

Mindfulness and Perceived Stress in College Students

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While many young adults attend college with the goal of furthering their education and preparing themselves for the rest of their working life, some of them are receiving unwanted side effects including “high rates of mental health concerns, sleep issues, and excessive drinking” (Dvořáková et al., 2017, p. 259). Paired with a recent national health survey that found that “most college students in the United States feel overwhelmed, hopeless, anxious and depressed” (Ramasubramanian, 2017, p. 309), the evidence is clear -- the stress levels of college students in the United States and other western countries have reached a tipping point. As more college students report higher levels of stress, anxiety, and depression than ever before, universities across the western world are looking for ways to reduce and, in time hopefully, prevent the increasingly harmful effects of attending college. One of the strategies being explored by many universities trying to improve the well-being of their students is the use of mindfulness-based training courses.

Broadly speaking, mindfulness is the concept of being aware and accepting of yourself and your thoughts in the present moment. Mindfulness is believed by many to help increase productivity at work, reduce overall stress, and lead to more successful interpersonal relationships. Mindfulness-based practices (or trainings) are activities that can theoretically help to grow and improve one’s capability to be mindful. In the past fifteen years, the popularity of “mindfulness” and “mindfulness-based practices” have rapidly increased around the world, especially in Western societies such as the United States. But, while the popularity of mindfulness has surged in the past two decades, scientific evidence to support mindfulness has lagged behind. In fact, it was only recently that the physical, mental, and social health benefits of

mindfulness were confirmed, even in those who do not practice it regularly (Beddoe & Murphy, 2004).

As the popularity of mindfulness has grown so has the number of people attempting to make a profit from it. These people attempt to profit from the popularity of mindfulness by selling products and/or services that (theoretically) help to increase one's mindfulness faster or easier than other methods available freely (such as self-guided meditation). According to Wiczner (2016) the mindfulness and meditation industry has grown rapidly in the past decade, grossing over one billion U.S. dollars in 2015. When people from a corporation, university, or other organization decide that they want to integrate mindfulness into their curriculum, they often times reach out to companies with prefabricated, "cookie cutter," mindfulness curriculums in order to save the time and money it would take to develop an entirely new curriculum from scratch. Some companies, such as Google, will pay upwards of \$35,000 to send groups of Employees to two-day mindfulness-based programs hosted by an external company (Wiczner , 2016).

While prefabricated courses, such as Koru (an eight-week mindfulness-based intervention course designed with an educational setting in mind), can be beneficial, especially for schools or other organizations that cannot afford to develop their own, the lure of profits puts these organizations, and those within them, at risk in two ways. First, mindfulness is currently very trendy, and, as with any other trend, there will be those who try to exploit the concept of mindfulness purely for their own profit at the expense of the organizations seeking out the mindfulness-based training materials. This could come in the form of hastily made online video courses, poorly written books and tutorials, or shady in person mindfulness classes that make promises that aren't kept. The second risk is to the employees of the organizations themselves.

Employees risk having employers push mindfulness-based trainings onto them solely as a way for the employer to attempt to boost their bottom line (as mindfulness has been theorized to improve productivity at work). Instead of using mindfulness as a way to improve employee well-being, which would be the correct and ethical usage of mindfulness-training materials, these employers would only be using mindfulness as a way to make a larger profit.

Inspired by rapidly rising student stress levels and the large popularity of mindfulness, this paper will carefully review the existing scholarly conversation on the effects of mindfulness-based practices on the stress levels of college students before proposing a new study to expand on the current scholarly conversation. My proposed research question is “What are the effects of mindfulness-based training on the perceived stress levels of college students from western societies?” Methods will be proposed on how this question can be answered through a research project and implications of the proposed research project will be discussed.

Literature Review

Existing research on the effects of mindfulness-based practices on the stress levels of college students varies widely. A key inconsistency between studies is the definition of mindfulness. Because there is no universally accepted definition of mindfulness, each study is left to interpret mindfulness for itself – and decide what data should be collected and analyzed to determine the success of the mindfulness-based intervention method (regardless of what that is). Important differences between studies include the intervention method(s) used, type(s) of data collected, type(s) of data analysis used, theoretical frameworks used (if any), and the desired outcome(s) of the study.

