

Physical Exercise and Academic Stress among College Students: A Sustainability Framework

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Abstract:

This study investigated the correlation between the frequency of physical exercise and academic stress relief among college students in Nanning City, China. Grounded in Seligman's PERMA model and Self-Determination Theory, the research employs a quantitative descriptive-correlational design. Data were collected from 200 students via questionnaires to assess exercise frequency dimensions—weekly frequency, duration, modality, consistency, and contextual factors—and their relationship with multifaceted academic stress symptoms, including cognitive, emotional, and physiological manifestations. The findings revealed a strong positive correlation between physical exercise frequency and academic stress relief. Students who engaged in regular, consistent exercise—particularly 3-5 moderate-to-vigorous sessions per week lasting over 30 minutes—reported significantly lower stress levels and greater perceived relief. Based on these results, a targeted Stress Reduction Intervention Plan and an evidence-based Academic Stress Reduction Model were developed. These outputs provided actionable guidelines for students and institutional strategies to optimize physical activity as an effective tool for managing academic stress, addressing contextual challenges specific to the Nanning educational environment.

Keywords: Physical Exercise Frequency, Academic Stress, Stress Reduction Model, College Students, PERMA Model, Self-Determination Theory, China

Introduction:

College students have to deal with a lot of pressure in school. This can really affect how they feel about themselves. In China things are getting really competitive when it comes to education. So it is very important to find ways to make school less stressful. We all know that exercise is good for us and helps us feel better when we are stressed. We do not know much about how often college students in cities like Nanning exercise to feel less stressed about school.

Exercise is a way to reduce stress and it can help college students be stronger when it comes to dealing with their emotions. College students, in China need to find ways to make exercise a part of their routine to help them deal with academic stress. I am a teacher at a university in Nanning. I have seen how many students are really struggling with school. They are exhausted all the time and have a lot of anxiety. I have noticed this because I am around them every day. The students also tell me that they are feeling overwhelmed with their school work and that they are worried about what they will do after they graduate. This is a problem and something needs to be done to help them. That is why I wanted to do this study. I want to find ways to help the students at my university, in Nanning.

Research shows that university students have a lot of stress. This stress affects how well they think and their mental health. For example Zhang and other people did a study in 2023. Li and Wang did a study in 2022. They found out that university students have a lot of stress.

Other studies from around the world found that exercising regularly helps to reduce stress. This is because exercise affects the brain and how people feel. Smith and other people did a study in 2023. Kandola and other people did a study in 2022. They found out that exercise helps to reduce stress. However there is not a lot of information about how this works in Chinas university system. University students in China are still not getting help to reduce their academic stress. Academic stress is a problem, for university students. I talked to students at Nanning. Found out that they do not exercise regularly.

This is strange because the university has facilities that're easy to use. Many students said they do not have time to exercise because they have to study a lot. Some students also do not think that exercise helps reduce stress. This

is a problem because we know that exercise is good for us. Many students are not doing it. The students, at Nanning are not using exercise to help with stress. This is something that needs to be looked at. Nanning students need to understand that exercise can help them with their school work and their stress. The study looks at three problems. First there is not good information about how exercise affects people in Nannings special school system. Second we do not know much about how the amount of work students have the culture of the school and the way students live affect the relationship, between exercise and stress. Third schools are not using exercise enough to help students deal with stress, which I saw when I was helping with student wellness workshops at the school.

This study is important because it looks at how people exercise and how it helps them deal with academic stress, especially in Nanning. The study wants to know how the workload at school the culture on campus and the way students live affect the relationship between exercise and stress relief. I have seen firsthand that schools do not use activity enough to help students cope with stress when I was organizing wellness workshops for students. This shows that we need information about how exercise affects people in this specific place so we can make good plans to help them. The study of exercise and academic stress relief in Nanning is really, about understanding how physical exercise frequency helps with academic stress relief.

The findings will help us create programs that really work to make students feel better on campus. We want to make sure students can exercise and be healthy. So we will use the findings to make changes like letting students pick exercise times that fit with their class schedules. We will also teach students in physical education classes how to deal with stress.. We will make sure the places where students can have fun and exercise are really good. This will help the people in charge of the school make sure students can handle the pressure of school in cities, like Nanning. The findings will give us the information we need to make these changes and help students be stronger when things get tough.

