The Stressed-Out College Student and the Mood-Boosting Effects of Somatic Dance Kap A. Paull, Meg Brooker, John Vile Middle Tennessee State University Honors College

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The Stressed-Out College Student and the Mood-Boosting Effects of Somatic Dance

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#### Abstract

College students are well-acquainted with the stress associated with balancing their academic, personal, and professional lives. Many students leave self-care and personal wellbeing on the backburner while other projects take the lead. However, this can lead to symptoms of burnout that can contribute to negative academic outcomes. Coping mechanisms are tactics students can utilize to guide them through stressful situations. An example of a coping mechanism is dance, specifically somatic dance exercises. Somatic dance is a style of dance in which everyday movement is performed in a mindful way. Previous research has shown that somatic dance has beneficial outcomes for mental health. A noteworthy technique of somatic dance is BrainDance, which was created by Anne Green Gilbert. This research project invited students to take a questionnaire that surveyed their thoughts on dance as a coping mechanism before and after they took an online somatic dance movement class.

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#### List of Terms

#### Stress:

Stress is defined in this project as feelings of anxiety and/or a heightened sense of awareness in response to a change in environmental stimuli as it relates specifically to MTSU students.

#### **Mindfulness:**

Mindfulness is a therapeutic technique that is used to center oneself in the present moment. It is forming an awareness of what is happening in the present environment and observing it with a neutral or positive mind state.

#### **Somatic Movement:**

Somatic Movement is any movement that is done conscientiously and focused internally, rather than achieving a structured goal such as running a certain number of miles. This movement can be as simple as walking mindfully from class to class.

#### **Somatic Dance:**

Somatic dance is simple movement that directly contrasts structured dance techniques such as ballet, jazz, or tap. It is like somatic movement; it is dance movement that is done in a reflective manner as opposed to movement that meets structured dance goals, such as achieving a full split or turning multiple times. This dance could be as simple as rocking from side to side.

#### **BrainDance:**

Developed by Anne Green Gilbert, BrainDance is a style of somatic dance that explores the developmental pathways of the brain and encourages movement that leads to the reshaping of neural pathways.

#### **Feldenkrais Method:**

The Feldenkrais Method is a style of somatic movement that focuses on healing neural pain and retraining nerves. The exercises of this technique help participants improve posture and increase mindfulness.

#### Alexander Technique:

The Alexander Technique is a style of somatic dance and a philosophy that focuses on heightening awareness to appropriately respond to stress. The exercises of this technique involve working on posture and taking a pause between movements to be thoughtful before reacting.

#### **Body-Mind Centering:**

Body-Mind Centering is a style of creative and somatic movement that is designed to incorporate a holistic picture of the individual's anatomy, physiology, and mental consciousness. Exercises in this technique focus on sensing and relaxing the organ systems in the body.

#### Introduction

Stress is a condition that affects all people in all occupations, and college students are no exception. Many students are in a state of concern over upcoming exams, difficult tests, homework, and more. Stress is not exclusive to academics; it is the non-specific response of the mind and body when people experience change (Jayasankara 2018). With the recent COVID-19 pandemic resulting in a loss of routine, structure, activity, and community, many college students are more stressed than they were in previous years. In a recent study conducted by the Journal of Medical Internet Research, 71% of students reported an increase of stress in their lives due to the COVID-19 pandemic (Son 2020).

It is important for college students who experience stress to have an outlet. An outlet is defined as a method to relieve feelings of stress (Yikealo 2018). Deep breathing exercises, meditation, laughter, and socializing with friends are all recommended activities to calm the nervous system down. Deep breathing exercises supply the body with oxygen, and soothe the body into a state of relaxation. Exercise is another outlet for college students. It is defined as any physical activity involving movement that elevates the heart rate, increases blood flow, and increases oxygen flow. For example, running, swimming, and weightlifting are all exercises. Exercise is shown to directly combat stress by reducing the levels of a hormone in the human body called cortisol (Yaribeygi 2017). There are artistic coping mechanisms which include painting, drawing, or playing an instrument. Though most forms of routine movement are helpful at relieving stress, many forms of exercise are performed without a mind-body connection. Dance is an artform that integrates the body and the mind through physical movement, creativity, and expressiveness.

There are many benefits that both dancers and non-dancers can gain from somatic movement. Somatic movement is a general practice that encompasses many actions and can be done with any exercise movement; it is not exclusive to dance. The goal of somatic movement is to incorporate the holistic picture of the individual. It was developed by Dr. Thomas Hanna (Rizzuto 2015). Somatic dance is impactful as a coping mechanism because it encourages mindfulness through listening to body cues. Mindfulness is defined as being in a state of hyper-awareness. Through the practice of listening to the signals the body is sending, patterns that are causing stress can be identified (Keng 2011). Practitioners in this field believe that the somatic embodiment process can be a powerful method for calming stress (Eddy 2016). Examples of somatic techniques that can relieve stress are the Alexander Technique, Body-Mind Centering, and the Feldenkrais Method. (Wozny 2021).

