

The Association Between Holistic Modalities on Stress Reduction in Nursing Students Attending School During the Pandemic

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Introduction

The overall goal of the nurse is to promote health, wellness, and higher levels of well-being in their patients through health promotion techniques and interventions.

- Nurses have the ability to encourage health-behavior related change to improve well-being.
- The importance of health promotion in nursing practice is growing.
- However, nurses need to use health-promoting techniques in their own lives to be able to successfully implement this for their patients.
 - “Practice what you preach”
- This practice should begin in nursing school as students.

Why This Topic?

1. As a nursing student myself, I know how stressful nursing school can be & the COVID-19 Pandemic presented students with a whole new set of stressors and challenges.
2. In nursing school, students are taught the importance of health promotion interventions for their patients, but often lack using these techniques themselves.
3. There is evidence that holistic modalities are effective in reducing stress, so I want to explore if nursing students would benefit from these strategies.

Stress in Nursing Students

Nursing students report higher levels of stress than other college students & stress related symptoms (Bartlett et al., 2015).

- **6.9%** of the general student body reported tremendous stress over 12 months of college, while **17.6%** of nursing students indicated tremendous stress. **6.9%** of the general student body reported no stress at all, while **0%** of nursing students indicated this.
- Increased presence of migraines, sleep disturbances, and overall illness in nursing students.

Despite this, 92.6% of nursing students want to improve their stress management & reduction skills, and about half of these students indicated that they feel their current techniques and skills are ineffective (Murdock et al., 2010).

Stress in Nursing Students

- The most anxiety-producing situation for nursing students is the clinical component of nursing school (Labrague et al., 2017).
 - Unfamiliar settings
 - Fear of harming the patient
 - Lack of experience/knowledge
 - Communication with preceptors
- Other common stressors include exams, skill validations, failing a course, financial concerns, and being late to class/clinical (Pulido-Martos et al., 2011).

COVID-19 & Nursing Students

A 2020 study of a group of nursing students showed that **97%** of students felt higher stress compared to previous years of nursing school (Aslan & Pekince, 2020).

- Academic, clinical, and personal stressors in addition to the pandemic.
- Required a quick adjustment to remote learning and a new way of attending school.
- Nursing school requires so much hands-on experience, and that was interrupted by the pandemic.

COVID-19 & Nursing Students

- In a survey sent to 50 nursing students, all 50 reported experiencing physical manifestations more frequently than prior to the pandemic (Fitzgerald & Konrad, 2021).
 - Difficulty concentrating
 - Feeling overwhelmed
 - Restlessness & irritability
 - Fatigue
 - Sleep disturbances
 - Heart palpitations
 - Abdominal distress
 - Panic attacks

COVID & Nursing Students

- Reported increase in the use of negative coping strategies by nursing students since the beginning of the pandemic (Savitsky et al., 2020).
 - Alcohol
 - Drugs
 - Excessive eating
 - Avoidance
 - Transference

Holistic Modalities & Stress Reduction

Holistic modalities focus on the well-being of mind, body, and spirit

- Mind & Body Modalities include yoga, meditation, deep breathing, stretching, tai chi, etc.
 - These modalities can reduce stress both biologically and psychologically by decreasing sympathetic nervous stimulation and cortisol secretion, as well as creating a more positive attitude towards stress (Riley & Park, 2015).
- Exercise Modalities include walking, running, weight-lifting, dancing, hiking, etc.
 - Exercise can counteract the effects of the stress response by reducing stress hormone production and increasing endorphin production (Jackson, 2013).
 - College students indicate that exercise helped them to sleep better, implement a better diet, have an improved mood overall, feel happier, and more equipped to handle problems and challenges (Kim & McKenzie, 2014).