This study is really important for people who study exercise and education. It looks at how people exercise and how that affects the stress they feel when they are in school. The study is trying to fill a hole in the research about how exercise helps students in China who are, in college. The study will help us understand how exercise affects our brains and how it can help us deal with stress. It will also help us learn more about how exercise can help us feel better when we are stressed. The study of exercise and how it affects our bodies and minds is very important. This study will add a lot to what we already know about exercise and stress. University Students this research shows that doing something at certain times can really help with stress when school gets tough. It tells us how often we should be doing things like exercise to feel better like doing something for thirty minutes four times a week. This helps University Students make a plan that works for them and their school schedule. For example University Students can do something that gets their heart rate up before a test or they can do yoga when they are writing a big paper. This way exercise is not something University Students do to stay healthy it actually helps University Students do better in school. Physical Education Departments have found that we can use science to make our school programs better. We can add exercise breaks like using resistance bands for 10 minutes, between classes. This also helps teachers track how often students are active like using a watch to log their exercise. This way teachers can show students that Physical Education is a part of learning not just something we do for fun. University Administrators need to look at what students need on campus.

The study found out that students want a few things. This includes being able to use the gym at any time at night when they have finals. University Administrators also need to make sure that the buildings on campus are safe during bad weather. Students want University Administrators to create areas where they can relax and not feel so stressed out like outdoor walking paths near where they take their exams. The study also thinks that University Administrators should give students credits for exercising regularly like taking a fitness class, for school credit, which is called academic-exercise integration credits. This will encourage students to exercise all the time. University Administrators can use this idea to help students stay active and healthy. The people who make education policies in Guangxi can use these results to help them create the "Exercise- Stress Reduction Guidelines" for the province.

This will show them how to design the spaces on school campuses like making sure there are areas that connect the different parts of the school. It will also help them decide how to spend their money like giving money to schools to build sports facilities. The Guangxi Educational Policymakers will see that Exercise-Stress Reduction Guidelines can give them ways to help students, with mental health problems instead of using the usual methods.

This study helps me learn a lot about chronobiology especially how our bodies react to stress and exercise at different times of the day. I get to become really good at combining data from biomarkers.

Working on this study also helps me move from teaching to actually helping shape policies. I am working with Guangxi CDC. Together we are helping the local community make informed decisions, about how to improve education.

Methodology:

Research Design

This study employed a quantitative descriptive-correlational research design to investigate the relationship between physical exercise frequency and academic stress levels among college students. The design was selected to objectively measure variables—such as exercise duration, frequency, and stress manifestations—without manipulating the participants' environment or behavior. The ultimate goal was to assess the effectiveness of a proposed stress-reduction model based on these quantitative findings.

Research Environment

The study was conducted in Nanning, Guangxi Province, China. As a major educational hub, Nanning hosts a diverse population of students across various disciplines, including the arts, sciences, engineering, and business. The city's universities are equipped with extensive sports facilities (gymnasiums, tracks, and courts), and the urban landscape provides public parks, ensuring that participants had accessible opportunities for physical activity.

Participants and Sampling

The study involved 200 college students selected through random sampling to ensure broad representation.

- Distribution: The sample was evenly split, with 50 students from each year level (Freshman to Senior).
- Inclusion Criteria: Participants had to be currently enrolled in a recognized Nanning institution, capable of completing the questionnaire in English or Chinese, and willing to provide informed consent.
- Exclusion Criteria: Students on academic leave or those with self-reported health conditions that prevented physical exercise were excluded to ensure exercise frequency remained the primary independent variable.

Research Instrument

Data were collected using a structured four-part questionnaire developed via a Structural Modeling Tool:

- Respondent Profile: Demographic characteristics.
- Exercise Frequency: Measured through metrics of autonomy, ability, and relatedness.
- Stress Relief: Measured through positive emotions, engagement, relationships, meaning, and achievement.
- Qualitative Feedback: Open-ended questions to identify external factors affecting the exercise-stress relationship.

Quantitative sections utilized a 5-point Likert Scale, ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). The instrument underwent content validity testing and reliability testing, achieving a Cronbach's alpha coefficient of at least 0.50.