Developed by Fredrick Matthias Alexander (1869-1955), the Alexander Technique teaches somatic exercises that improve self-awareness and posture. Alexander discovered that he would lose his voice when he spoke, because he was standing with incorrect posture. When he corrected his alignment, his voice returned. The technique includes exercises that involve listening to the body, meditating, and engaging in thoughtful movement. Through this technique, participants listen to their body, relearn how to move, and achieve a mood-boosting effect.

The Feldenkrais Method aims to better the quality of life for individuals as they age. It accomplishes this through movement exercises that improve posture, increase awareness, and enhance mindfulness. This practice was developed by Dr. Moshe

Feldenkrais, who developed his technique after a life-altering knee injury (Feldenkrais Method 2021). A session can be completed in a group setting or one-on-one.

Body-Mind Centering studies the body through embodying all parts of the self. This method believes that each system of the body can be integrated and explored through different movements. This practice was created by Bonnie Bainbridge Cohen (Cohen 2021). There have been many applications of body-mind centering in society. For example, it is frequently found in other practices such as yoga.

Somatic dance is unlike other dance techniques because individuals can enjoy somatic dance without extensive technique classes or background knowledge. Somatic dance is utilized for exercise, personal growth, overcoming mental obstacles, and working through emotions. These practices are accessible to many people, and participants range from infants to the elderly. It does not require dance studio space, and it can be done while sitting in a chair, making it more accessible to college students who may have limited space to dance.

Creative movement is defined as a form of dance that requires no previous training; it uses movement to express feelings. An example of how creative movement is incorporated into schools is Anne Green Gilbert's BrainDance. Gilbert created a series of exercises derived from neuroscience that engage the brain, stimulate the nerves, and awaken the muscles (Gilbert 2018). Each of Gilbert's creative movement warm-up sequences follow the same structure: deep breathing, tactile/touching, core/distal, head/tail, upper/lower, body halves, cross lateral, and vestibular movements.

Margaret H'Doubler is considered the founder of dance in higher education. She founded the first dance major and taught dance at the University of Wisconsin-Madison (Rizzuto 2015). During her time as an instructor, she focused on dance as personal expression and incorporated creative movement into her curriculum.

Previous research shows that any exercise has positive associations with improving the mood of participants, especially within the context of treating depression (Tsang et al 2008). The International Somatic Movement Education and Therapy Association contains a large database on literature regarding the effectiveness of somatic techniques for student stress. Studies of the therapeutic effects of somatic techniques have shown that mindfulness practices improve the mood of students who participate. These students have a greater belief that they can do hard tasks, and their stress is lower than it was before (Caldwell et al. 2013). The Feldenkrais method is a promising way to promote student mindfulness, and there are significantly positive effects when the Feldenkrais Method is used in different populations (Hillier et al. 2015). When used over a 16-week period as a mental health tool for college students, it was found that students were more mindful and had a greater capacity for empathetic leadership (Fonow et al. 2016).

#### Rationale

Stress is a pervasive and unkind adversary. It is hindering and unwanted, yet the most natural response the body has to unfamiliar circumstances (Lupien 2001). In my research on somatic dance as a mood-boosting and stress-relieving coping mechanism, I did not realize how much I would discover about the human body when my own body crumbled under the stress that I was putting it through.

It happened last summer. I was taking rigorous summer courses, balancing a parttime job, and I had a virtual summer internship where my supervisor was thousands of miles away in Thailand. I coped through copious amounts of caffeine in the form of energy drinks, coffees, and teas. I was drinking at least 160 mg of caffeine every daynearly half of the daily limit of caffeine, which is 400 mg (U.S. Food and Drug Administration 2018). My body started experiencing neurological side-effects. Stress manifested itself in the form of heightened anxiety and digestive issues. Stress is normal, but these symptoms were not. Eventually, through cutting down on caffeine and incorporating meditative work such as yoga and somatic dance movement into my lifestyle, my body healed. I stopped experiencing these symptoms. I knew that I was not alone in my situation, and many students must learn how to manage stressful situations every day. This research-based endeavor into stress-relieving techniques was born out of a passion for helping myself and others find feasible ways to manage stress before it manifested itself as illness into the body. Ann Rodiger, whom I interviewed about the Alexander Technique, said it best: "As soon as people realize they have a choice about how they're responding to things... it really does make a difference." I had a choice in

how I reacted to my stressful college situations. Once I created better habits for myself and my health, my outlook on life improved.

#### Methods

This project includes two components. First, an exploration of exercise and somatic movement and their respective mood-boosting capabilities. Second, a research survey that investigates the opinions of MTSU students and whether somatic dance can help them as a coping mechanism.