Holistic Modalities & Nursing Students

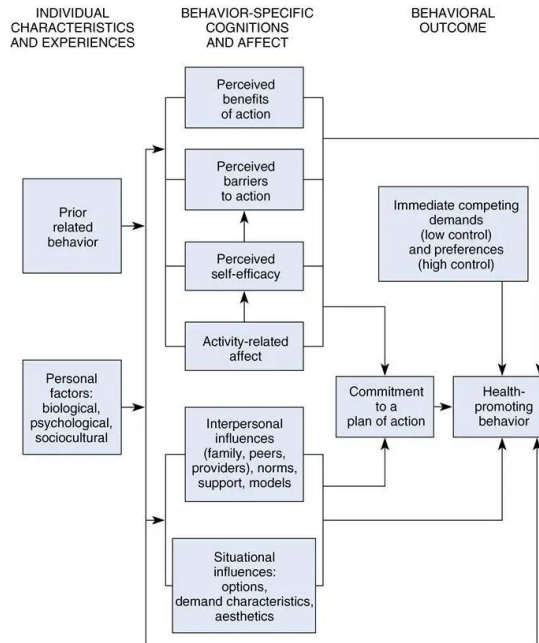
- Nursing students are open & willing to utilize holistic modalities to manage their stress levels and feel they would be effective, but lack both the knowledge and time to engage in them (Kinchin & Loerzel, 2019).
- Research shows that holistic modalities were effective in reducing stress in nursing students **pre-pandemic**.
 - An online yoga intervention include pre & post intervention stress level surveys and there was a significant reduction in anxiety and stress (Gustas & Zajacs, 2016).
 - Nursing students who regularly participate in physical activity feel less stressed compared to those who don't (McSharry & Timmons, 2017).

Are holistic modalities that were once effective in stress reduction in nursing students pre-pandemic still effective during the pandemic?

Do nursing schools include adequate holistic modality teaching and support their students in stress reduction & management? How can they better support their students?

Theoretical Framework

Nola Pender's Health Promotion Model (1982)



(Pender,
1982)

Methods

- In-depth literature review to determine current data
- Developed one time, anonymous, online survey utilizing Qualtrics.
- Finalized partnership with Ferris State University School of Nursing
- Received IRB Approval #2022-156 through Cayuse Application in August 2022.
- Recruitment of students through email, group chat messages, virtual flier, and video.
- Distributed survey to WMU & FSU junior & senior nursing students in October 2022.
- Analyzed data through Qualtrics & SPSS to analyze findings and draw conclusions

Survey

- Qualtrics
- Included a consent form
- One-time, online, anonymous
- 27-questions: multiple choice, select all that apply, Likert scale, short answer
 - Included the Perceived Stress Scale, a commonly used tool to determine an individual's perceived stress levels.
- Estimated to take 9.5 minutes

Survey cont.

0 - 13 = **Low Stress**

14 - 26 = **Moderate Stress**

27 - 40 = **High Stress**

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts **during the last month**. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

Name _____ Date _____

Age _____ Gender (Circle): **M** **F** Other _____

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly? 0 1 2 3 4
2. In the last month, how often have you felt that you were unable to control the important things in your life? 0 1 2 3 4
3. In the last month, how often have you felt nervous and "stressed"? 0 1 2 3 4
4. In the last month, how often have you felt confident about your ability to handle your personal problems? 0 1 2 3 4
5. In the last month, how often have you felt that things were going your way? 0 1 2 3 4
6. In the last month, how often have you found that you could not cope with all the things that you had to do? 0 1 2 3 4
7. In the last month, how often have you been able to control irritations in your life? 0 1 2 3 4
8. In the last month, how often have you felt that you were on top of things? 0 1 2 3 4
9. In the last month, how often have you been angered because of things that were outside of your control? 0 1 2 3 4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 0 1 2 3 4

(Cohen et al., 1983)

Results

68 participants consented to complete the survey; 63 participants completed the entire survey.

38.1% of participants were from the Bronson School of Nursing at Western Michigan University and **61.9%** of participants were from the School of Nursing at Ferris State University.