Definition of Mindfulness

The definition of mindfulness varies widely between studies due to the lack of an agreed upon definition for mindfulness in the scientific community. However, despite the syntactic differences between studies, there are common themes shared across multiple definitions that help to reveal the more “universal” aspects of mindfulness. Four out of the five studies reviewed for this literature review included the term “non-judgmental awareness” or an equivalent term in their definition of mindfulness (Beddoe & Murphy, 2004; Dvořáková et al., 2017; Greenson et al., 2014; Ramasubramanian, 2017). Three of the studies included the term “present” in their mindfulness definition (Dvořáková et al., 2017; Greenson et al., 2014; Ramasubramanian, 2017). Two of the studies included the term “attention” in their definition of mindfulness (Galante et al., 2018; Greenson et al., 2014). Using the overlapping phrases found in the studies as a foundation for a “universal” definition of mindfulness, the following definition of mindfulness was developed: Mindfulness is paying attention to and having non-judgmental awareness of the present moment and present feelings. This definition of mindfulness will be used in the proposed research project.

Intervention Methods

Various intervention methods have been used to assess the usefulness of mindfulness in reducing perceived stress levels in college students. The most common intervention method was an eight-week extracurricular mindfulness-based training course, with three of the studies using this approach in their research (Beddoe & Murphy, 2004; Dvořáková et al., 2017; Galante et al., 2018). The methods for finding participants and organizing the intervention and control groups varied by study. In three studies, a randomized controlled trial was carried out using a waitlisted group of students as the control group (Dvořáková et al., 2017; Galante et al., 2018, Greenson et

al., 2014). Another study instead looked at two preexisting courses, a mindfulness-based communication course and a standard communication course, and, researched the students participating in those classes for their study (Ramasubramanian, 2017). A different study did not develop a control group, but instead relied solely on pre- and post-course data from the intervention group (Beddoe & Murphy, 2004). Two studies limited participation to freshmen only (Dvořáková et al., 2017; Ramasubramanian, 2017). This decision was made on the basis that freshmen face the most stress from college as, for many of them, it is their first real experience with complete independence and responsibility for their own actions.

Data Collection

Across all studies, short surveys and/or questionnaires served as the primary form of data collected from study participants. In two studies participants were told to keep a journal, recording either responses to certain activities or throughout the mindfulness-based course they would be participating in (Beddoe & Murphy, 2004; Ramasubramanian, 2017). While having study participants keep a journal entry initially seemed like an innovative idea that could potentially differentiate these studies from other studies that relied only on surveys, neither Beddoe & Murphy or Ramasubramanian relied heavily upon the journal entries when drawing conclusions and it appears that in both studies the use of journals was largely unsuccessful. A weakness of both the journal entries and the short surveys is the fact that all of the collected data is self-reported, and as such could potentially be biased by the individual reporting it. One form of bias present in the self-reported data could be what Shonin et al. call the “popularity effect” (2015). The “popularity effect” stems from the idea that because mindfulness is widely currently individuals receiving mindfulness-based interventions could be more likely to believe that mindfulness is helping them - a concept similar to that of the placebo effect. The “popularity

effect” could lead to a bias in any self-reported data towards the more positive / progressive options presented on the surveys. While self-reported data has the potential to introduce bias into research studies, because each individual who practices mindfulness has a unique experience with it, and because there is no universally accepted “test” for mindfulness, it would likely not be feasible to have a study on mindfulness without at least partial reliance on self-reported data. One study attempted to circumnavigate the pitfalls of self-reported data by collecting the end of term grades from students in addition to pre- and post-course surveys, but the differences in grades proved to be inconclusive (Galante et al., 2018). Another weakness identified across multiple studies was the small sample sizes used (Beddoe & Murphy, 2004; Greenson et al. 2014; Ramasubramanian, 2017). In each of these studies the combined sample size of the control and intervention groups was under fifty. A third weakness identified across all studies was that all participants volunteered for the mindfulness-based intervention courses, which could potentially mean that they were pre-biased towards the beneficial concept of mindfulness.