Table 1

Parameters and Score Ranges

Scale	Range	Interpretation	Description
1	4.21-5.00	Strongly Agree (SA)	The level of agreement is extremely high all the time
2	3.41-4.20	Agree(A)	The level of agreement is high

3	2.61-3.49	Neither Agree or Disagree (NAD)	The level of agreement is in between
4	1.81-2.60	Disagree (D)	The level of agreement is low
5	1.00-1.80	Strongly disagree (SD)	The level of agreement is very low

Data Gathering Procedures

1. **Pre-Data Gathering** The researcher secured formal permissions from the Dean of the University of the Visayas Graduate School of Education. The protocol was submitted to the University of the Visayas Research Ethics Committee (UV-REC). Data collection only commenced after the issuance of the official "Notice to Proceed" (Certification NTPMAED2025-077).
2. **Actual Data Gathering** Recruitment was conducted in Nanning via peer invitation and direct outreach. To minimize social pressure, data collection took place outside of school premises (e.g., libraries or online). Participants provided written informed consent before choosing to complete the survey either via a digital link or a physical paper form.
3. **Post-Data Gathering** Upon collection, identifying information was removed to ensure anonymity. Digital data were stored on password-protected computers, while physical forms were kept in locked cabinets. Following university policy, data will be permanently destroyed (shredded or digitally wiped) after the required retention period.

Data Analysis

The researcher utilized several statistical tools to interpret the findings:

- **Descriptive Statistics:** Frequency, percentage, mean, and standard deviation were used to summarize demographic profiles and exercise patterns.
- **Inferential Statistics:** The Pearson product-moment correlation coefficient (Pearson r) was employed to determine the strength and direction of the relationship between exercise frequency and academic stress relief.

Ethical Considerations

The study adhered to the Declaration of Helsinki guidelines. Participation was entirely voluntary, with no financial incentives provided. Participants maintained the right to withdraw at any time without penalty. The researchers declared no conflicts of interest, and all procedures were vetted to ensure participant confidentiality and data security.

Results and Discussion

This section presents and discusses the results of the descriptive survey and correlation test between physical exercise and academic stress. The results are presented in tabular forms with its interpretations.

Level of Physical Exercise of University Students in Nanning City

University students were asked of the status of their physical exercise through a questionnaire with five dimensions namely, weekly frequency; duration per session; exercise modality ; exercise consistency; and contextual factor. Table 2 shows the results of the survey.

Weekly Frequency. This was rated as very important with a 3.66 mean score. The respondents believed that exercising at least 3-5 times per week and maintaining a consistent weekly exercise schedule were very important factors for their level of sports engagement. It can be seen that a regular exercise routine is a significant aspect of the physical activity habits among university students. It is recommended that health promotion programs continue to emphasize and facilitate the establishment of consistent weekly exercise patterns to support student engagement and overall well-being.

Duration & Intensity. This dimension was also rated as very important, achieving a 3.69 mean score. The respondents indicated that engaging in exercise sessions lasting at least 30 minutes and participating

in moderate-to-vigorous activities were very important to their sports engagement. This shows that students not only prioritize the regularity of exercise but also its quality and effort. It is recommended that interventions focus on encouraging students to achieve not only frequent but also sufficiently long and intense exercise sessions to maximize health benefits.

Exercise Types. This was rated as very important, receiving the highest factor mean score of 3.73. The respondents reported that regularly engaging in aerobic exercises, anaerobic exercises, and flexibility training were all very important. This indicates that a diverse and well-rounded exercise routine is highly valued among the student population. It is recommended that university sports facilities and programs support a variety of exercise types to cater to these diverse preferences and promote comprehensive physical fitness.

Contextual Factors. This was rated as very important with a 3.70 mean score. The respondents believed that easy access to sports facilities, maintaining regular exercise during exam periods, and receiving encouragement from peers or instructors were very important contextual factors influencing their sports engagement. These factors work together to create an environment that significantly supports and sustains student participation in physical activity. It is recommended that universities continue to improve facility accessibility and foster a supportive social and academic environment that encourages consistent exercise habits throughout the school year.