#### Interviews

Three interviews were conducted throughout the course of this project to supplement the studies that are referenced in the introduction and discussion. The professionals interviewed were Dr. Laurie Scherer, a dance movement therapist; Amy Matthews, who is certified and trained in Body-Mind Centering; and Ann Rodiger, who is trained in the Alexander Technique. Each interview served to gain more insight into how somatic movement is used in the professional world. Questions that were asked of these professionals were tailored to each interview. They were asked how they came to be practitioners in their field, how they believe somatic movement would help college students, and how somatic movement is different from other forms of exercise. Each interview lasted approximately 30 minutes.

#### Survey

To assess whether somatic dance movement could be a beneficial coping mechanism for MTSU students, a survey hosted on Qualtrics was conducted. There were three components to this survey: a pre-test, a video engagement, and a post-test. In the pre-test, participants were asked questions to gauge how knowledgeable they are about dance, somatic dance, and coping mechanisms for stress. They were given statements

such as "college classes can be stressful" and "college life can be stressful" and asked to rate them based on how much they agreed or disagreed with them. Then, participants were asked to evaluate their opinion on dance-specific statements. These statements were "dance can be used as an outlet for stress," "dance makes me feel better," and "dance can help me overcome stress and worries." After answering these questions, participants were asked to watch and follow along to a YouTube video of a somatic dance warm-up based on Anne Green Gilbert's BrainDance. After the video engagement, a post-survey was conducted. In the first component of the post-survey, students asked if they watched and engaged with the video. Second, they were asked again asked to rate their feelings using the same three dance statements from the pre-survey. The third and last question in the post-survey asked if their opinions about dance had changed after completing the survey.

#### Data analysis

Data from the survey was analyzed through calculating the mean value of the answers. Then, a two-tailed t test was performed on the data to determine if there were statistically significant differences between the pre-test and the post-test.

#### Fieldwork

To compare somatic dance exercises to the general benefits of regular exercise, I created a data table and spent a month exercising and rating my stress levels before and after. Seven exercises were completed and compared for their relative stress-relieving abilities. These exercises included meditation, running, non-somatic dance, yoga, walking, weightlifting, and tai chi.

Then, I spent a month taking five somatic movement workshops from the International Somatic Movement Education and Therapy Association. The workshops were A Free Online Introduction to Alexander Technique; BMC Embodied Embryology with the Feldenkrais Method of Awareness Through Movement; Fundamentals in Flow, Balance, and Stability; Alexander Technique for Dancers; and a Body-Mind Centering course titled Rolling Online. I rated my stress levels before and after each somatic movement class and compiled the data into a data table.

To determine the most beneficial exercise and technique of somatic movement for college students, I evaluated my experience with each exercise and class based on these questions: does it help with stress? Does it require a large amount of space? Can this technique/exercise be used anywhere?

Date	Exercise	Time Duration	Initial Heart Rate	Final Heart Rate	Stress before (1-10)	Stress after (1-10)
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**Table 1:** Example of data table used to record the effects of somatic movement and

 regular exercise movements on stress.

#### Results

Date	Exercise	Time	Initial	Final heart	Stress before	Stress after	Did stress improve
		duration	heart rate	rate	(1-10)	(1-10)	(Y/N?)
12/11/21	Positive Control: Guided Meditation	20 mins	91bpm	71 bpm	5	3	Yes
12/13/21	Running on the treadmill	20 mins	76bpm	105 bpm	6	4	Yes
12/18/21	High impact dance: jazz/ contemporary	20 mins	80bpm	112 bpm	7	6	Yes
1/4/22	Guided yoga practice	20 mins	101bpm	75 bpm	8	4	Yes
1/6/22	Walking on the treadmill	20 mins	115bpm	136 bpm	6	6	No
1/8/22	Weightlifting	20 mins	81bpm	131 bpm	6	4	Yes
1/22/22	Tai chi	20 mins	82bpm	85 bpm	5	4	Yes

#### The mood-boosting effects of exercise

**Table 2:** Six non-dance exercises were conducted over a month period. Time was set as

 the control for this exercise study. Stress levels were measured based on overall

 disposition immediately before and after the exercise.

To understand the effects of somatic dance on my stress-levels, I tested other forms of exercise as coping mechanisms for stress. Six non-somatic dance exercises were chosen for this study based on popular forms of exercise within the last three years (*MINDBODY*, 2019). Exercises included meditation, running, walking, non-somatic dance, yoga, weightlifting, and Tai Chi. I chose meditation as a positive control because it is the most similar non-somatic exercise to somatic dance. Each exercise was completed in 20 minutes to control the variable of time. Each of the six exercises improved my stress and boosted my mood, except for walking for 20 minutes, which neither increased nor decreased my mood. On average, my stress decreased by 1.66 points. The exercise that most dramatically improved my mental health was yoga, which improved my mood and decreased my stress levels by four points. In addition, yoga was the only exercise that reduced my heart rate. Every other exercise raised my heart rate by an average of 27 beats per minute (maximum bpm raised = 50 bpm, minimum bpm raised = 5 bpm).