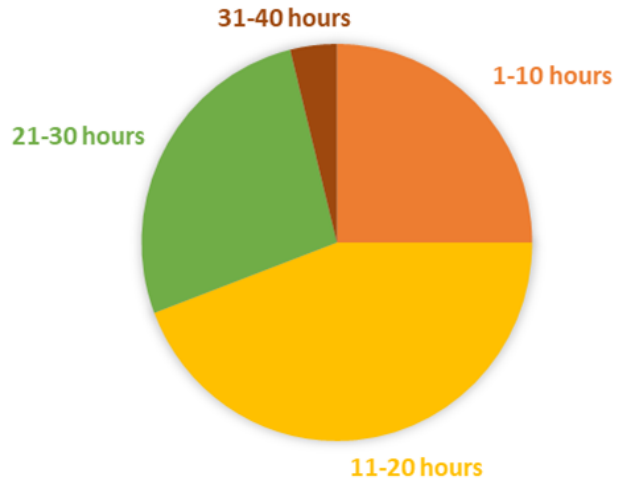
Ages ranging from **20 - 47** years old

87.3% college seniors; **12.7%** college juniors

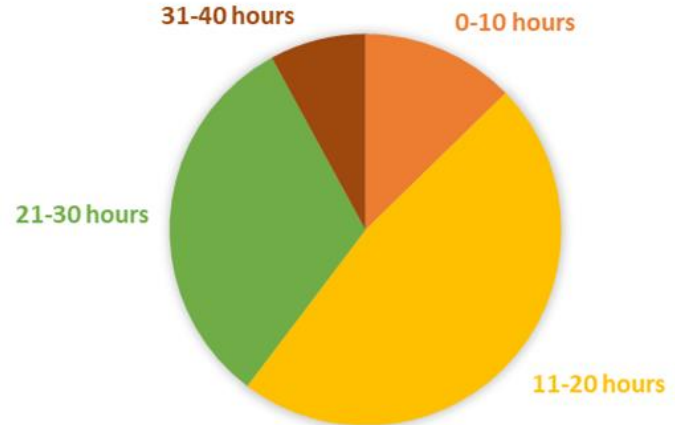
88.9% females, **9.5%** males, **1.6%** preferred not to disclose gender identity

Results

HOURS WORKED PER WEEK



HOMEWORK/STUDY TIME PER WEEK



Results

Participants were asked to rank their pre-pandemic stress level, as well as current/during pandemic stress levels.

92.1% of participants reported an increase.

7.9% of participants reported no change (4 from FSU, 1 from WMU)

0% of participants reported a decrease.

Participants were also asked to compare their stress levels to their peers who are not in the nursing program.

61.9% of participants feel they are always more stressed than other students.

34.9% of participants feel they are sometimes more stressed than other students.

3.17% of participants never feel that they are more stressed than other students.

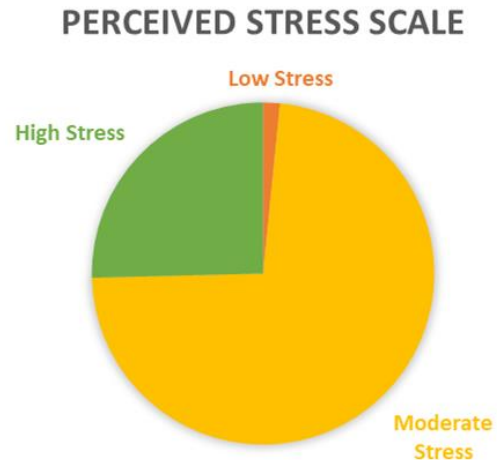
Results

Perceived Stress Scale (Cohen et al., 1983) was included in the survey to determine how stressed the participants perceive that they are.

1 participant scored between 0 - 13 points

46 participants scored between 14 - 26 points

16 participants scored between 27 - 40 points



Results

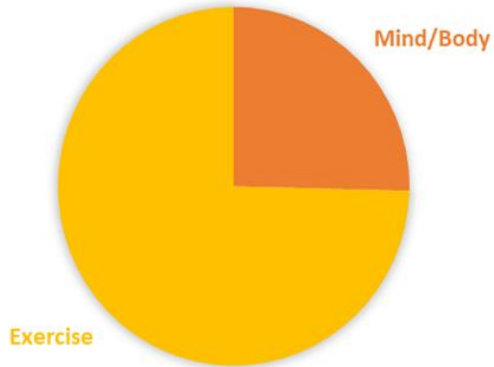
2 Sample T-Test was conducted using SPSS to compare the stress levels between the two groups of students:

- On average, both groups are moderately stressed, but students attending nursing school at WMU are overall more stressed than students attending nursing school at Ferris State University.
 - P-value indicates a significant difference in stress levels between the two groups of students.

