

Title: Wellness Wednesdays: Improving Student Mindset~Increasing Success

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Abstract: Stress experienced in college has been identified in multiple studies to impact a student's academic success. Stress is even more significant a problem among high-risk students. This article describes a project, Wellness Wednesdays, that occurred in an inner city of Oakland, California at Laney College, a community college. This quality improvement project was monitored for three semesters with a total of 324 self-reported surveys on the impact of this wellness program. The results indicate a statistically valid improvement using the right-tailed z-test showing a change of 8.9% to 14.4%. The authors believe if more community colleges and universities utilized this model of wellness workshops, student academic success could be vastly improved.

Background

In 1999, Indra C. Thadani, RN, MS, and lead author, began a new role at Laney College in Oakland, California as the college nurse / health services coordinator. During the very first weeks of her new job, she learned that San Francisco City College (SFCC) right across the bay had a much larger, more robust health services program as well as ten mental health therapists. At Laney, there were no mental health professionals. Ms. Thadani subsequently learned that SFCC had more developed health services because the health services team saw a need for more services and the College resolved to charge a health

fee of \$10-\$15 per semester per student, which supports all the student health services functions. She also learned that 75% of California Community Colleges charged a similar health fee.

Over the next nine years, Ms. Thadani worked with the Board of Trustees and the Health Coordinator at the Peralta Community College District, Laney College's district administration, to implement a health fee for all the Peralta Colleges in 2010. During this time, from the health assessment of students that occurred every two years, they learned again and again that stress was one of the biggest impediments to academic success. As a result of learning this information, Ms. Thadani provided traditional stress management workshops, i.e. a PowerPoint presentation on what stress is and how to manage it. Students who attended the workshops reviewed the definition of stress; the fight-or-flight response; basic physiology; physical, mental and spiritual symptoms of stress; and various self-care modalities, but very few experiential activities.

In 2015, Ms. Thadani hired an educational psychologist who was working at the Prevention Institute down the street from Laney College where they provided a program that included exercising to music, meditation, a healthy sit-down dinner at a table with six people, and conversation guided toward identifying positive aspects of one's community and culture. Ms. Thadani worked to bring the educational psychologist and the Prevention Institute's team to Laney for a similar one-day program. The process took about three hours and was prefaced with a four-question survey on how participants felt about their communities, their bodies, and their stress levels. The same questions were used in a post session survey. Results indicated that students enjoyed the format.

In the fall of 2018, the Prevention Institute team could no longer provide the workshop, so Ms. Thadani decided to do her own program in a one-hour lunch-time workshop. She already was an avid meditator and had taught dance for over twenty years

in the community, so it was an easy transition for her to take over this project. What was different besides the time frame was that the facilitators would discuss with participants various health and wellness topics chosen from surveys completed by students. The program, titled “Wellness Wednesdays”, covered general self-care tips; improving sleep; communication; spiritual wellness; healthy relationships; financial wellness; freedom from addiction; maintaining and achieving a healthy weight; and changing one’s mindset.

Literature review on stress among college students, disparities, and how mindset can influence academic success:

Stress is defined as a mismatch between the demands of our lives and the resources to meet the demands, which then leads to feelings of strain and frustration. Stress has been a major issue for college students, and it has been on the rise in recent years as post-secondary education has become more rigorous, along with students’ acclimation to the pressures present in their new academic, personal and social environments (American College Health Association report, ACHA 2019). Although certain levels of stress are necessary for the improvement of one’s performance, too much of it may produce negative effects on students’ overall health, and eventually lead toward poor academic performance and success. In fact, prolonged or repeated exposure to multiple stressors can yield negative effects to an individual’s mental and physical health (Edwards, 2018 dissertation; Deckro et al., 2002).

Research has shown that higher levels of stress has been linked to an increased risk of anxiety and depression, respiratory illnesses, a deficient immune system response, prolonged recovery period from an illness and injury, cardiovascular diseases, and accidents (Edwards, 2018; Cohen et al., 2007). In addition, stress and

insomnia has been correlated (Deckro 2002), and poor sleep and/or lack of sleep has been related to poorer academic performance (k. Okano 2019). Stress also has been observed with poor coping strategies of students, which may compromise their health and lead to smoking, unhealthy eating, poor sleeping habits, and substance abuse, and negatively impact academic achievement (Schneiderman et al., 2005).