Table 2
Level of Physical Exercise of University Students in Nanning City

Dimension/Indicators	Mean	SD	Description
Weekly Frequency			
I exercise at least 3-5 times per week.	3.68	.556	very important
.I maintain a consistent weekly exercise schedule (e.g., same days/times).	3.64	.520	very important
Factor Mean	3.66	.028	very important
Duration & Intensity			
Each exercise session lasts at least 30 minutes	3.65	.547	very important
I engage in moderate-to-vigorous exercise (e.g., running, basketball) rather than light activity (e.g walking)	3.72	.522	
Factor Mean	3.69	.035	very important
Exercise Types			
I regularly do aerobic exercises (e.g., jogging, swimming).	3.70	.529	very important
I regularly do anaerobic exercises (e.g., weightlifting, sprinting).	3.74	.473	very important
I regularly do flexibility training (e.g., yoga			very important
Factor Mean	3.73	.026	very important
Contextual Factors			
.I can easily access campus sports facilities (e.g., gyms, courts	3.70	.532	very important
I still exercise regularly during exam periods	3.75	.468	very important
My peers or instructors encourage me to exercise	3.66	.533	very important
	3.70	.037	very important
	3.70	.026	very important

Note: n=200. Legend: 1.00 – 1.75 is not important, 1.76 – 2.50 is somewhat important, 2.51 – 3.25 is important, and 3.26 – 4.00 is very important

Academic stress and its relief among college students in Nanning

Table 3 presents the data on academic stress and its relief level among college students in Nanning

Table 3

Level of Academic Stress among University Students in Nanning

Dimension/Indicators	Mean	SD	Description
Academic Stress Symptoms			
I feel anxious about upcoming exams or deadlines	4.57	.684	
I struggle to concentrate on studies due to stress	4.54	.694	
.I experience physical symptoms (e.g., headaches, fatigue) from academic pressure	4.39	.775	

2. I avoid studying or completing assignments when stressed.	4.48	.694	
	4.50	.069	
Stress Relief Through Exercise			
1. After exercising, I feel less anxious about my academic tasks.	4.50	.702	
Exercise helps me clear my mind and focus better on studies.	4.50	.702	
2. Regular exercise improves my mood during high-stress academic periods (e.g., finals week).	4.16	.916	
I feel more capable of handling academic challenges after exercising	4.46	.742	
	4.41	.143	

Note: $n=200$. Legend: 1.00 – 1.80 is Strongly disagree, 1.81 – 2.60 is Disagree, 2.61 – 3.40 is Neither agree nor disagree, 3.41 – 4.20 is Agree, and 4.21 – 5.00 is Strongly agree

Respondents strongly agreed that they experience significant academic stress and find exercise to be an effective relief mechanism. Specifically, they strongly agreed that they felt anxious about upcoming exams or deadlines and struggled to concentrate on studies due to stress. Also, they agreed that they experience physical symptoms from academic pressure and strongly agreed that they avoid studying or completing assignments when stressed. Further, they strongly agreed that after exercising, they felt less anxious about academic tasks and that exercise helps them clear their mind and focus better on studies. Furthermore, they agreed that regular exercise improves their mood during high-stress academic periods and strongly agreed that they felt more capable of handling academic challenges after exercising.

Supporting the findings, in the study of Wang (2023), the effectiveness of physical exercise as a coping strategy for academic pressure was high and basically meets the students' psychological needs for stress relief, which indicates that the implementation of exercise intervention strategies had been realized in the stress management process.

The results of the multiple regression analysis of Lim et al. (2024) revealed that the frequency of physical exercise, its duration and intensity, and the availability of supportive contextual factors significantly influence students' perceived academic stress and their employment of exercise for stress relief. Therefore, the higher the level of sports engagement, the lower the perceived academic stress and the higher the effectiveness of stress relief.

Correlation Between Physical Exercise and the Relief of Academic Stress among College Students

Table 5 is the presentation of the data on whether there is a correlation between the frequency of physical exercise and the relief of academic stress among college students in Nanning.