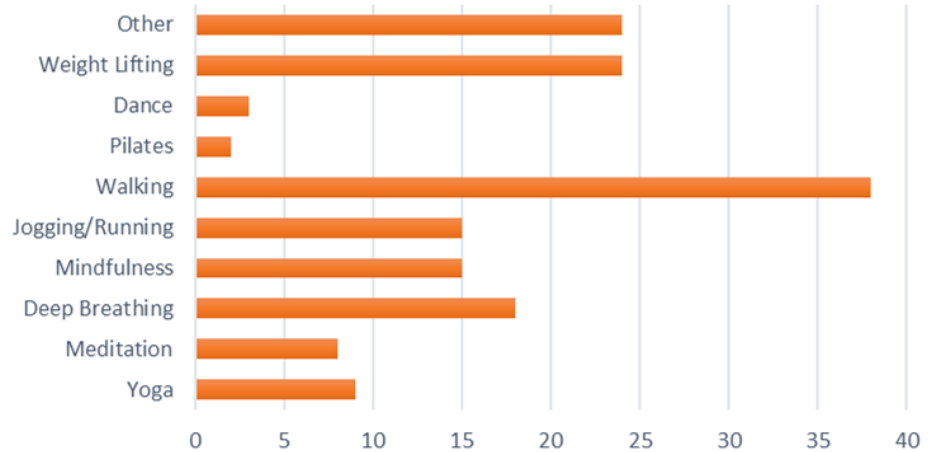
WMU *One of nine nursing programs in the country that are holistically certified/endorsed by the American Holistic Nurses Credentialing Corporation	FSU *Not a holistically certified/endorsed nursing program
24.04	22.44

Results

OVERALL HOLISTIC MODALITY USE

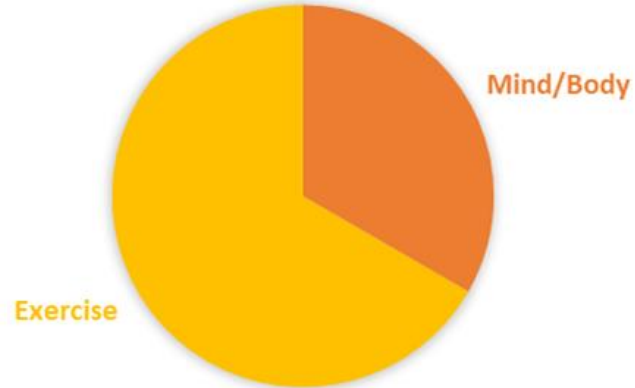


MODALITIES USED



Results

ASSOCIATION BETWEEN MODALITIES & STRESS REDUCTION



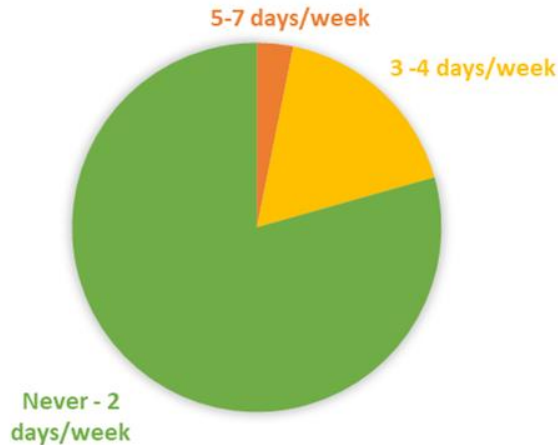
Results

**DOES THE PANDEMIC MAKE IT HARDER
TO DO THESE ACTIVITIES?**



Results - Mind/Body Modalities

MIND/BODY MODALITY USE

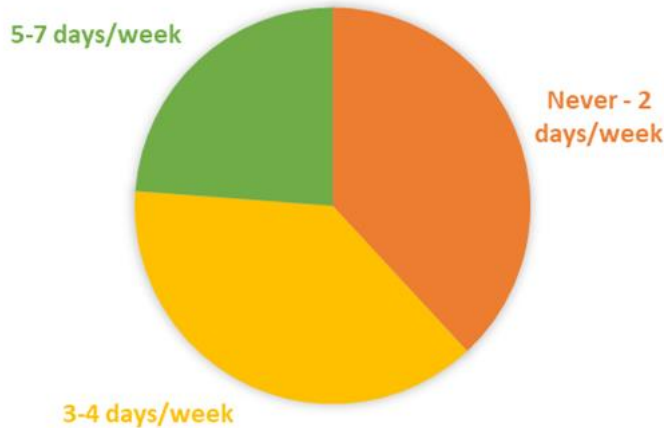


- 1.59% of students experience a reduction in stress **every time**.
- 20.63% of students experience a reduction in stress **most of the time**.
- 52.38% of students experience a reduction in stress **sometimes**.
- 12.70% of students **rarely** experience a reduction in stress.
- 12.70% of students **never** experience a reduction in stress.