Results & Desired Outcomes

Because the researchers in each study were interested in different aspects of mindfulness, based off of their different definitions of mindfulness, the data collected and analyzed for each study varied widely. Three sources measured a change in stress, either as a decrease in perceived stress or an increase in stress resilience (Beddoe & Murphy, 2004; Greenson et al. 2014; Ramasubramanian, 2017). From pre- and post-course surveys based on the Derogatis Stress Profile, Beddoe & Murphy (2004) were able to determine that their mindfulness-based intervention course had a significant positive effect on student stress levels. Greenson (2014, p. 226) observed “perceived stress decreas[e] significantly in the... (mindfulness-based intervention) group.” Lastly, Ramasubramanian (2017) concluded that perceived stress levels

dropped significantly between the pre-course survey and post-course survey. Changes in depression were also recorded and analyzed by multiple studies to support the beneficial effects of mindfulness on college students (Dvořáková et al, 2017; Galante et al., 2018). Dvořáková (2017) determined significantly lower levels of depression in study participants after the mindfulness-based intervention course. Three studies analyzed the well-being of students and determined that mindfulness-based intervention courses had a positive impact on the well-being of students at a college level (Galante et al., 2018; Dvořáková et al, 2017; Beddoe & Murphy, 2004). While the specific desired outcomes of each study varied as much as the data collected did, with each study using one or more unique surveys, with minimal overlap and no clearly “popular” survey, every study looked at for this literature review aimed to use a mindfulness-based intervention method as a way to improve student mental health and well-being, despite nuanced differences in how each study defined those things.

Proposed Methods

The proposed research project would focus on the effects of a mindfulness-based physical fitness course on the perceived levels of stress in college freshmen. The research project would aim to uniquely expand upon the already existing scholarly research discussed previously in this paper. The mindfulness-based physical fitness class would be for credit, as courses for-credit generally have a higher attendance rate than extracurricular courses due to the grade attached to the for-credit courses (Ramasubramanian, 2017). The course would be worth as much as a standard fitness class, likely one credit. The mindfulness-based physical fitness course would focus on exploring different elements of physical fitness such as running, weight training, and swimming. However, this information would not be presented from either a sport prospective or a health perspective. Instead, the class would be presented from the viewpoint of being aware

and mindful of your body and your surroundings at all times and making every action intentionally and with a clear head.

Participation in this study would be limited to be freshmen with no diagnosed mental health issues. Potential participants would be asked to self-report any diagnosed mental health issues when signing up for the fitness class. Limiting participation in the mindfulness-based fitness course to freshmen only would attempt to equalize the levels of potential stress across all participants as much as possible, while eliminating those with diagnosed mental health issues will help to keep the control and intervention groups psychologically similar to begin with. While Ramasubramanian (2017) did not randomize the mindfulness-based communications class he studied for logistical reasons, it would be possible to do so given enough time and administrative support. The proposed mindfulness-based fitness course would recruit interested students during the summer Freshmen orientation. Interested participants would complete an online qualification survey (where they would be asked to self-report any diagnosed mental health issues) and, assuming enough qualified participants were found to fill two fitness classes, qualified participants would be randomly divided into two groups: a control (waitlist) group or an intervention group. The intervention group would register for the mindfulness-based fitness course immediately (Fall semester), while the control group would register at a later date (Spring semester). Both groups would take surveys every other week based on a shortened version of the Derogatis Stress Profile. The original Derogatis Stress Profile contains seventy-seven questions across three categories – environmental events, personality characteristics, and emotional responses (Beddoe & Murphy, 2004). A comparison of pre- and post-course mean scores on the Derogatis Stress Profile, similar to that used by Beddoe & Murphy (2004), would serve as the primary form of data analysis for the study. After performing the data analysis, a conclusion

could be drawn about the effectiveness of the fitness-based mindfulness intervention in reducing the perceived stress levels of college students. I predict that while both the intervention and control groups would see stress levels increase slowly over the course of the semester, peaking during mid-terms and finals, the intervention group would have less perceived stress when compared to the control group before, during, and after “peak” times. This prediction is primarily derived from and based on the research performed by Galante et al. (2018) which concluded that mindfulness helped to keep participant distress levels at or near their baseline level during the final examination period when compared to the control group.

Timeline

1. Find a fitness professor willing to commit to teaching two mindfulness-based fitness courses, one in the fall semester and one in the spring semester (One year before course is slated to start).
2. Concurrently, seek approval for the proposed study from the Institutional Review Board (Allowing three to six months for process in case of delays)
3. Recruit interested students the summer before the mindfulness-based fitness course is slated to start in order to have time for screening and randomization (Two to three months before the course is slated to start).
4. Screen, select, and randomize study participants into intervention and control groups (One to two months before the course is slated to start).
5. First mindfulness-based fitness course begins with intervention group (August to December, five months).
6. Second mindfulness-based fitness course begins with control group (January to May, five months).