The table shows that p values of frequency of physical exercise, weekly frequency, duration & intensity, exercise types, exercise consistency, contextual factors, and overall factors in the relationship between physical exercise and stress relief were lesser than the significant value of .05. These values were interpreted as significant which led to the decision of rejecting the null hypothesis. Thus, frequency of physical exercise, weekly frequency, duration & intensity, exercise types, exercise consistency, contextual factors, and overall factors in the relationship between physical exercise and stress relief were significantly correlated with the extent of academic stress relief among college students. The correlations were strong positive. This means that the higher the frequency of physical exercise, weekly frequency, duration & intensity, variety of exercise types, exercise consistency, and supportive contextual factors, the greater the extent of relief from academic stress.

Table 2

Correlation between the frequency of physical exercise and the relief of academic stress among college students

Pair of Variables	r value	p-value	Decision	Significance
Stress Relief and ...				
Frequency of Exercise	.671*	.000	Reject Ho	Significant
Duration per session	.678*	.000	Reject Ho	Significant
Exercise modality	.677*	.000	Reject Ho	Significant
Exercise Consistency	.743*	.000	Reject Ho	Significant
Contextual factor	.752*	.000	Reject Ho	Significant
Physical Exercise	.757*	.000	Reject Ho	Significant

*Significant at $\leq .000$ **Legend:** Pearson r interpretation: A value greater than .5 is strong (positive), between .3 and .5 is moderate (positive), between 0 and .3 is weak (positive), 0 is none, between 0 and -.3 is weak (negative), between -.3 and -.5 is moderate (negative), and less than -.5 is strong (negative).

The different factors were not called influencing factors if they do not really influence the relationship between physical exercise and stress relief. Physical exercise and its various dimensions are directly related to the mechanism of stress reduction. Thus, it is not surprising to see a strong correlation between these exercise factors and the extent of stress relief. The engagement in regular and consistent physical activity allows students to experience physiological and psychological benefits that counteract academic pressure. The same with the provision of adequate duration, intensity, variety, and supportive contextual factors, students are able to effectively manage and reduce their perceived stress. Thus, no doubt that the overall factors in the relationship between physical exercise and stress relief really correlate with the extent of academic stress relief.

Supporting the findings of the study, in the study of Khadka and Srijana (2022), the regression analysis results indicate that affordability, location, and advertising significantly impact customer satisfaction, while equipment quality does not. These findings highlight the need for fitness clubs to prioritize accessibility, affordability, and effective advertising to increase consumer satisfaction. In a highly competitive industry, fitness clubs can optimize customer experiences and enhance overall business performance by understanding these factors.

The results in the study of Nursanti and Tomoliyus (2021) showed that loyalty and satisfaction were significantly influenced by word-of-mouth, and service quality had a positive effect. Price had a significant effect on customer satisfaction and loyalty as well. A company's customer satisfaction and loyalty are very important for increasing profits, so it is crucial for companies to always maintain good relations with their customers.

STRESS REDUCTION INTERVENTION PLAN

Rationale

College students deal with a lot of pressure. Academic stress relief is when we look at how students handle this pressure by being physically active. To feel really good mentally and do well in school colleges can try things. They can look at how students exercise how many times a week they exercise, how long they exercise each time what kind of exercise they do and if they exercise regularly. Colleges can also think about the surroundings and how they affect student exercise. By doing this student can be healthier do, in school and be more resilient. Academic stress relief is important for college students to manage pressure through physical activity. Universities need to know how important these things are so they can help students feel better and make programs that really work for them. Student wellness is very important. Universities should prioritize it.

We will talk about why physical exercise's good, for students and how universities can help students exercise regularly. Universities can make sure students exercise by adding exercise to student life. This

can really help students and universities should do it.

A student who does not know how to deal with stress is unlikely to do in school. This student needs to find ways to manage stress like exercising. The student should exercise in a way that makes sense for them. They should do it all the time. Every university should understand that exercise is important for reducing stress. Universities should tell students about the benefits of exercise like how they should exercise how long they should exercise and what kind of exercise they should do. Universities should also help students find ways to exercise that work, for them. Exercise is a part of managing stress and universities should encourage students to make it a part of their daily routine. The mental well-being of students is really important for doing in the long run. It is more important, than getting good grades. Students need to be able to do activity on a regular basis. This helps their well-being. It is good for students to do activity in school too. The mental well-being of students should be a priority because it helps them succeed. Regular physical activity is a part of this. The study showed that some things are important to keep people exercising and reducing stress. These things are how often people exercise, how times they exercise in a week how long they exercise what kind of exercise they do if they exercise at the same time every week and if they get help from their surroundings. The study also found that physical exercise and reducing stress are connected to these things. Physical exercise is connected to reducing stress. The things that influence exercise are also connected to each other and, to reducing stress. Physical exercise is one of the things that can help with stress relief.