Date	Class	Time duration	Initial heart rate	Final heart rate	Stress before (1- 10)	Stress after (1- 10)
1/26/22	Beginner Alexander Technique Exercises	60 minutes	81 bpm	83 bpm	7	5
1/30/22	Body-Mind Centering and the Feldenkrais Method	90 minutes	79 bpm	85 bpm	7	4
1/31/22	Fundamentals in Flow, Balance, and Stability	90 minutes	84 bpm	89 bpm	6	8
2/2/22	Alexander Technique for Dancers	60 mins	78 bpm	81 bpm	5	4
2/24/22	Rolling Online	60 mins	89 bpm	84 bpm	5	4

#### The mood-boosting effects of somatic movement

**Table 3:** Five somatic movement workshops were attended from different somatic

 movement techniques: the Feldenkrais Method, Body-Mind Centering, and the Alexander

 Technique. Environment was set as the control for this study. Stress levels were

 measured based on overall disposition immediately before and after the somatic

 movement exercise.

To have a holistic understanding of somatic movement, I participated in five somatic movement workshops. These workshops were held all over the United States, but I was able to attend via Zoom. The environment for this study was the controlled variable, as each class was taken in my apartment bedroom. This created a familiar environment, though stress levels still fluctuated. The workshop that lowered stress the most out of the five that I took was the combined Body-Mind Centering and Feldenkrais Method course. This course was 90 minutes long and lowered my stress by three points. The other somatic movement seminars lowered stress by an average of 1.75 points, excluding the Fundamentals in Flow, Balance, and Stability course, which raised my levels of anxiety. These somatic movement seminars raised my heart rate by an average of 4 beats per minute. However, Rolling Online, the Body-Mind Centering seminar, lowered my heart rate by 5 beats per minute.

#### MTSU students and somatic dance as a coping mechanism

This questionnaire was distributed to groups of undergraduate MTSU students across campus, including students in Honors College, students involved in the Undergraduate Research Center, and majors and minors in the dance program. There were 44 individuals who took the time to complete the survey.

*Have you participated in dance before?* Out of 43 students, 28 had participated in dance at least once, while 15 students had not danced prior to this survey. The specific styles MTSU students are familiar with range from hip hop, to ballet, to jazz. The most popular styles at MTSU based on this survey were: musical theater, ballet, tap, jazz, and hip hop. Some students were familiar with other forms of dance that were not listed on the form, such as Latin-based dancing, swing dancing, Irish step, capoeira, liturgical, ballroom, and salsa. Of the students who had participated in dance, the majority had experience with ballet, jazz, tap, and musical theater. Some had danced other styles, such as tango, liturgical, swing dancing, Irish dancing, capoeira, ballroom, and salsa.

*Have you heard of somatic dance before?* 62% of students who took this survey had not heard of somatic dance prior. 11 students answered yes, 5 answered maybe, and 27 students said no. When asked to rate how they felt about the following statements on a scale of 0-10, with 0 being "not at all" and 10 meaning "completely," the average answer out of the 42 students who responded to "I am knowledgeable about dance" was a 5.10 out of 10, and the average answer from a pool of 40 students who responded to "I am knowledgeable about somatic dance" was 2.02 out of 10.

Students rated statements on a scale of 0-10. Zero meant "definitely not," and 10 was "definitely yes." They were asked: "are you familiar with coping mechanisms for stress?;" "Would you consider dance to be a coping mechanism?;" and "do you enjoy dancing?" 53% of students answered "definitely yes" for all three questions, 44% answered "probably yes," 2% answered "probably not," and 0% answered "definitely not."

When asked to rate the statement: "college classes can be stressful" and "college life can be stressful" on a scale of 0-10 with 0 meaning "definitely not" to 10 meaning "definitely yes," the average student rated the stress of college classes and life with a value of 9.16 (college classes) and 9.12 (life) respectively.





**Figure 1:** Students ranked each statement based on how much they agreed (10) or disagreed (0) with each statement prior to watching and participating in a somatic dance exercise.

Ultimately, the goal of this survey was to assess whether students believe dance can be an outlet for their stress, can make them feel better, and can help them overcome worries and stress. Students were asked to rank the following statements on a scale of 0-10 based on whether they completely agreed (10) or disagreed (0) with them: "dance can be used as an outlet for stress," "dance makes me feel better," and "dance helps me overcome worries and stress." The average answer based on 43 answers was 7.53 out of 10 for "dance can be used as an outlet for stress," 6.67 out of 10 for "dance makes me feel better," and 6.35 out of 10 for "dance helps me overcome worries and stress."

