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## I. General information

- **Source of funding** Tianzhu Charity Foundation, Guangdong, China
- **University:** University of Akron, Akron, Ohio, United States
- **Project Title:** The Effects of Meditation on Stress Management, Psychological Well-being and Academic Performance among College Students
- **Principle Investigator:** Juan Xi, PhD, Associate Professor, Department of Sociology, University of Akron, America, TL: 330-972-7995, E-mail: [jx@uakron.edu](mailto:jx@uakron.edu)
- **Co-Principle Investigator:** Matthew Lee, PhD., Professor, Department of Sociology, University of Akron, America, TL: 330-972-5357, E-mail: [mlee2@uakron.edu](mailto:mlee2@uakron.edu)
- **Amount of funding received:** \$30,000
- **Project Duration:** 1 year

## II. Project justification

Studies have found high prevalence of stress among university students in the US and around the world. It was reported that over 50% of the US college students experienced significant levels of anxiety and/or depression (Keyes et al. 2012). The problem is not unique to the US, as a Canadian national news magazine also highlighted the "Mental Health Crisis on Campus," with over half of students reporting feeling hopeless and overwhelming anxiety over the past 12 months (Lunau 2012). Students with mental health problems report poorer relationships with other students and faculty members, lower average grades and lower rates of graduation than students without mental health problems (Byrd et al. 2012). A myriad of interventional studies has been done to find methods of decreasing stress or increasing capacity to cope with stress among college students and other populations. These include guided imagery, journaling, exercise, music therapy, etc. Although many studies have found these interventions are helpful, mental health symptoms on campus are still on a rise (ACHA 2015).

Most recently, mindfulness meditation has drawn a lot of research attention and a large number of studies have reported impressive positive effects of meditation on mental health symptoms among college students (Regehr et al, 2013; Bember et al. 2016). Aiming at changing the flow of thoughts and generating new patterns of behavior and awareness, mindfulness meditation practices focus on bringing body and mind together in the present moment for balance, relaxation and self-control. Mindfulness meditation has been found repeatedly to be effective in reducing stress, ruminative thinking, anxiety, and depressive symptoms among college students (Beddoe and Murphy 2004; Burns et al. 2011; Cardwell et al. 2010; Jain 2007; Rosenzweig 2003). Beyond the effects of stress and anxiety reduction, studies have suggested its positive effects on promoting empathy, self-compassion, and resilience factors such as hope, capacity to forgive, etc. (Chiea and Serretti 2009). With advanced technology and sophisticated equipment, recent studies have found that mindfulness meditation could activate areas of the brain associated with mental well-being (Davidson 2003), regulation of the emotions (Tang et al 2009), and the capacity to sustain attention (Lutz et al. 2009).

Past studies using university student samples mainly focus on the effects of meditation on mental disorders/symptoms. Free from mental disorder does not equate to mental well-being or positive mental functioning such as autonomy over one's feelings and behaviors, continued self-development, capacity of empathy, and being compassionate toward oneself and others (Payton 2009). In this study we attempt to investigate the effects of mindfulness meditation on positive mental well-being above and beyond its stress reduction effects. Our focus will be on students of a Midwest university. We hypothesize that mindfulness meditation will help university students manage their emotions, reduce symptoms of depression and anxiety, and foster different aspects of psychological well-being, including personal growth, autonomy, positive relationships with others, purpose in life, self-acceptance and environmental mastery (Ryff 2014). In doing so, it would also enhance academic performance and increase the chance of academic success.

### **III. Project content**

#### **● Main research questions**

Do mindfulness meditation practices help reduce stress and foster mental well-being among college students? Does mindfulness meditation reduce mental disorder first, which makes room for the development of mental well-being, or does it foster mental well-being first, which helps reduce symptoms of mental disorders? Does meditation practice influence academic performance directly or indirectly through its effects on both the positive and negative aspects of mental health?

#### **● Goals and objectives**

**Goals of this project :** This project aims to investigate the role of meditation in reducing stress and promoting mental well-being and academic performance of the students of the University of Akron. The project offers a demonstration of a partnership between faculty and Residence Life, as well as the potential to enhance student retention and graduation.

**Objectives of main study:** (1) Design a randomized intervention plan involving practice of mindfulness meditation. (2) Evaluate stress, mental disorders, and mental well-being before, during, and after the intervention. (3) Evaluate academic performance before and after the intervention. (2) Analyze changes in mental disorders and well-being, and academic performance associated with the intervention.