For college students, stress has been associated with having a negative perspective toward one's health and outlook (Edward, 2018). Past studies have reported that students experiencing high levels of stress had less satisfaction (Coccia & Darling, 2016; Krumrei-Mancuso et al., 2013), and a decrease in happiness and closeness with their social support system (King et al., 2014). Also, students have steadily reported that the amount and quality of their sleep decreased due to stress (American College Health Association Report, 2016, 2019; Edwards, 2018; Garrett et al., 2017; Wallace et al., 2017) and that stress caused a poorer overall experience with their mental and physical health (Wallace et al., 2017; Anders et al., 2012). Furthermore, Garrett et al. (2017) showed that college freshmen experienced the highest levels of stress compared to sophomores, juniors, and seniors, and that stress for all students generally increased throughout the semester and peaked during midterms and finals.

In California, since the passage of Proposition 63 in 2004, now known as the Mental Health Services Act, funding has been allocated to the development of programs and resources to address the issue of mental health in colleges, and for the improvement of students' academic performance (Flory, 2019). Between 2009 and 2015, the Center for Collegiate Mental Health found that colleges observed an increase

of 40% in the utilization of counseling services by students, with the most common concerns among students being anxiety and depression (Flory, 2019).

In a 2019 national survey of 67,972 students, the students reported that stress (34.2%) was the most prevalent contributing factor to their poor academic performance, an increase of 4.2% since 2015. Stress was followed by anxiety (27.8%; increase of 5.9%), depression (20.2%; increase of 6.4%), and sleeping difficulties (22.4%; increase of 2.4%), and may suggest that stress is the leading cause of academic failure (ACHA, 2019).

Most of the community college students surveyed reported that they were working multiple jobs, caring for children, and taking care of parents while trying to balance it all with their academics (Flory, 2019). Community college students were more likely to be predisposed to multiple issues that may affect their mental health, personal lives, and academic endeavors due to part-time and full-time employment, single-parent households, lower socioeconomic status, no high school diploma, the demand of academic requirements, social and familial responsibilities, and financial concerns (Edwards, 2019). These reasons compound and increase stress to toxic levels.

In California, community college students reported facing greater barriers that they attributed to their mental health and the pressure to achieve academic success. In a survey of 40,000 California community college students, 50% reported that they had been food insecure in the previous thirty days; 60% reported that they had been housing insecure, and 19% reported that they had been homeless in the previous year (Flory, 2019). In addition, community college students were reported to have lower academic performance (i.e., GPA) compared to university students and a diminished

subjective sense of well-being and physical health (Edwards, 2018; Anders et al, 2012). They were more likely to have had negative experiences, and to a much higher degree compared to students at the baccalaureate university level; their experiences included trauma-related stress events, such as witnessing or being the victim of assault, which are large determinant factors that influence students' overall well-being and academic success (Anders et al., 2012).

Trauma-related stressors have been measured using investigative data such as Adverse Childhood Experiences (ACEs) which categorizes experiences into three main groups: abuse, neglect, and household challenges. Each group has subgroups for a total possible ACEs score of 10. An ACEs score totals exposure occurring in childhood and links that exposure to chronic health problems, mental illness, and substance use in adulthood. These studies have shown a dose-response relationship between trauma and unhealthy behaviors such as smoking, drinking, disordered eating, and physical inactivity. Dose-response relationship measures the relationship between the substance administered and its response, where a higher dose causes a greater response. ACEs exposure showed a significant difference in educational attainment, with those exposed to four or more ACEs less likely to report a college degree (16.2%) compared to those with zero ACEs (28.3%) (Waehrer, G.M., et al., 2020).