*Video.* Students were asked to view and follow along to a video of somatic dance movement, guided by me. When asked if the participants watched the video and followed along, 31 said yes and 4 said no. The 4 responders who did not watch the video were not considered viable data and were excluded from this survey.

#### **Post-Test results:**



**Figure 2:** Students ranked each statement based on how much they agreed (10) or disagreed (0) after watching and participating in a somatic dance exercise.

After watching the video, students were asked once more to evaluate statements on dance and its stress-relieving abilities with the same statements from the pre-survey. The average answer based on 34 answers was 8.53 for "dance can be used as an outlet for stress," 7.82 for "dance makes me feel better," and 7.85 for "dance helps me overcome worries and stress."

#### Have your opinions about dance changed since starting this survey? Out of 35

answers, 3 participants said, "definitely yes;" 11 said "probably yes;" 9 said "might or might not;" 6 participants said, "probably not;" and 6 said, "definitely not."

#### Discussion

#### Non-somatic dance exercise

After the guided mediation, there was a sense of lightness when it was over, and my stress improved. I felt better after running for 20 minutes, but running induced longterm soreness which negated the positive and stress-relieving effects. After I followed along to a guided dance workout videos for 20 minutes, I felt an improvement in my mood, but this form of exercise also caused stiffness in my body. The deep breathing aspects of yoga decreased my stress and permitted a great mind-body connection. Walking for 20 mins did not influence my mood or stress levels. After completing a weightlifting full-body circuit, which took approximately 20 minutes, my stress levels improved. Finally, after Tai Chi, my mind was highly focused. I felt relaxed, invigorated, and full of energy.

#### Somatic movement exercises

I left the Alexander technique classes feeling lighter and less stressed. I felt like I had tools to improve my stress outside of the workshop, and help a fellow student who is carrying similar tension. Overall, I would rate the Alexander Technique as highly effective and positive. An example of an Alexander Technique exercise is as follows: *From a comfortable sitting position, place your hands on your knees, sit up tall, and press your feet firmly into the floor. Take a moment to pause here and take a deep breath. Notice what it feels like to sit with an upright posture. Are you clenching any muscles? Now, think about counting to three out loud, but don't count yet! Think about what it felt like to be told to count to three and think about how you would say it. Take a deep breath, and after a pause, count to three out loud. Reflect on what it was like to wait* 

*before speaking out loud. Take another deep breath, and repeat this exercise, but count to five instead.* 

Overall, my impression of the Feldenkrais Method and Body-Mind Centering work was positive. I found that it was easier to retain information after the class when I was completely relaxed. I was able to learn from the lecture and truly process what she was saying because my body was at ease. I would rate the Feldenkrais Method as a highly functional way to relieve stress. An example of a Feldenkrais Method exercise is as follows: *From a comfortable seat, sit as upright as possible. Sense if you are holding any tension in your back, if you are, try to relax. Slowly raise your right shoulder to your ear and note if you feel any gripping in your muscles. Try to release those muscles while keeping your shoulders raised. Hold your right shoulder up at the level of your ear for thirty seconds. Slowly lower your right shoulder down. Notice anything different about the level of your shoulders, does one feel higher than the other after this exercise? Take a deep breath and repeat with the left shoulder.* 

Despite the name of the course "Fundamentals in Flow, Balance, and Stability" I did not find my flow. It was a struggle from the beginning with unclear directions, expectations, and guidance. I found the end of the meeting to be abrupt, which felt jarring, and it different from the conclusion of every other somatic workshop I attended. Overall, I would not recommend "Fundamentals in Flow, Balance, and Stability" to college students. I did not find it effective as a potential stress-relieving technique for undergraduates.

The unique title of the Body-Mind Centering course "Rolling Online" did not deter me from keeping an open mind as I followed along from my apartment bedroom. After the movement seminar, I was relaxed and mindful of my environment. I was not surprised that this course lowered my heart rate; the exercises incorporated meditative breath. I would recommend this technique to college students as a stress-relieving technique if they have ample floor space. An example of a Body-Mind Centering exercise is as follows: Start from a comfortable seated position and slowly bring awareness to the tips of your toes in your feet. Notice the gravity. How does the ground feel? While breathing deeply, bring awareness to your ankles, then move upwards towards your knees. Bring awareness to the rest of your legs, stopping at your hips and back. How does it feel to sink into the chair? Are you holding any tension? Try to relax. Focus on your torso, bringing attention to the front of your body to the organs in your stomach. *Notice the fluidity of your body. Wrap your attention around to the back of your body,* notice how your lungs and heart feel as you breathe, and try to relax any tension. Bring your attention back to your midline and imagine your energy traveling up towards your neck, face, and the top of your head. Breathe deeply and repeat from the top down.