***46.03%** of students use these modalities more than they did prior to the pandemic.

Results - Exercise Modalities

EXERCISE MODALITIES USE



- 3.17% of students experience a reduction in stress **every time**.
- 50.79% of students experience a reduction in stress **most of the time**.
- 34.92% of students experience a reduction in stress **sometimes**.
- 7.94% of students **rarely** experience a reduction in stress.
- 3.17% of students **never** experience a reduction in stress.

***42.86%** of students use these modalities more than they did prior to the pandemic.

Results

Mind/Body - Two Sample T-Test

1 = Low use of Mind/Body Modalities (Never - 3 times/week)

2 = High use of Mind/Body Modalities (4 times/week to everyday)

	MindBodyUse	N	Mean
PSS	1	50	22.6200
	2	13	24.6923

Results

Mind/Body - Two Sample T-Test

Based on the p-value of **0.518**, there is not a statistically significant difference in perceived stress scores and the students reported use of mind/body modalities.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
PSS	Equal variances assumed	.423	.518	-1.616	61	One-Sided p	Two-Sided p	-2.07231	1.28211	Lower Upper
	Equal variances not assumed			-1.799	21.883	.056	.111	-2.07231	1.15204	-4.63604 .49142

Results

Exercise - One Way ANOVA

1 = Low use of Mind/Body Modalities (Never - 1 time/week)

2 = Moderate use of Mind/Body Modalities (2 times/week - 4 times/week)

3 = High use of Exercise Modalities (5 times/week - everyday)

Descriptives								
PSS								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	24	22.8750	3.76843	.76923	21.2837	24.4663	15.00	30.00
2	24	23.2500	4.06737	.83025	21.5325	24.9675	16.00	32.00
3	15	23.0000	5.14087	1.32737	20.1531	25.8469	13.00	31.00
Total	63	23.0476	4.17144	.52555	21.9971	24.0982	13.00	32.00

Results

Exercise - One Way ANOVA

Based on the p-value of **0.953**, there is not a statistically significant difference in perceived stress scores and the students reported use of exercise modalities.

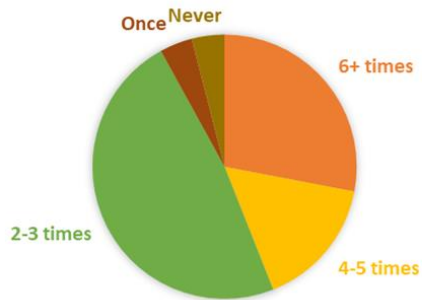
ANOVA					
PSS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.732	2	.866	.048	.953
Within Groups	1077.125	60	17.952		
Total	1078.857	62			

Results

How often stress reduction is taught during the semester?