In 2016 a study published by the HOPE Lab at the University of Wisconsin-Madison surveyed ten community colleges in the U.S. about mental health and its impacts on students' academic success and quality of life. This study showed that more than 4,000 community college students who took part in this survey experienced a current or recent mental health condition. Fewer than half of these students were

receiving any mental health services. Students ages 25 and younger were more likely to have an untreated mental health condition (Flory, 2019). Previously, a 2011 study by Watson et al. suggested that the onset of most lifetime mental health disorders (e.g., anxiety) occurs before or during the college age group of 18-24 years old, and that an estimated one in four people under the age of 25 live with this condition, which is considered to be a central risk factor for academic failure contributing to both psychological and academic distress. Anxiety had surpassed depression as the number one mental health issue for college students (Opon, 2019).

Compared to four-year colleges and universities, community college students were reported to experience more stress, less social support, and less access to mental health services (Flory, 2019). Eisenberg et al. (2016) found that six million -- nearly 50% -- community college students presented one or more symptoms related to mental health conditions, many more than their similarly aged four-year university counterparts. Also, Eisenberg and Goldrick-Rab (2016) found that 23% of community college students experienced the most severe frequency of depressive symptoms compared to 11% of their four-year counterparts.

In 2017, the American College Counseling Association, reported that fewer than 13% of community colleges provided mental health counseling services for students compared to 56% of 4-year universities (Opon, 2019). Most community colleges do not have mental health counselors on staff, and among those that do, there was a ratio of 1 to 3,000 counselors to students, compared to the 1 to 1,600 ratio at 4-year universities (Eisenberg et al, 2016). In addition, researchers found that lack of mental health resources at community colleges placed students at higher risk for developing severe

mental health disorders that can negatively impact academic performance and ability to graduate from college (Opon, 2019). Furthermore, if left untreated or undiagnosed, any mental health conditions could lead to the development of more severe mental health conditions and the likelihood of the students continuing to struggle alone, without counseling care (Opon, 2019).

In a 2014 study, Katz & Davison compared data from the National College Health Assessment on community colleges with 4-year university students based on the outcome variables related to mental health: psychological treatment or diagnoses, feelings of distress, and the psychological health information available and received through their respective education campuses (Edwards, 2018). From their findings, community college students reported more diagnoses and treatment of schizophrenia, bipolar disorder, addictive disorders, and distress symptoms (e.g., hopeless feelings, overwhelming anger, suicidal ideation or attempts); less availability of mental health information; and a lower desire or inclination to receive it (Edwards, 2018; Katz & Davison, 2014). While the four-year college students reported more mental health challenges with overwhelm, exhaustion, loneliness, sadness, and anxiety (Katz & Davison, 2014), the mental health challenges of community college students appeared to be more severe.

Literature Review on Interventional Strategies to Improve Mental Health

Studies have shown that mindful exercise has been a promising intervention toward relieving stress that could help improve the perception of mood and stress in community college students (Opon, 2019). Mindful exercises incorporate mindfulness

practices with physical movement (La Forge, 2016) and include e.g., meditation, yoga, body scans, focused breathing, qigong, Tai Chi, walking, general stretching, and pilates (Emerson & Hopper, 2012; Falsafi, 2016; Telles et al., 2009; Tsai et al, 2003). These activities have been shown to improve the overall well-being of the individual by lowering anxiety, improving attention control, and enhancing mood (Opon, 2019; Falsafi, 2016; Sharma & Haider, 2015; Tsang, 2004).

Mindful exercises have also been shown to help college students cope with stress, anxiety, and depression (Call, Miron & Orcutt, 2013). Furthermore, as compared to mindful exercise, Netz and Lidor (2015) found that a mindful exercise could be compared to a single session of low-exertion aerobic exercise yielding similar beneficial results in enhanced mood of the individual. The results of these studies suggest that mindful exercises are a viable approach to assist community college students in improving their stress management, aiding mental health, lowering levels of perceived stress, and increasing their academic productivity (Opon, 2019).