#### Survey results and analysis



Figure 3: The average level of agreement or disagreement from the participants (pre-test n = 43, post-test n = 34) with each statement before and after participating in a somatic dance movement video.

The unpaired two tailed t-test for the data of the pre-test and the post-test revealed that two statements: "dance can be used as an outlet for stress" and "dance makes me feel better" were not quite statistically significant, which could be attributed to the small sample size of the survey. However, the data from the third statement, "dance can help me overcome worries and stress" shows a statistically significant difference between the pre-test and the post-test.

Statement	T value	df	Standard	Two-tailed	Statistically
			error of	P value	significant?
			difference		_
Dance can	1.8263	75	0.543	0.0718	No
be used as					
an outlet for					
stress					

Dance	1.6915	75	0.680	0.0949	No
makes me					
feel better					
Dance can	2.2575	75	0.664	0.0269	Yes
help me					
overcome					
worries and					
stress					

**Table 4:** Statistical analysis of the data from the somatic dance survey. The individuals who took the pre-test (n = 43) outnumbered the individuals who completed the post-test (n = 34), but statistically relevant results were still achieved.

This survey reveals that MTSU student stress regarding classes and college life is relatively high. This is consistent with previous research conducted in college students and their stress (Yikalo et al. 2018). These stress factors can be attributed to many things: the ongoing COVID-19 pandemic, academic course load, adjusting to the college transition, and other life events that add to the level of stress that students learn to cope with every day.

The results from the survey state the participants believe dance can be used as an outlet for stress. However, the difference between the results from the statement "dance can be used as an outlet for stress" were not quite statistically significant. However, this does not mean that dance is not an appropriate coping mechanism for MTSU student stress. There are many factors that could have contributed to this result. For example, if there was a larger sample size, the results may be different. Another reason may be the presentation of the video. If another student were to present the same somatic dance exercise and leave the structure of the survey alone otherwise, it would control for bias in the answers of the participants.

The data from the survey indicates that dance makes MTSU students feel better, but the differences between data from the pre-test and post-test are not significant. The results of the last statement "dance can help me overcome worries and stress" suggested that dance can help MTSU students overcome worries and stress, as the mean increased closer to 10 (=agree completely) and the difference between the two means were statistically significant.

#### Conclusions

Out of all the exercises and somatic techniques I tested to relieve stress, I enjoyed yoga and the Alexander Technique the most. I foresee myself returning to these techniques in the future to cope with stressful college situations. Yoga had the most calming effect, was feasible, and can be done in many places. The Alexander Technique was calming, feasible, and easy to complete with limited space. I would recommend this exercise and this somatic technique to any college student as a coping mechanism for stress. A practical application of somatic movement for college students could be a small 5-minute exercise prior to class or an exam.

The results from the survey found, based on the smaller sample size and potential bias, the usage of somatic dance as a coping mechanism did not produce statistically significant data. However, it was statistically found that this style of somatic dance was able to boost the mood of MTSU students. This may be worth investigating further by reproducing this survey with a different student administering the video workshop to account for bias.

To conclude, coping mechanisms are important for stress, and it is important to find healthy ones. Low-cost and feasible coping mechanisms such as dancing can boost the moods of students. It is worth encouraging students to exercise or complete a somatic dance warm-up such as a BrainDance before a large exam or other stressful college situation to encourage good mental health and self-care practices. No matter how MTSU students feel about dance, it is important to explore all outlets to relieve stress to produce stress-free, positive academic outcomes in college and beyond.

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#### Appendix

#### IRB

INSTITUTIONAL REVIEW BOARD Office of Research Compliance, 010A Sam Ingram Building, 2269 Middle Tennessee Blvd Murfreesbror, TN 37129 FWA: 00005331//RB Regn. 0003571



#### **IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE**

Sunday, November 07, 2021

Protocol Title Protocol ID	The College Student and the Mood-Bossting Effects of Dance 22-2061 47qv				
Principal Investigator Co-Investigators	Kap Paull* (Student) NONE	Faculty Advisor: Margaret Brooker			
Investigator Email(s)	kap6q@mtmail.mtsu.edu; Margaret.brooker@mtsu.edu				
Department	*University Honors College and Tehater & Dance (FA)				
Funding	NONE				

#### Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU IRB through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within a PRIMARY category (4) *Collection of data through noninvasive procedures* (sub-category 4e) and a SECONDARY category (7) *Research on individual or group characteristics or behavior.* A summary of the IRB action is given below:

IRB Action	APPROVED for ONE YEAR					
Date of Expiration	11/30/2022	Date of Approval: 11/8/21	Recent Amendment: NONE			
Sample Size	ONE HUNDR	ED (100)				
Participant Pool	Target Populat	ion:				
	Prima	ary Classification: General Adults (1	8 or older)			
	Speci	fic Classification: College students	s with good physical fitness			
Type of Interaction	Non-interv	entional or Data Analysis				
	Virtual/Re	mote/Online interaction				
	In person	In person or physical interaction – Mandatory COVID-19 Management				
Exceptions	1. Allowed to	collect data on physical tasks using	virtual methods			
	2. Online con	sent is permitted.				
Restrictions	1. Mandatory	ACTIVE Informed Consent.				
	2. Other than	the exceptions above, identifiabl	e data/artifacts, such as,			
	audio/video data, photographs, handwriting samples, personal address, driving					
	records, social security number, and etc., MUST NOT be collected. Recorded					
	identifiable i	nformation must be deidentified a	s described in the protocol.			
	3. Mandatory	/ Final report (refer last page).				
	4. Not appro	ved for in-person data collection				
Approved Templates	IRB Templates	<ul> <li>Qualtrics Informed Consent and F</li> </ul>	Recruitment Email			
	Non-MTSU Te	mplates: Recruitment Script(s)				
Research Inducement	NONE					
Comments	NONE					

IRBN001 (Stu)

Version 2.0

Rev 08/07/2020

Appendix 1: IRB expedited protocol approval notice for the research portion of

this honors thesis project was received on November 8th, 2021.

## **Default Question Block**

Information and Disclosure Section

The following information is provided to inform you about the research project in which you have been invited to participate. Please read this disclosure and feel free to ask any questions.

The investigators must answer all of your questions and please save this page as a PDF for future reference.

• Your participation in this research study is voluntary.

• You are also free to withdraw from this study at any time without loss of any benefits.

For additional information on your rights as a participant in this study, please contact the Middle Tennessee State University (MTSU) Office of Compliance (Tel 615-494-8918) or send your emails to irb\_information@mtsu.edu.

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(URL: http://www.mtsu.edu/irb). Please read the following and respond to the consent questions in the bottom if you wish to enroll in this study.

1. Purpose: This research project is designed to help us evaluate the knowledge that MTSU students have about somatic dance and to assess the potential beneficial effects of somatic dance movement.

2. Description: This process should take about 15-20 minutes. There are are several parts to this survey. They are: Completing a pre-survey portion of the survey, then watching a brief video and participating in a guided dance, then completing a post-survey immediately afterwards.

3. IRB Approval Details
o Protocol Title: The Stressed-Out College Student and the Mood-Boosting Effects of Dance
o Primary Investigator: Kap Paull
o PI Department & College: University Honors, Honors

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## College

o Faculty Advisor (if PI is a student): Professor Margaret Brooker

o Protocol ID: 22-2061 47qv\_ Approval Date:

11.08.2021\_ Expiration Date: \_\_11/30/2022\_\_

4. Duration: The whole activity should take about 15-20 minutes. The subjects must take at least 15 minutes to complete the study.

5. Here are your rights as a participant:

• Your participation in this research is voluntary.

• You may skip any item that you don't want to answer, and you may stop the experiment at any time (but see the note below)

 If you leave an item blank by either not clicking or entering a response, you may be warned that you missed one, just in case it was an accident. But you can continue the study without entering a response if you didn't want to answer any questions.

• Some items may require a response to accurately

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Qualtrics Survey Software

present the survey.

6. Risks & Discomforts:There are minimal risks and discomforts to this survey.

7. Benefits:

a. Benefits to you that you: There are no direct benefits to you

b. Benefits to the field of science or the community: This research will help further advance somatic dance awareness and it will aid greatly in the field of dance research and science.

8. Identifiable Information: You will NOT be asked to provide identifiable personal information.

9. Compensation: There is no compensation for participating in this study.

a) The qualifications to participate in this research are: you must be a college student of at least 18-years-of age

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or older. Please do not participate if you are injured, have difficulty moving, or believe you may be pregnant.

If you do not meet these qualifications, you will not be included in the research.

b) After you complete this consent form you will answer screening questions. If you fail to qualify for the research based on these questions, the research will end.

c) Please do not participate in this research more than once. Multiple attempts to participate will not be accepted.

d) Attention checks are embedded in the research. If you fail these, your response may be recorded, but your response will not be included in the research

10. Confidentiality. All efforts, within reason, will be made to keep your personal information private but total privacy cannot be promised. Your information may be

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shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, if you or someone else is in danger or if we are required to do so by law.

