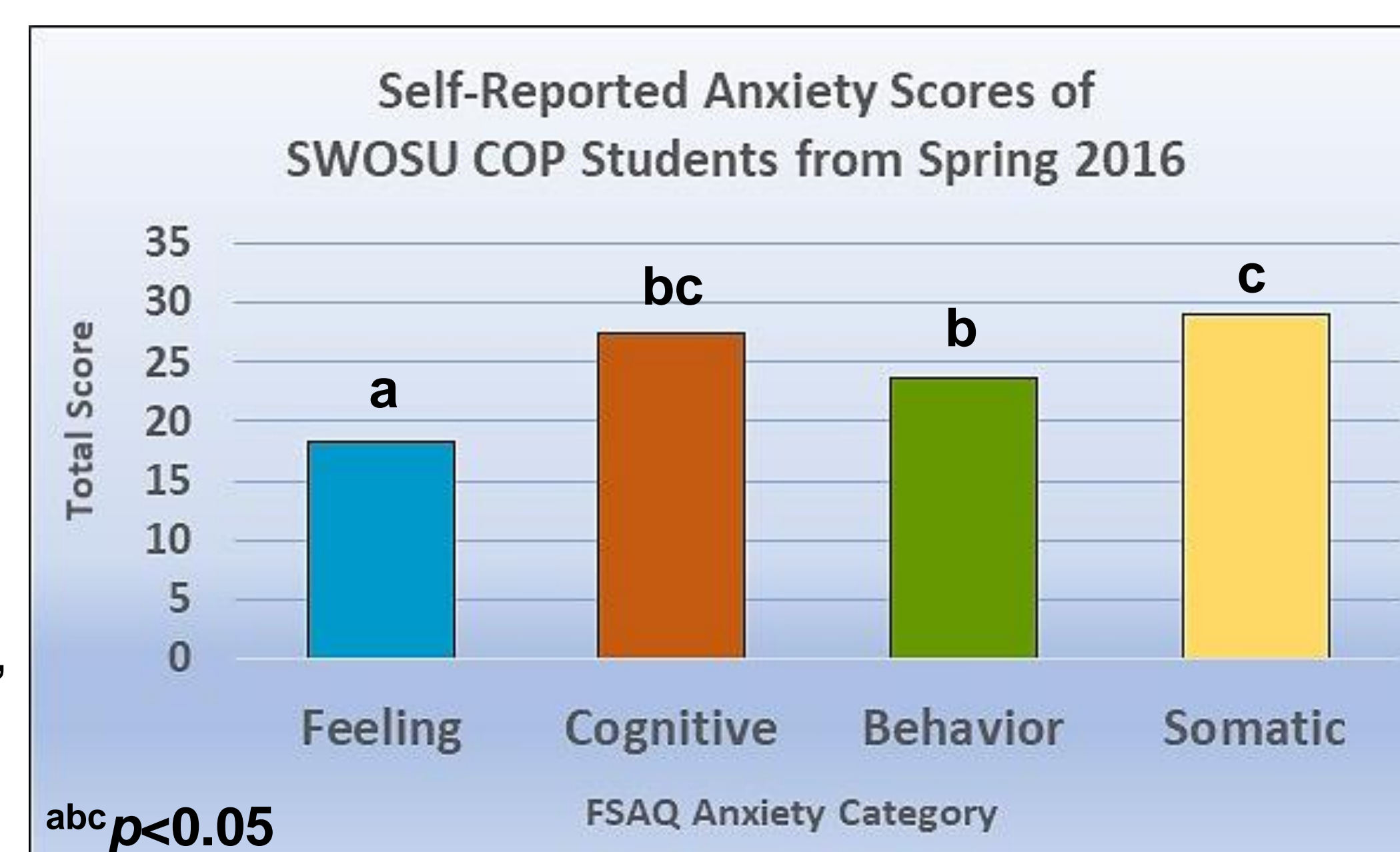
- For GAD-7: Scores of 0, 1, 2, and 3, were assigned to the response categories of 'not at all', 'several days', 'more than half the days', and 'nearly every day', respectively, and added together for the seven questions. Score totals of less than 5, 5 to 9, 10 to 14, and over 15 relate to mild, minimal, moderate and severe anxiety levels, respectively.
- For FSAQ: Researchers categorized questions into four areas (Feeling, Cognitive, Behavioral, and Somatic), and weighted scores for each question were totaled for each area. The higher the score, the higher the anxiety level.
- For KIMS: Researchers categorized questions into four areas (Observe, Describe, Act with awareness, and Accept without judgment). A higher summed score in each area indicates higher mindfulness.
- Data were analyzed by Chi Square tests for categorical data (GAD-7) and non-parametric tests for scores (FSAQ and KIMS) using JASP (Version 0.12.2) [JASP Team (2020), Amsterdam, the Netherlands].
- No authors in this presentation have any financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