Even though numerous studies support the beneficial and positive effects of mindful exercise, the level of research on this topic within the academic setting remains sparse (Call, Miron & Orcutt, 2013). Katz & Davison (2014) suggested that there is a critical need to assess the influence of mindful exercise on the mental health of community college students, given the prevalence of mood disorders and other mental health issues reported within this population. To better understand the positive effects of mindful exercise on community college students, Opon conducted a 16-week study (n=35), with the aim of evaluating the influence of mindfulness on perceived stress and mood state of the individual. During the study, he assessed the levels of perceived

stress from his participants through questionnaires administered at the beginning, middle, and end of the class sessions for two courses he taught at a local community college (Opon, 2019).

After the study, statistical analysis did not reveal significant changes in mood state or stress; however, there were positive correlations with assessed mood states involving anger-hostility, tension-anxiety, and vigor-activity (Opon, 2019). Opon suggests that the absence of statistical significance could have been due to the low sample size, and that a larger sample size could provide a higher statistical power (Opon, 2019). The author concluded that mindful exercise may have a positive influence on perceived stress and mood state, and that the information gained from this study could be incorporated into the curriculum to tailor instruction to the identified needs of the participants, i.e., setting intentions that focus on school, work, relationships, and greater attention to meditation and breathing techniques (Opon, 2019; Morrison et al., 2014).

In 2002, Deckro et al., conducted a brief six-week, low-cost interventional study program (n=128), which involved six 90-minute group sessions on relaxation response and cognitive behavioral skills to reduce students' psychological distress, anxiety, and perception of stress. The study found that those in the experimental group observed a significantly greater reduction in anxiety and perceived stress compared to the control group. The authors concluded that mind/body training may be a useful preventive intervention resource for college students, although further research is still needed to see if the positive treatment effects can be sustained over a longer period of time (Deckro et al., 2002).

Significance

Every two to four years, the Peralta Community College District of California conducts a survey to assess the students' healthcare needs. Laney is one of the four Peralta colleges. In 2016, a Health Assessment Planning Pathways Yielding Success (HAPPYS) survey was developed by Ms. Thadani. She solicited input from mental health specialists, nurses, and the district's Research and Development Department. 1,403 surveys were returned by Peralta students. A large number of responses came from students 16-30 years of age, and they indicated stress and stress-related disorders were their highest concern. In 2021, one of the Peralta Colleges had 418 Laney students complete the HAPPYS survey. Stress was the primary concern, with prevalence increasing from 19% to 46% over the previous four years. The increasing stress levels have been related to a decrease in students' academic performance and/or discontinuation of their education prior to graduation from the community college and/or transfer to a four-year university.

Given these findings, and in response to the results of the 2016 and 2021 HAPPYS survey, a weekly intervention program entitled Wellness Wednesdays was developed at Laney College to improve the students' mindset and motivation through stress management. Since its founding, this weekly, 60-minute workshop had been conducted for over three semesters, and was comprised of a guided meditation, light exercise, weekly topic presentation and discussion, and a free nutritious lunch. The topics of this interventional workshop included self-care, financial wellness, spiritual wellness, weight management, freedom from addictions, etc. The program has served a total of 324 students. A pre-and-post-workshop survey was conducted to assess the

students' overall well-being, outlook of academic and personal success, emotional well-being, community support, and workshop specific learning.

Purpose Statement for studying Wellness Wednesdays

The purpose and aim of this quality improvement project were to evaluate the influence of mindful exercise, guided meditation, and discussion of a weekly wellness topic taught at Laney (community) College on students' self-reported perception of stress and mood state. The central hypothesis was that stress management workshops reduce stress, which improves the overall health and moods of community college students, and that increasing health and mood states in students would have positive effects on their academic performance. Also, greater access to mindful exercise and stress management may provide a beneficial resource for community college students to improve the management of their mental health and perceived stress.

Methods

Over the course of three semesters, from Fall 2018 until Fall 2019, students who attended the Wellness Wednesdays workshops were given the same six-question survey pre- and post-workshop. The workshops covered twelve topics over the course of the semester, featuring a different topic at each lunch hour session. The topics included:

- general self-care
- improving sleep
- communication

- mental health
- healthy relationships
- weight management
- spiritual wellness
- freedom from addictions
- anger management
- changing your mindset
- financial wellness
- overcoming obstacles

These workshop topics were selected by data obtained from the over 1,400 students who responded to the HAPPYs survey. The statements from the survey which students could choose from and rate themselves in terms of their agreement with the statement were:

1. I have a positive mood.
2. I feel supported.
3. I feel hopeful about my future.
4. I feel connected to others.
5. I will be successful at Laney.
6. (The sixth questions addressed workshop-specific topic learning, e.g. for the financial topic the question related to participants' understanding of financial wellness.)