7. Send six-month follow up survey to intervention group (June).
8. Analyze collected data, including pre- and post- course survey results from both the intervention and control group (One to two months).
9. Write and publish study (Two to four months).

Implications

For-credit mindfulness-based courses are exceedingly rare. Throughout the literature review process, I discovered only a single example of a mindfulness-based course having been done before (Ramasubramanian, 2017). The example I found was a freshmen level communication course. To the best of my knowledge there has not been a previous study focusing on a mindfulness-based physical fitness class. The implications of a mindfulness-based physical fitness course are potentially valuable to the larger scholarly conversation about mindfulness-based practices in schools as a physical-fitness course will potentially attract different students than more traditional mindfulness-based courses would. I believe that while traditional mindfulness-based courses would likely attract more liberal arts and/or academically focused students, a mindfulness-based physical fitness course would likely attract the attention of “sportier” or physically focused students. These students, who might have never considered taking a mindfulness-based course set up as either a for credit course in a more traditional subject area (such as English) or as extra-curricular mindfulness course might consider taking a course with a more physical and active approach to mindfulness.

Conclusion

Mindfulness is the state of being present of the environment around you as well as being aware but non-judgmental of your current thoughts. While the popularity of mindfulness has been increasing for some time, it is only in the past five to seven years that the scientific

community has begun to embrace mindfulness and put considerable time and money into researching it. The past decade has also seen a rise in the idea of mindfulness as a business, where companies attempt to sell various items and services that claim to help people become more mindful. Colleges and universities are beginning to adopt mindfulness as a way to combat rapidly increasing student stress levels. A literature review of six scholarly studies supported the claim that mindfulness helps to reduce stress, anxiety, and depression, in addition to helping to improve emotional well-being. The largest weakness identified across all studies was the usage of self-reported data. However, no reasonable alternative can be provided at this time. My research proposal would aim to determine the effects of a mindfulness-based physical-fitness course on the perceived stress levels of college freshmen. A survey derived from the Derogatis Stress Profile would be used to assess the effectiveness of the course in achieving this outcome. The integration of mindfulness into a physical fitness course could potentially help mindfulness reach students that otherwise might not engage in mindfulness practices. I predict that the integration of mindfulness-based ideas into a physical fitness course will lead to moderately decreased stress level when compared to a control group.

References

- Beddoe, Amy E., & Murphy, Susan O. (2004). Does mindfulness decrease stress and foster empathy among nursing students? *Journal of Nursing Education*, 43, 305-12. Retrieved from <https://www.healio.com/nursing/journals/jne>
- Dvořáková, K., Kishida, M., Li, J., Elavsky, S., Broderick, P. C., Agrusti, M. R., & Greenberg, M. T. (2017). Promoting healthy transition to college through mindfulness training with first-year college students: Pilot randomized controlled trial. *Journal of American College Health*, 65, 259–267. <https://doi.org/10.1080/07448481.2017.1278605>
- Galante, J., Dufour, G., Vainre, M., Wagner, A. P., Stochl, J., Benton, A., ... Jones, P. B. (2018). A mindfulness-based intervention to increase resilience to stress in university students (the mindful student study): A pragmatic randomised controlled trial. *The Lancet. Public Health*, 3, e72–e81. [http://doi.org/10.1016/S2468-2667\(17\)30231-1](http://doi.org/10.1016/S2468-2667(17)30231-1)
- Greeson, J. M., Juberg, M. K., Maytan, M., James, K., & Rogers, H. (2014). A randomized controlled trial of koru: a mindfulness program for college students and other emerging adults. *Journal of American College Health*, 62, 222. <http://dx.doi.org/10.1080/07448481.2014.887571>
- Ramasubramanian, S. (2017). Mindfulness, stress coping and everyday resilience among emerging youth in a university setting: a mixed methods approach. *International Journal of Adolescence and Youth*, 22, 308–321. <https://doi.org/10.1080/02673843.2016.1175361>
- Shonin, E., Gordon, W. V., & Griffiths, M. D. (2015). Does mindfulness work? *BMJ : British Medical Journal (Online)*, 351 <http://dx.doi.org/10.1136/bmj.h6919>
- Wieczner, J. (2016, March 12). Meditation has become big business. Retrieved December 10, 2018, from <http://fortune.com/2016/03/12/meditation-mindfulness-apps/>