Anxiety by GAD-7



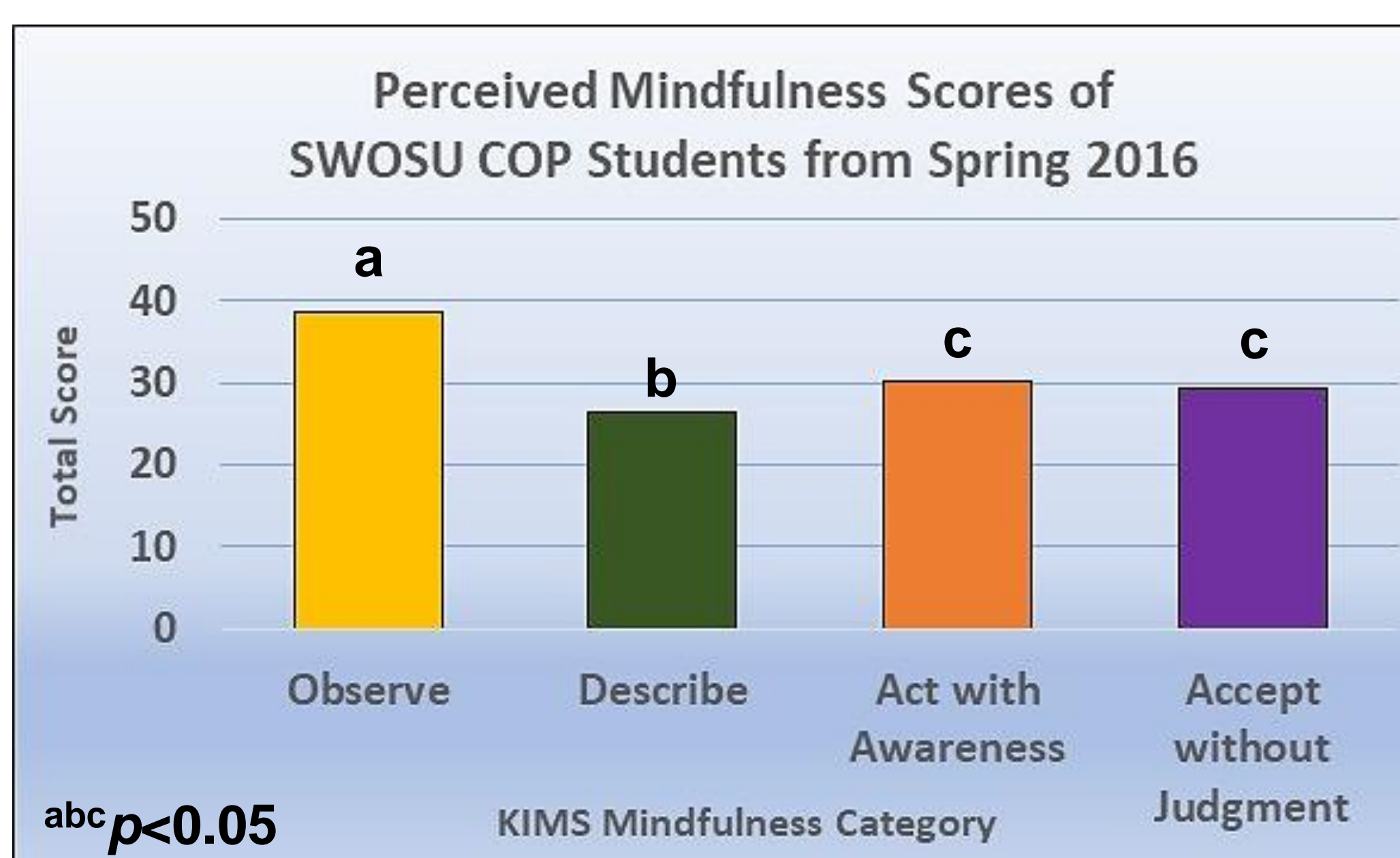
- No interactions were found between assigned activities and GAD-7 level.
- Anxiety as measured by GAD-7 illustrated most student pharmacists had mild and minimal anxiety levels ($p < 0.001$).