Results

The survey, used to measure general wellbeing, asked students to report their degree of agreement using a seven-point Likert scale for each statement. Responses to each

statement showed an improvement in the post-workshop surveys as shown in the table below.

Table 1

Responses to Wellness Wednesday survey			
<i>N = 324. Data collection took place over three semesters.</i>			
Question	Pre-workshop Average (mean)	Post-workshop Average (mean)	Improvement
1. I have a positive mood.	5.21	6.22	14.44% (an increase in the # of students who responded)
2. I feel supported.	5.20	6.13	13.26%
3. I feel hopeful about my future.	5.35	6.16	11.59%
4. I feel connected to others.	5.01	5.97	13.66%
5. I will be successful at Laney.	5.56	6.18	8.93%
6. Workshop specific learning.	5.32	6.31	14.15%
Likert Scale (mean scores): 1 = ;2 = ;3 = ; 4 = ;5 = ;6 = ;7 = highest agreement			

The area of greatest improvement was in mood state, followed by workshop-specific learning, then feeling connected to others, feeling supported, feeling hopeful about the future, and finally agreeing with the statement “I will be successful at Laney.”

A right tailed Z-test indicated a significant improvement in students' report of a positive mood with a range for all other statements in Table 1 from 8.9% to 14.4%.

Conclusion

These findings and their relationship with our literature review point to the suggestion that stress management is crucial to college success, especially among community college students since so many of them have adverse childhood experiences (ACEs). With our specific program, we would like to increase our conversations and suggestions each week in the interest of improving the confidence level of our students regarding success. For example, including the use of index cards with statements such as: I am a great student, I am successful in college, I can achieve the grade I want, I am worthy of success.

Other implications for our program are to:

- Encourage faculty and administration to offer more professional development in the area of stress management.
- Encourage faculty to integrate more stress management in their courses.
- Offer incentives for students to attend stress management workshops, like free lunches, bookstore vouchers, and gift cards for completion of a series of workshops.

Post-script:

During the height of the pandemic Wellness Wednesdays moved to a zoom forum. Although students reported higher levels of stress, the attendance was very low (2-8 students per session)in Wellness Wednesdays workshops. In the Spring of 2022, the Wellness Wednesday program resumed on campus, in person for the first time since Spring 2020. Over the course of

the semester, twelve workshop sessions were offered. Total attendance (i.e. number of sign-ins) was 68, with 20 unique student attendees. 13 of the 20 students returned for multiple sessions. After low attendance at the first two workshops, two new incentives were introduced: 1) any student who attended 4 sessions would automatically receive a \$50 college bookstore gift card, and 2) cosmetology students who attended would receive two contact hours towards their certificate.

Marketing for the workshop included posters, website event postings, and emails to faculty. The latter proved particularly fruitful: at least 6 students from the same ESOL (English for Speakers of Other Languages) class attended one or more sessions. The largest representation was from cosmetology students, after the contact hour incentive was introduced. This indicates that students were more likely to attend if their professor encouraged attendance, and if they knew someone else also attending.

There were some timing issues with several students coming late from classes and missing key components of the workshop like movement and meditation, so administration of pre- and post-workshop surveys were limited. A total of 23 surveys were administered over the course of the semester. The greatest percent change was seen in ratings of “I am in a positive mood” (5.34%), which mirrors the results from the previous survey sample. An average increase in ratings occurred for all statements. This data supports the continuation of the Wellness Wednesday workshop format, which appears to have a positive impact on students’ sense of well-being, as well as fostering social connection between students. There is also support for financial and academic incentives as a means to encourage student participation.

A special thank you to William Lepowsky, M.A., for statistical expertise; Chris Weidenbach for edits; Interns: Richard Chen, B.A.; Tiffany Huang, B.A.; and Avalon McGee for assisting with the data collection and writing.