#### **● Specific activities and time line:**

##### **1. Recruitment of study sample and randomization (October 2017 - December 2017)**

We will work with the Department of Residence Life and Housing at the University of Akron (henceforth "Residence Life") to recruit participants. We aim to recruit 150 participants and we will randomly divide them into three equal groups. The first group will be enrolled in a mindfulness meditation program. The second group will be enrolled in a mindfulness meditation program that also includes guidance on self-understanding through activities such as journaling (henceforth referred to as the "meditation plus" group). The third group is the waiting-list control group. They will receive no intervention during the study period, although they will complete the survey instrument on the same time line as the other two groups, and they will be offered the more effective meditation program after the study period.

##### **2. Baseline investigation and evaluation (January 2018)**

We will conduct a baseline survey on all participants to evaluate their stress level, general physical health, mental health symptoms, general psychological well-being and academic performance.

##### **3. Intervention (January 2018 to March 2018)**

Intervention will start at the beginning of the spring semester. For the mediation group, participants will receive forty minutes to one hour of mediation training each week for 8 weeks and an instruction on daily practice at home. For the "meditation plus" group, participants will receive forty minutes to one hour of meditation training that includes time for guidance and discussion on contemplative life philosophy and self-understanding each week for 8 weeks. They will also receive an instruction on daily practice at home each week. Both groups will be encouraged to practice meditation for 15 minutes per day on their own during the 8 weeks. Students' stress level, general physical health, mental health symptoms, and general psychological well-being will be monitored after 4 weeks. Participants are required to keep a daily practice log about their meditation experiences at home.

##### **4. Post-intervention evaluation (March 2018)**

At the end of the 8-week meditation period, we will conduct a post-intervention survey on all participants to evaluate their stress level, general physical health, mental health symptoms, general psychological well-being and academic performance. Participants in the two intervention groups are invited to join a focus group discussion after the last meditation training session.

##### **5. Follow-up evaluation (May 2018)**

At the end of the spring semester, with the help of the Department of Residence Life and Housing, we will link the survey data with students' GPA and grades for the fall 2017 and spring 2018 semesters in order to

determine whether positive change might be related to either of the meditation practices.

## **6. Data analysis and manuscript and report preparation (April 2018-August 2018)**

Dr. Xi and Dr. Lee will lead graduate students in the department of Sociology in analyzing the data, preparing a project report and manuscripts for publication. Residence Life will receive copies of all publications and we will discuss our findings with Residence Life leadership in order to consider the kind of programming that might be beneficial to students in the future.

### ● **Methods**

#### **Setting and sample**

The University of Akron is a public university in the State of Ohio with 23,000 students. Many students are first-generation college students and there are a significant number of students who are not well prepared for college study. One quarter of the 2017 freshman cohort have an ACT score under 18. Although there are no existing data about the stress levels and mental health symptoms among UA students, we expect high prevalence of depression and anxiety symptoms on UA campus similarly to those reported from data on other U.S. universities and in light of our conversations with students in our classes.

We aim to recruit 150 participants who will be randomly divided into three equal groups: the meditation group, the “meditation plus” group, and the control group. We will work with the Department of Residence Life and Housing at the University of Akron to recruit participants. All UA students living in the residence halls are possible participants. The recruitment is not constrained by age, gender, race, academic rank, major, etc.

#### **Measurement**

We will use standardized survey instruments to measure stress level, general physical health, mental disorder symptoms, and general psychological well-being. Academic performance will be measured by GPA and retention.

#### **Survey**

Surveys will be administered through Qualtrics, UA’s online survey tool. Before the meditation training on week 1, and after the meditation training on week 4 and week 8, participants in the two intervention groups are asked to take a survey on Qualtrics using their smart phone or a laptop in the room they meet for meditation. For participants in the control group, they are asked to take the pre-intervention survey at the time they sign up for the study and the post-intervention survey at the end of the study when they receive their incentives for participation at a location that we will coordinate with Residence Life.

#### **Incentives**

Each participant will receive \$10 in cash after they take the pre-intervention survey. For the two intervention groups, participants will receive \$10 in cash at week 4 after they complete the second survey and receive \$80 in cash at week 8 after they complete the post-intervention survey. Participants in the control group will receive \$90 at the week 8 after they complete the post-intervention survey.

### ● **Expected results and products**

(1) A report on the effect of meditation on mental health, psychological well-being, and academic performance, which contributes to student engagement as well as course completion and graduation. (2) An analysis of the effect of mindfulness meditation on psychological well-being above and beyond its effects on stress reduction. (3) This campus-based study could enhance campus life and promote a health-facilitating form of contemplative culture on campus. (4) Disseminate the research outcomes at academic conferences and in academic journals.

### ● **Estimated budget 预算**

Total budget: \$30,000.

Estimated expenses:

**Intervention:** intervention training sessions (payment to meditation instructor, materials, and other costs)

**Measurement:** surveys before, during, and after intervention (gifts to respondents; survey materials and other costs)

**Report:** disseminating the research outcomes (conference and travel)

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