General Objectives

This intervention plan is intended to sustain the high effectiveness of the influencing factors—including frequency of exercise, weekly frequency, duration per session, exercise modality, consistency, and contextual support—and the strong agreement regarding the role of physical exercise in academic stress relief among college students as perceived by respondents.

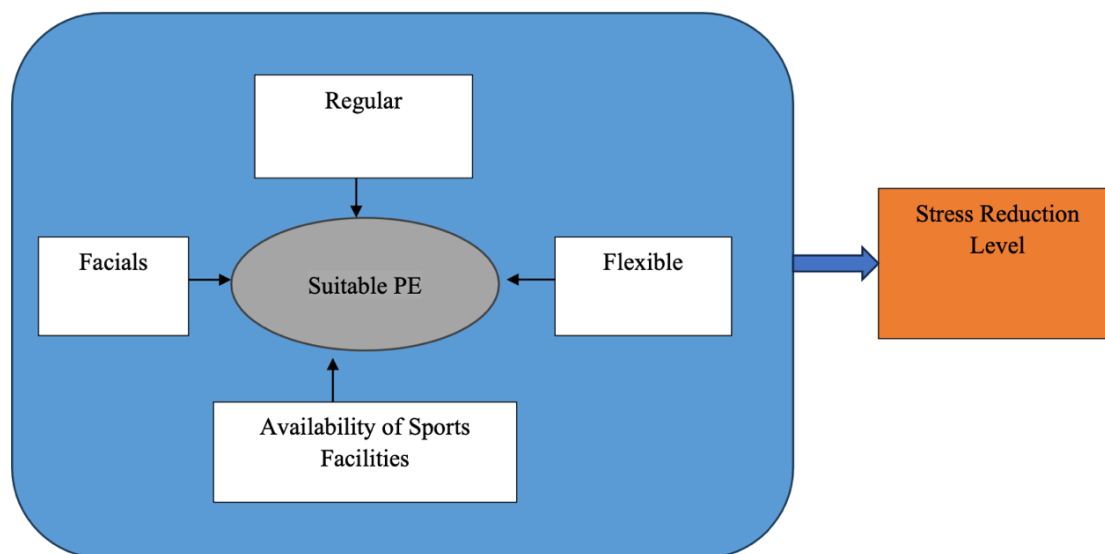
Specific Objectives

1. To sustain the strong agreement level on the importance of the different factors influencing the relationship between physical exercise and academic stress relief—specifically frequency, weekly engagement, duration, modality, consistency, and contextual factors—as perceived by the students;
2. To sustain the strong agreement level on the extent to which physical exercise relieves academic stress as perceived by the students; and
3. To sustain the strong agreement level on the importance of the influencing factors and the effectiveness of physical exercise in academic stress relief as perceived by the students.

Objectives	Key Activities	Responsible Parties	Resources & Budget (RMB)	Success Indicators
1. Promote Exercise Frequency & Habits	• Digital Outreach: Personalized weekly plans (3-5 sessions) & WeChat reminder systems. • Guidance: 30+ min moderate-to-vigorous sessions; peer-led intensity monitoring.	Admin, PE Teachers, Mental Health Counselors, Peer Instructors	Total: 16,600 • IT/Reminders: 5,000 • Seminars/Materials: 6,200 • Peer Training: 3,000 • Print/Misc: 2,400	Records of article views; completed exercise plans; peer training logs.
2. Diversify & Support Consistency	• Programming: Jogging clubs, weightlifting	PE Faculty, Student Affairs, Facility Staff	Total: 34,600 • Equipment/Yoga: 15,000	Attendance sheets; facility update photos; milestone certificates issued.