References

- Anders, S. L., Frazier, P. A., & Shallcross, S. L. (2012). Prevalence and effects of life event exposure among undergraduate and community college students. *Journal of Counseling Psychology, 59*(3), 449–457. <https://doi.org/10.1037/a0027753>
- Bergen-Cico, D., Possemato, K., & Cheon, S. (2013). Examining the efficacy of a brief mindfulness-based stress reduction (brief MBSR) program on Psychological Health. *Journal of American College Health, 61*(6), 348–360. <https://doi.org/10.1080/07448481.2013.813853>
- Call, D., Miron, L., & Orcutt, H. (2013). Effectiveness of brief mindfulness techniques in reducing symptoms of anxiety and stress. *Mindfulness, 5*(6), 658–668. <https://doi.org/10.1007/s12671-013-0218-6>
- Coccia, C., & Darling, C. A. (2014). Having the time of their life: College student stress, dating and Satisfaction with Life. *Stress and Health, 32*(1), 28–35. <https://doi.org/10.1002/smi.2575>
- Deckro, G. R., Ballinger, K. M., Hoyt, M., Wilcher, M., Dusek, J., Myers, P., Greenberg, B., Rosenthal, D. S., & Benson, H. (2002). The evaluation of a mind/body intervention to reduce psychological distress and perceived stress in college students. *Journal of American College Health, 50*(6), 281–287. <https://doi.org/10.1080/07448480209603446>
- Eagan, K., Stolzenberg, E. B., Ramirez, J. J., Aragon, M. C., Suchard, M. R., & Hurtado, S. (2014, February). The American freshman: National norms fall 2014. Higher

- Education Research Institute at UCLA. Retrieved from <http://www.heri.ucla.edu/monographs/TheAmericanFreshman2014.pdf>.
- Emerson, D., & Hopper, E. (2011). *Overcoming Trauma Through Yoga: Reclaiming Your Body*. North Atlantic Books.
- Engle, J. L., & Tinto, V. (2008). *Moving beyond access - pell institute*. The Pell Institute. Retrieved from http://www.pellinstitute.org/downloads/publications-Moving_Beyond_Access_2008.pdf.
- Falsafi, N. (2016). A Randomized Controlled Trial of Mindfulness Versus Yoga. *Journal of the American Psychiatric Nurses Association*, 22(6), 483–497. <https://doi.org/10.1177/1078390316663307>
- Flory, E. S. (2019, September 3). Student stress surges. *Community College Daily*. Retrieved from <https://www.ccdaily.com/2019/09/student-stress-surges/>.
- Garett, R., Liu, S., & Young, S. D. (2017). A longitudinal analysis of stress among incoming college freshmen. *Journal of American College Health*, 65(5), 331–338. <https://doi.org/10.1080/07448481.2017.1312413>
- Hansen, H. R., Shneyderman, Y., McNamara, G. S., & Grace, L. (2021). Assessing acculturative stress of international students at a US Community College. *International Students at US Community Colleges*, 118–132. <https://doi.org/10.4324/9781003121978-10>
- Jamieson, J. P., Peters, B. J., Greenwood, E. J., & Altose, A. J. (2016). Reappraising stress arousal improves performance and reduces evaluation anxiety in

- classroom exam situations. *Social Psychological and Personality Science*, 7(6), 579–587. <https://doi.org/10.1177/1948550616644656>
- Katz, D. S., & Davison, K. (2014). Community College Student Mental Health. *Community College Review*, 42(4), 307–326. <https://doi.org/10.1177/0091552114535466>
- King, K., Vidourek, R. A., Merianos, A., & Singh, M. (2014). [PDF] a study of stress, social support, and perceived happiness among college students: Semantic scholar. Semantic Scholar. Retrieved from <https://www.semanticscholar.org/paper/A-study-of-stress%2C-social-support%2C-and-perceived-King-Vidourek/f917e8786c2fad5d5e884407e62efce36c9a64ed>.
- Krumrei-Mancuso, E. J., Newton, F. B., Kim, E., & Wilcox, D. (2013). Psychosocial factors predicting first-year college student success. *Journal of College Student Development*, 54(3), 247–266. <https://doi.org/10.1353/csd.2013.0034>
- Kryza-Lacombe, M., Tanzini, E., & O'Neill, S. (2018). Hedonic and eudaimonic motives: Associations with academic achievement and negative emotional states among urban college students. *Journal of Happiness Studies*, 20(5), 1323–1341. <https://doi.org/10.1007/s10902-018-9994-y>
- Lee, W. W. (2017). Relationships among grit, academic performance, perceived academic failure, and stress in associate degree students. *Journal of Adolescence*, 60, 148–152. <https://doi.org/10.1016/j.adolescence.2017.08.006>