Anxiety by FSAQ



- No differences were found among assigned activities and FSAQ categories.
- The FSAQ results suggest student pharmacists overall had highest anxiety levels in the "somatic" category and lowest in the "feeling" category ($p < 0.001$).

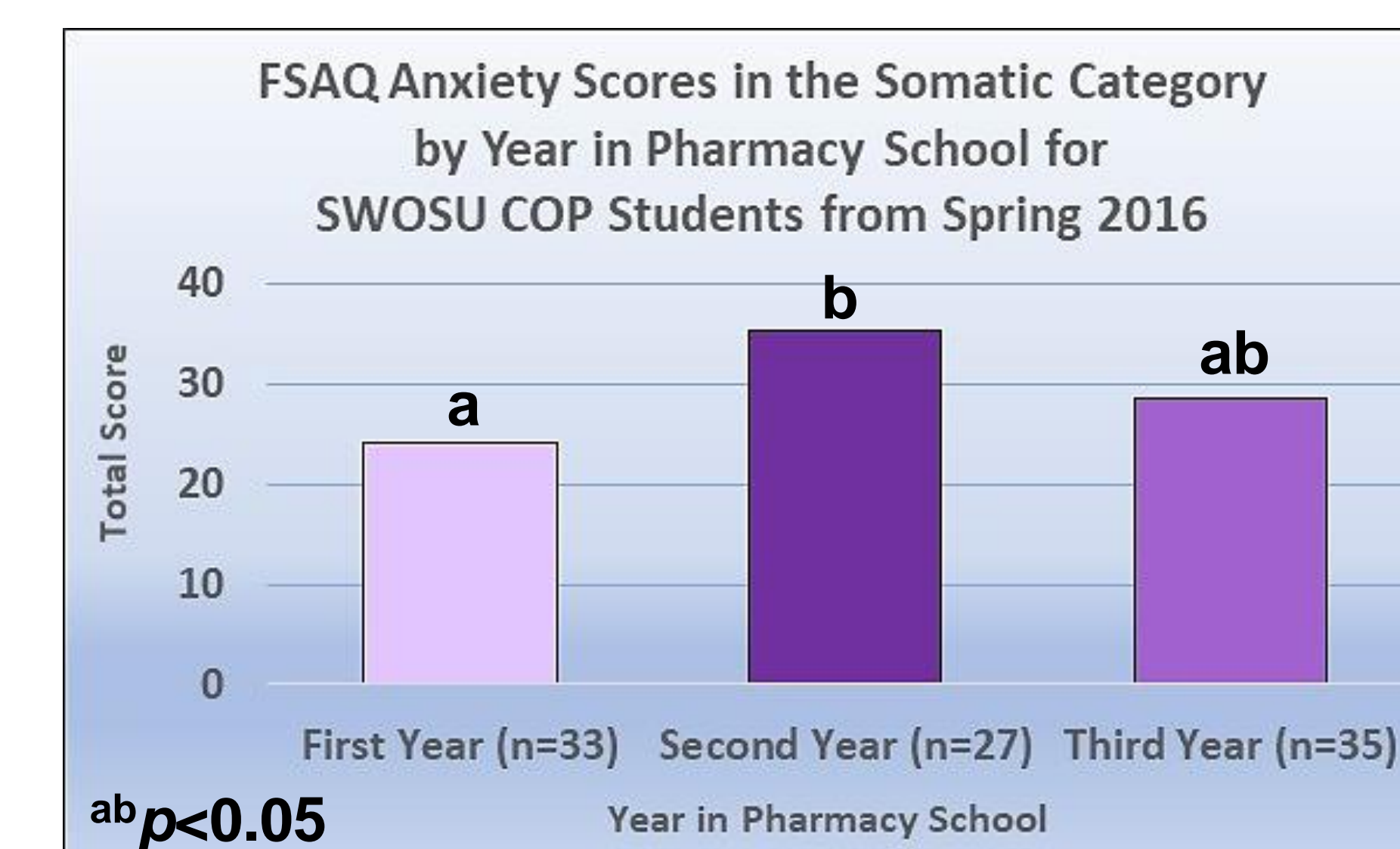
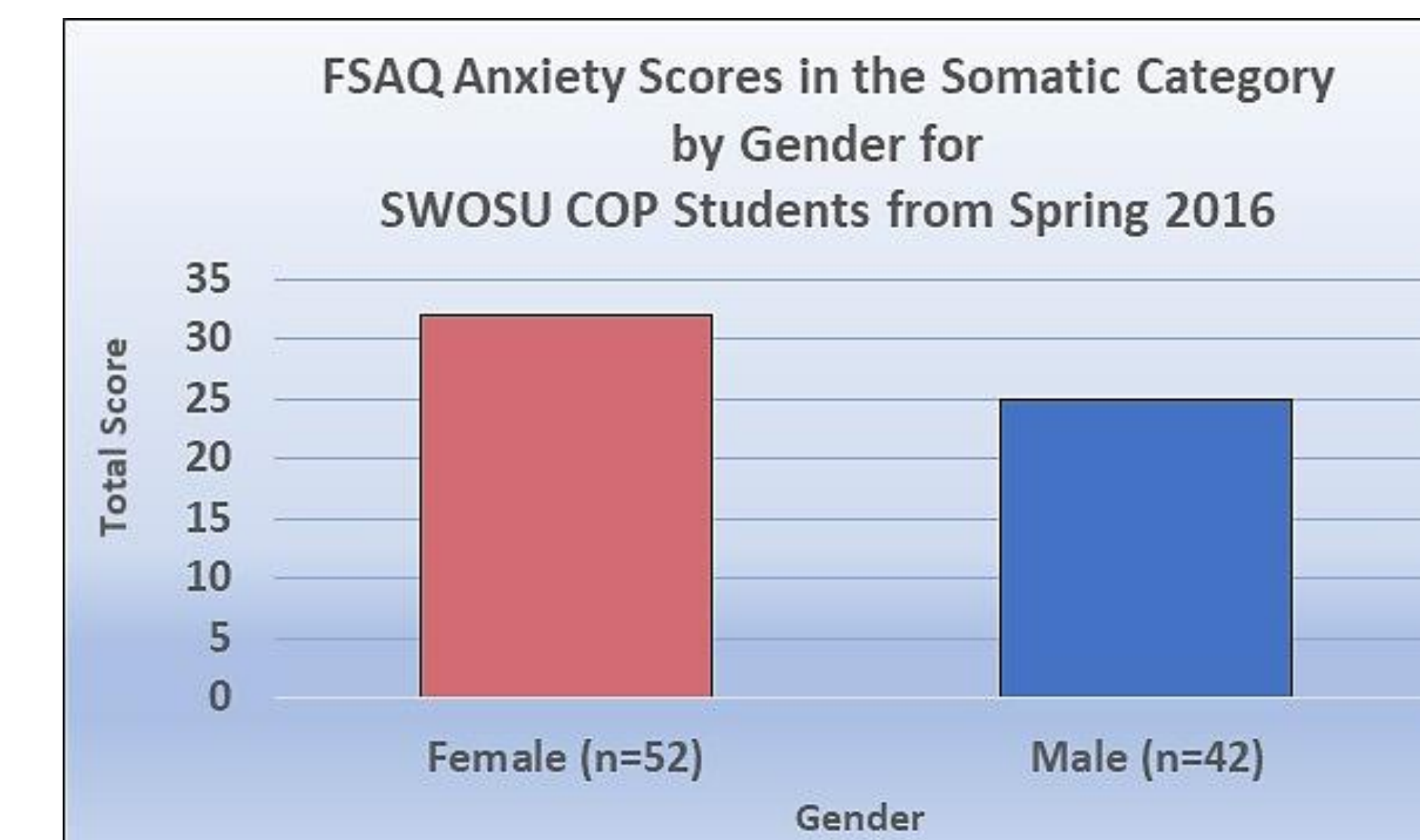
Mindfulness by KIMS



- No differences were found among assigned activities and KIMS categories.
- "Observe" was highest in student pharmacists, while perceived ability to "describe" thoughts, feelings, and sensations was lowest ($p < 0.001$).

Factors Impacting Survey Outcomes

- Neither gender nor year in pharmacy school significantly impacted KIMS ($p > 0.337$) or GAD-7 scores ($p > 0.323$).
- Within the somatic category of the FSAQ, female student pharmacists experienced higher anxiety as compared to their male counterparts ($p = 0.047$).



- In this same category, students in their second year of pharmacy school had higher anxiety scores as compared to first-year students ($p < 0.015$).

Conclusion and Future Directions

- Findings from Spring 2016 suggest that, while overall anxiety levels were low in student pharmacists, specific components of anxiety and mindfulness could be targeted for improvement.
- Potential limitations include that data was only collected once after assigned activities were performed; anxiety and mindfulness measures were subjective; and data from 2016 was reviewed retrospectively.
- These findings will be compared to the results of current studies as being performed by these researchers, who are investigating the anxiety, mindfulness, and application of relaxation techniques in student pharmacists dealing with the challenges and uncertainty of COVID-19.

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