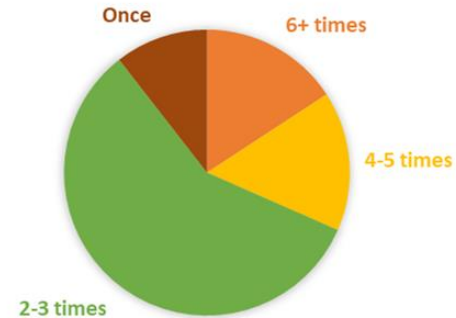
WMU

TIMES STRESS REDUCTION IS TAUGHT PER SEMESTER



FSU

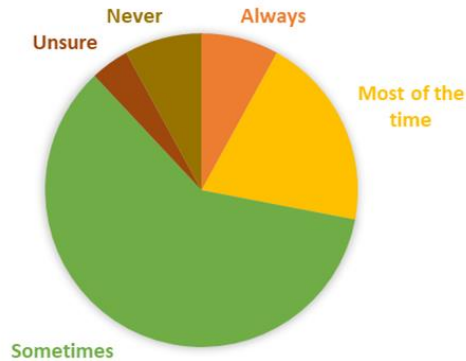
TIMES STRESS REDUCTION IS TAUGHT PER SEMESTER



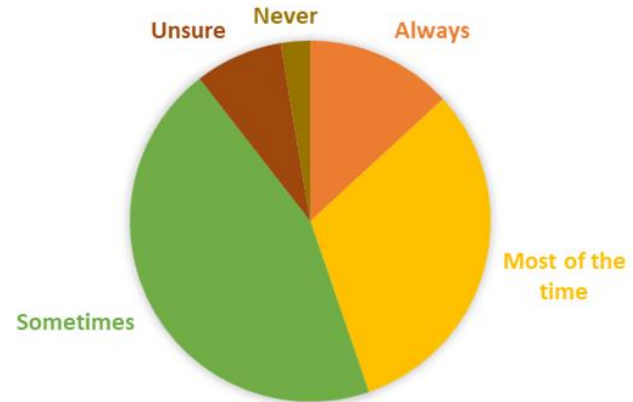
Results

How supported do students feel by staff members when it comes to reducing stress levels?

WMU
FEELINGS OF SUPPORT FROM FACULTY



FSU
FEELINGS OF SUPPORT FROM FACULTY

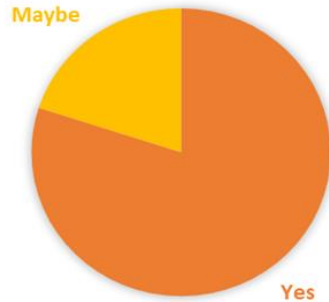


Results

Would incorporation of more stress reduction teaching into curriculum be beneficial?

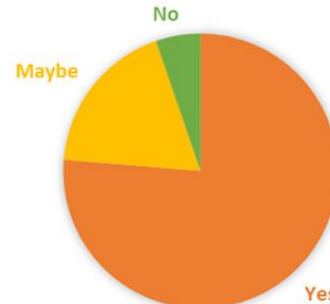
WMU

WOULD MORE STRESS REDUCTION
TEACHING BE BENEFICIAL?



FSU

WOULD MORE STRESS REDUCTION
TEACHING BE BENEFICIAL?



Students Experiences with Holistic Modalities Overall

"I play a sport so unfortunately body modalities aren't for the purpose of stress reduction, however mind modalities sometimes help lower stress."

"Exercise has become my form of stress relief because it allows me to focus on something other than nursing school and I find it to be something that I can look forward to on most days."

"Mindfulness helps me fall asleep at night"

"Usually I will start to notice my anxiety when it starts to show physical symptoms, so techniques to reduce the physical signs like deep breathing work best for that. They don't really impact my actual stress levels, just help with the physical symptoms."

"I believe that using exercise modalities for stress reduction is very beneficial, but I also believe that improving your overall health brings happiness and reduced stress. Personally, I am not using this method nearly as often as I should, but when I do, I can feel the difference in my motivation for school and daily activities of life."

"Deep breathing exercises have helped me to overcome anxious situations as well as help to reduce panic attacks."

"I recently have been going through a very bad bout of anxiety and panic attacks directly related to school and family life, along with relationship issues. It has been so bad that I've recently started taking medication for it for the first time. Doing mindfulness meditations almost every day and reframing thoughts have been helping, but it is extremely difficult."

Students Experiences with Stress Reduction taught in School

"I have done most of these in class and I do find that they reduce stress levels. I know that if I did them outside of class, they would help reduce stress, however, I never do them because I feel like I do not have time or as though I should be studying or doing something else." -WMU

"We had a meditation session in OB once because the professor is super supportive to students. But other than that. I can't remember a time when we have used class time for stress relief." - WMU

"I am aware that many members of the staff are open to discussion and will always be there for me" -FSU

"Most of the methods they teach have not worked for me, for some reason, I don't do well with self-care techniques actually reducing my stress levels. Frequently, they will actually make it worse." -FSU

"I think running and taking time to yourself is what I practice, not necessarily because the nursing program's curriculum, but because it is a self-formed habit." -FSU

"Professors encourage us to relax when we have time and do activities like going to the gym, walking outside, reading a book. They often are understanding and will help us in difficult times." -FSU

"The faculty does, in my opinion, a wonderful job of reminding students to focus on self-care when they can. I appreciated how self-care was able to be applied to our community volunteer hours this semester because it shows that Professor Smith values it. I do wish other courses incorporated it into the curriculum more." -WMU

Conclusions

Nursing students **may** experience immediate stress relief from engaging in these modalities, but Perceived Stress Scores still indicate that nursing students are not experiencing adequate stress relief with these modalities.