11. Contact Information. If you should have any questions about this research study or possibly injury, please feel free to contact Kap Paull by telephone 817-863-0842 or by email kap6q@mtmail.mtsu.edu OR my faculty advisor, Margaret Brooker, at Margaret.Brooker@mtsu.edu and (615)898-5023. You can also contact the MTSU Office of compliance via telephone (615 494 8918) or by email (compliance@mtsu.edu). This contact information will be presented again at the end of the experiment. You are not required to do anything further if you decide not to enroll in this study. Just quit your browser. Please complete the response section below if you wish to learn more or you wish to part take in this study. Qualtrics Survey Software

3/18/22, 20:10

	Please answer these Yes or No questions		
	Yes	No	
I have read this informed consent document pertaining to the above identified research	0	0	
The research procedures to be conducted are clear to me	0	0	
I confirm I am 18 years or older	0	0	
I am aware of the potential risks of the study	0	0	
I am a college student	0	0	

## Inclusion/exclusion criteria

	Please answer the following Yes/No questions				
	Yes No				
Are you injured?	0	0			

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Qualtrics Survey Software		
Are you pregnant?	0	0

By clicking below, I affirm that I freely and voluntarily choose to participate in this study. I understand I can withdraw from this study at any time without facing any consequences.

○ NO I do not consent
 ○ Yes I consent

## **Pre-Survey**

Select one: have you participated in dance before? (Taken a dance class, danced recreationally, etc)

<sup>⊖</sup> Yes <sup>⊖</sup> No

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Qualtrics Survey Software

If your answer to Q1 was yes, which of the following forms of dance have you heard of? (Please select one or multiple answers)

□ Ballet	
□ Jazz	
🗆 Тар	
□ Modern	
□ Hip-Hop	
□ Musical Theater	
□ Contemporary/Lyrical	
	Other
	1

If your answer to Q1 was yes, which of the following forms of dance have your participated in before? (Please select one or multiple answers)

□ Ballet □ Jazz

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 Qualtrics Survey Software

 Tap

 Modern

 Hip-Hop

 Musical Theater

 Contemporary/Lyrical

 Other

Select one: Have you heard of somatic dance before?

- <sup>⊖</sup> Yes
- <sup>O</sup> Maybe

 $^{\rm O}$  No

Please Rank your feelings on the following statements on a scale of 0 to 10 with 0 as "Not at all" and 10 as "completely"

0 1 2 3 4 5 6 7 8 9 10

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Qualtrics Survey Software

l am knowledgable about dance

l am knowledgable about Somatic Dance

## Please answer the following questions

	Definitely	Probably	Probably	Definitely
	yes	yes	not	not
Are you familiar with coping mechanisms for stress?	0	0	0	0

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Qualtrics Survey Software 3/18							
Would you consider dance to be a coping mechanism?	0	0	0	0			
Do you enjoy dancing?	0	0	0	0			

Please rank your feelings on the following statement with 0 as "Not at all in agreement" and 10 as "completely agree"

	Neither								
		agree							
	Str	Strongly Somewhat nor Somewha							าะ
	disa	agree	e disa	agree	e dis	sagre	е	agree	•
	0	1	2	3	4	5	6	7	ł
College classes can be stressful									

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Qualtrics Survey Software

## College life can be stressful

Please rank your feelings on the following statements with 0 as "Not at all in agreement" and 10 as "completely agree"

	D	oes						
	r	not	Slig	ghtly	Mo	deratel	у	Mostly
	des	cribe	desc	ribes	s de	scribes	s c	lescribe
	r	ny	n	ny		my		my
	fee	lings	feel	ings	fe	elings		feelings
	0	1	2	3	4	5	6	7
Dance can								
be used								
as an								
outlet for	•							
stress								

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Qualtrics Survey Software

Dance makes me feel better

Dance can help me overcome worries and stress

## Video

Please view this short YouTube video in a new tab: <u>https://youtu.be/FDHMxfB4Xds</u> (approximately 7 minutes and 30 seconds long)

Once you are finished, please return to this survey and complete the remaining portion.

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## Block 3

Please choose one: I have watched the video and participated in the dance

<sup>⊖</sup> Yes <sup>⊖</sup> No

Please rank your feelings on the following statements with 0 as "Not at all in agreement" and 10 as "completely agree"

> Does Slightly Moderately Mostly not describedescribes describes describe my my my my feelings feelings feelings feelings 1 2 3 6 0 4 5 7

https://qfreeaccountssjc1.az1.qualtrics.com/Q/EditSection/Blocks/...xtSurveyID=SV\_8wE7OEvwVYKXz7g&ContextLibraryID=UR\_3NUn9e3rGkjIxid Page 15 of 17

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Dance can be used as an outlet for stress Dance makes me feel better Dance can help me

Dance can help me overcome worries and stress

Have your opinions about dance changed since starting this survey?

- <sup>O</sup> Definitely yes
- $^{\bigcirc}$  Probably yes
- <sup>○</sup> Might or might not

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# Probably not Definitely not

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*Appendix 2*: Official IRB approved survey that was administered to MTSU students. 44 students participated in this survey. The video component of the survey can be accessed here: https://youtu.be/FDHMxfB4Xds

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