- Martin, R. D., & Kennett, D. J. (2017). To be kind or not to be kind: The moderating role of self-compassion in the relationship between general resourcefulness and academic self-regulation. *The Journal of Social Psychology, 158*(5), 626–638. <https://doi.org/10.1080/00224545.2017.1407286>
- Okano, K., Kaczmarzyk, J. R., Dave, N., Gabrieli, J. D., & Grossman, J. C. (2019). Sleep quality, duration, and consistency are associated with better academic performance in college students. *Npj Science of Learning, 4*(1). <https://doi.org/10.1038/s41539-019-0055-z>
- Opon, D. J. (2019). The Influence of Mindful Exercise on Mood State and Perceived Stress in Community College Students. The University of North Carolina at Greensboro (UNCG). Retrieved from https://libres.uncg.edu/ir/unc/f/Opon_uncg_0154D_12737.pdf.
- Schneiderman, N., Ironson, G., & Siegel, S. D. (2005). Stress and health: Psychological, behavioral, and biological determinants. *Annual Review of Clinical Psychology, 1*(1), 607–628. <https://doi.org/10.1146/annurev.clinpsy.1.102803.144141>
- Sharma, M., & Haider, T. (2014). Tai Chi as an alternative and complimentary therapy for anxiety. *Journal of Evidence-Based Complementary & Alternative Medicine, 20*(2), 143–153. <https://doi.org/10.1177/2156587214561327>
- Sladek, M. R., Doane, L. D., Luecken, L. J., & Eisenberg, N. (2016). Perceived stress, coping, and cortisol reactivity in daily life: A study of adolescents during the first

- year of college. *Biological Psychology*, 117, 8–15. <https://doi.org/10.1016/j.biopsycho.2016.02.003>
- Telles, S., Gaur, V., & Balkrishna, A. (2009). Effect of a yoga practice session and a yoga theory session on State anxiety. *Perceptual and Motor Skills*, 109(3), 924–930. <https://doi.org/10.2466/pms.109.3.924-930>
- Thomas, C. L., Cassady, J. C., & Heller, M. L. (2017). The influence of emotional intelligence, cognitive test anxiety, and coping strategies on Undergraduate Academic Performance. *Learning and Individual Differences*, 55, 40–48. <https://doi.org/10.1016/j.lindif.2017.03.001>
- Tsai, J.-C., Wang, W.-H., Chan, P., Lin, L.-J., Wang, C.-H., Tomlinson, B., Hsieh, M.-H., Yang, H.-Y., & Liu, J.-C. (2003). The beneficial effects of tai chi chuan on blood pressure and lipid profile and anxiety status in a randomized controlled trial. *The Journal of Alternative and Complementary Medicine*, 9(5), 747–754. <https://doi.org/10.1089/107555303322524599>
- Waehrer, G. M., Miller, T. R., Silverio Marques, S. C., Oh, D. L., & Burke Harris, N. (2020). Disease burden of adverse childhood experiences across 14 states. *PLOS ONE*, 15(1). <https://doi.org/10.1371/journal.pone.0226134>
- Wallace, D. D., Boynton, M. H., & Lytle, L. A. (2016). Multilevel analysis exploring the links between stress, depression, and sleep problems among two-year college students. *Journal of American College Health*, 65(3), 187–196. <https://doi.org/10.1080/07448481.2016.1269111>

