

## PURPOSE

- Prolonged exposure to the stressors of healthcare practice is associated with increased rates of anxiety, depression, and burnout in clinicians.
- The American Association of Colleges of Pharmacy (AACP) recently adopted the following position, "AACP believes that [everyone] should contribute to a culture of wellness and resilience in pharmacy education."
- Integrating mindfulness practices into healthcare education has shown promise in combating mental health problems, and it is reasonable to suggest that pharmacy students would benefit comparably.
- We sought to investigate the benefits of mindfulness training in early career student pharmacists.

## KEY POINTS

1. Student stress scores increased from baseline to the end of the first semester of pharmacy school.
2. Mindfulness is a known mechanism proven to reduce stress. Students were receptive to this technique and the vast majority reported mindfulness to be an approach they perceive as helpful to manage stress.
3. Mindfulness, alongside other tools to promote mental health and wellness, should be considered for integration into the PharmD curriculum.

## METHODS

- The Cohen Perceived Stress Scale (PSS), Five Facet Mindfulness Questionnaire (FFMQ), and questions regarding stress coping strategies were administered to all incoming University of Kentucky College of Pharmacy students via REDCap electronic data capture tools hosted at University of Kentucky (Pre-Survey).
- The novel 'Introduction to Stress and Mindfulness in Healthcare' session was presented to first-year students during new student orientation.
- Upon completion of the third set of block exams, the PSS and FFMQ were re-administered by the same method with the addition of a 9 question Mindfulness and Wellness Questionnaire to evaluate changes in stress from baseline and evaluate student receptivity to the 'Introduction to Stress and Mindfulness in Healthcare'.
- PSS scores were analyzed in their raw form, but were also transformed into the following categories based on score: low (0-13), moderate (14-26), and high perceived stress (27-40). FFMQ scores were analyzed in their raw form, but were not transformed into categorical data.

Table 1

PSS Score	Pre-Survey	Post-Survey
Mean	16.8 ± 5.7	19.0 ± 6.3
Stress Level Change from Orientation		
Increased		51 (71.8%)
Stayed the Same		17 (23.9%)
Decreased		3 (4.2%)

## RESULTS

- The initial Pre-Survey was completed by 132 (96%) students, and 71 (52%) completed the Post-Survey. Pre- and Post-Survey responders were similar in age, race, sex, and education (Appendix 1, per request).

### Results of the Pre-Survey

- Students scored a mean of 16.8 ± 5.7 on the Cohen Perceived Stress Scale. Respective categorical results are depicted in Figure 1.
- No students directly reported using mindfulness techniques as a way to relieve stress and only 22 (17%) reported using meditation.
- Alcohol consumption was reported as a way to relieve stress by 41 (31%) students.
- Students were asked to identify specific student success resources about which they desired more information. Of the 48 students that responded, 27 students responded with keywords including, 'counseling', 'anxiety', 'self-care', or 'stress'.

### Results of the Post-Survey

- Students scored a mean of 19.0 ± 6.3 on the Cohen Perceived Stress Scale. The change in categorical strata, as well as student's self-reported change in stress is depicted in Figure 1.
- Mindfulness was perceived to be an effective tool to manage stress by 58 (82%) of students and 36 (51%) attempted mindfulness practices in the last 3 months. Of those that attempted mindfulness to manage their stress, 28 (78%) said it was very helpful or helpful, 5 (14%) said it was neither helpful nor a poor experience.
- No students rated mindfulness as a poor or very poor experience and only 9 (13%) students said mindfulness is not a tool they perceive as helpful to manage stress.
- The Mindfulness and Wellness Questionnaire results are summarized in Figure 3.

## DISCUSSION

- Student stress increased from baseline demonstrated by an increase in mean PSS and student self-reported change in stress (Table 1).
- Mindfulness is an approach to life that involves learning to give the bulk of your attention to your present-moment experience, instead of spending time worrying about the future or regretting the past. This practice has been linked to increased patient satisfaction and safety, reduced clinician burnout, and strengthened job performance.
- Although we discussed techniques aimed at reducing stress that was not yet experienced by first-year students, several factors that likely contributed to the success of the presentation.
- Participation was guaranteed by integrating the discussion into the agenda for the mandatory first-year orientation.
- A nationwide survey assessing the predictors of stress in pharmacy students demonstrated that early interventions and assistance in the first two professional years may be particularly effective.
- Receptivity was enhanced by delivery from seasoned peers.
- FFMQ is only likely to change with more intensive mindfulness training and may explain the insignificance of change in FFMQ (125 ± 17 vs 122 ± 15).