A common experience among nursing students is feeling guilty, or worried about taking time away from doing homework and studying to engage in holistic modalities like these, indicating a potential need for curriculum changes to incorporate in-class activities or self-care assignments.

Research shows that these holistic modalities were effective in nursing students prior to the pandemic; however this research shows otherwise. There is a need for further research to determine why this is the case, and if there are other stress reduction techniques that have proven to be effective post-pandemic.

Limitations

Limited information
about external
factors in the
participant's life at
the time of
completion.

Smaller
sample size
 $n = 63$

Time
constraints

Lack of
background
information
about use of
the modalities

Next Steps

- Consider the inclusion of more frequent teaching about stress reduction into nursing school curriculum.
- Incorporate of stress reduction modalities into class time throughout the duration of the nursing program
- Further research studies that consider what is going on in the participants life at the time of survey completion
- More in-depth research regarding the student's use of these modalities
- Explore other strategies nursing students are using for stress relief and their effectiveness, including the use of negative coping strategies.
- Determine if there are certain programs/ways to use these modalities that provide prolonged stress relief for nursing students.
- As a holistically certified nursing program, determine ways for further incorporation of this into the program.

References

- Aslan, H., & Pekince, H. (2020). Nursing students' views on the COVID-19 pandemic and their perceived stress levels. *Perspectives in Psychiatric Care*, 1-7.
- Bartlett, M.L., Taylor, H., & Nelson, J.D. (2016). Comparison of mental health characteristics and stress between baccalaureate nursing students and non-nursing students. *Journal of Nursing Education*, 55(2), 87-90.
- Fitzgerald, A., & Konrad, S. (2021). Transition in learning during COVID-19: Student nurse anxiety, stress, and resource support. *Wiley Public Health Emergency Collection*. 56(2), 298-304.
- Jackson, E.M. (2013). Stress relief: The role of exercise in stress management. *ACSM's Health & Fitness Journal*, 17(3), 14-19.
- Kim, J., & McKenzie, L.A. (2014). The impacts of physical exercise on stress coping and well-being in university students in the context of nature. *Scientific Research*, 6(19), 1-10.
- Kinchen, E. V., & Loerzel, V. Nursing students' attitudes and use of holistic therapies for stress relief. *Journal of Holistic Nursing*, 37(1), 6-17.
- Labrague, L.J., McEnroe-Petitte, D.M., Gloe, D., Thomas, L., Papathanasiou, I.V., & Tsaras, K. (2017). A literature review on stress and coping strategies in nursing students. *Journal of Mental Health*, 26(5), 471-480.

References

- Gustas, T., & Zajacs, T. (2016). *Yoga for stress reduction in nursing students* (Publication no. 10189923). [Master's thesis, Clarion and Edinboro Universities]. ProQuest Dissertation Publishing.
- McSharry, P., & Timmins, F. Promoting healthy lifestyle behaviors and well-being among nursing students. *Nursing Standard*, 31(24), 51.
- Murdock, C., Naber, J., & Perlow, H. (2010). Stress level and stress management skills of admitted baccalaureate nursing students. *Kentucky Nurse*, 58(2), 8.
- Pulido-Martos, M., Augusto-Landa, J.M., & Lopez-Zafra, E. (2012). Sources of stress in nursing students: A systematic review of quantitative studies. *International Nursing Review*, 59(1), 15-25.
- Riley, K.E., & Park, C.L. (2015). How does yoga reduce stress? A systematic review of mechanisms of change and guide to future inquiry. *Health Psychology Review*, 9(3), 379-396.
- Savitsky, B., Findling, Y., Ereli, A., & Hendel, T. (2020). Anxiety and coping strategies among nursing students during the covid-19 pandemic. *Nurse Education in Practice*, 46(1), 10-28.