Figure 1

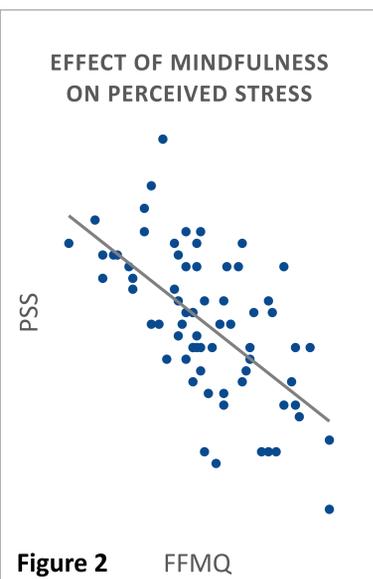
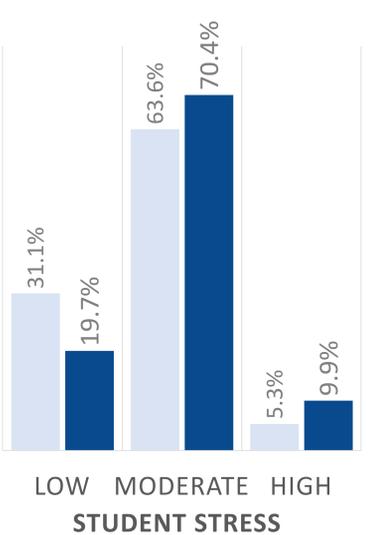
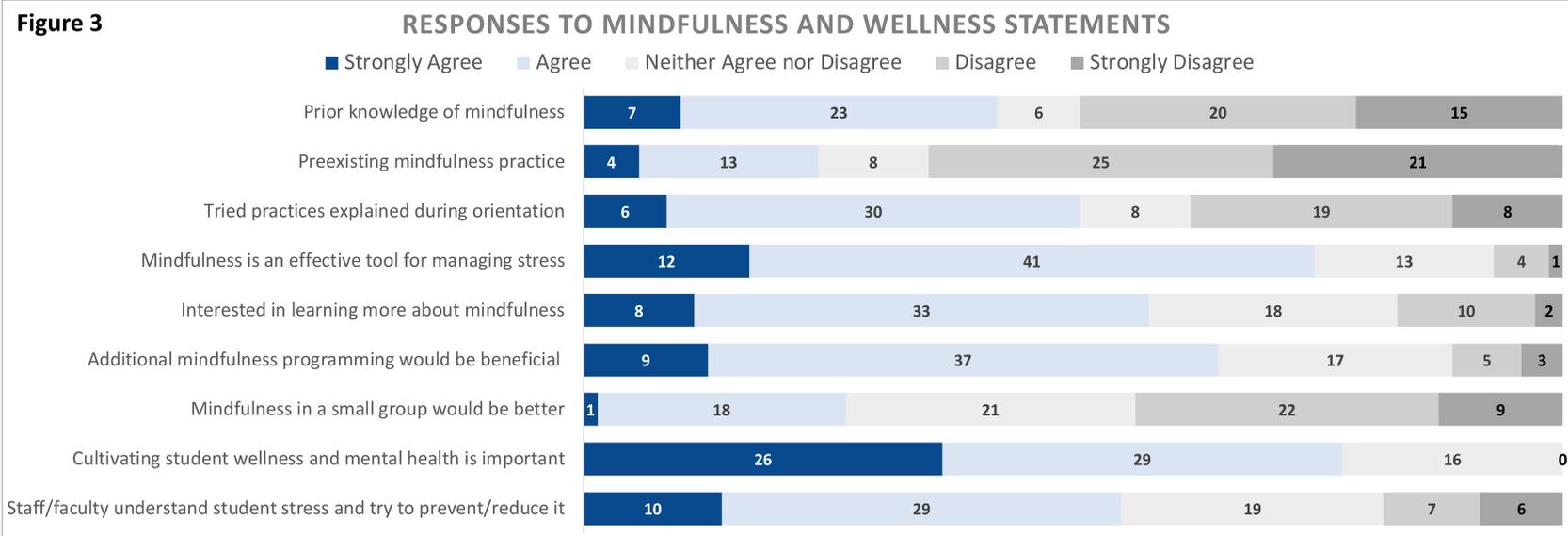


Figure 2 FFMQ

Figure 3



## CONCLUSION

- Mindfulness techniques can develop internal calm that leads to resilience in the constantly changing external conditions of student lives, continuing into care for patients.
- The student-led introduction to stress and mindfulness practice in healthcare was well received by first-year pharmacy students.
- While it may not be a cure-all, mindfulness training can be considered one of many tools that should be made available as a co-curricular, stress management intervention.