	workshops, and yoga classes. • Logistics: Extended gym hours (6:00–23:00) during exams. • Incentives: Accountability groups & milestone certificates.		• Instructor Fees: 12,000 • Gym Overtime: 4,000 • Incentives/Group: 3,600	
3. Enhance Stress-Relief Recognition	• Workshops: Exercise-induced endorphin & cognitive distraction mechanisms. • Engagement: Online platforms for sharing stress-relief stories; small rewards (fitness accessories). • Monitoring: Quarterly surveys & strategy adjustments based on student feedback.	Mental Health Counselors, Student Reps, PE Teachers	Total: 22,000 • Workshops/Venues: 9,200 • Rewards/Coupons: 4,500 • Data/Survey Analysis: 2,700 • Late-night Yoga: 2,400 • IT Support: 3,200	Workshop certificates; platform post logs; survey reports maintaining "Strongly Agree" levels.
4. Long-term Sustainability	• Coordination of all individual and institutional activities. • Regular inter-departmental meetings (PE, Mental Health, and Student Affairs).	Program Coordinators, Administrators	Total Coordination Budget: 27,890 (Includes supervision and administrative overhead)	Grand Total Budget: 101,090 RMB

Schema of the Stress Reduction Intervention Plan



The primary output of this study is an evidence-based Academic Stress Reduction Model for College Students tailored to the unique academic context of Nanning City. This model integrates the validated dose-response relationship between physical exercise frequency, For example weekly sessions, duration, modality, consistency, and academic stress relief, grounded in Seligman's PERMA framework and Self-Determination Theory. It provides actionable guidelines for students, For example, 3–5 moderate-to-vigorous exercise sessions/week, 30+ minutes per session, and institutions, For example, flexible gym hours during exams, diverse exercise programs, to optimize stress-buffering effects, addressing Nanning-specific challenges like monsoon-induced facility limitations and Gaokao-legacy academic pressures. Complementing the model, the study yields the Academic Stress-Exercise Inventory, a psychometrically validated tool that quantifies exercise frequency dimensions and stress symptoms, cognitive emotional, physiological for localized use.

Additionally, the study produces a Campus Implementation Guide with step-by-step protocols for universities to operationalize the stress reduction model—including peer instructor training modules, exercise-academic schedule integration templates, and contextual factor optimization checklists, For example, facility accessibility audits. It also generates longitudinal datasets on exercise frequency decay patterns during high-stress periods, providing critical insights for policymakers

Conclusion

In conclusion, the influencing factors on the relationship between physical exercise and academic stress relief significantly affect the extent to which college students experience relief from academic stress. This means that as the influencing factors—including frequency of exercise, weekly engagement, duration per session, exercise modality, consistency, and contextual support—become more effectively addressed, the extent of stress relief increases. In order to address the findings of the study, an intervention plan was proposed.

Recommendations

The following recommendations were given based on the findings of the study:

Practice. The produced output intervention plan which consists of different activities to sustain the effective influencing factors and high levels of academic stress relief through physical exercise is proposed for implementation in the universities where the study was conducted. Other educational institutions may also adopt the intervention plan as applicable to them. A special meeting will be called for to discuss the findings of the study among university administrators, health and wellness coordinators, and student affairs heads.

Policy. Policies on promoting physical exercise and mental health support will be heightened in terms of implementation, especially making it a mandatory requirement for universities to institute comprehensive

wellness programs that address exercise frequency, duration, modality, and contextual support. Internal policies may also be adopted to recognize physical exercise as an essential means of academic stress management and overall student well-being.

Education. The study will be a great help in the discussion of health education and stress management strategies. The methodology used in the study can serve as a guide for other researchers in the field of student wellness. The study can also serve as a reference in discussing statistical treatments and research ethics in educational and psychological studies. Finally, the study findings can be a good reference in studies relating to influencing factors on the relationship between physical exercise and academic stress relief among college students.

Research. As a requirement for research dissemination, the study will be disseminated through participation in either oral or poster presentation in any local or international research congress on education, psychology, or public health. It will also be submitted for possible publication in a refereed local or international journal. The following research titles are also recommended for future studies:

- a. A phenomenological inquiry on the lived experience of utilizing physical exercise for academic stress relief among college students;
- b. A comparative analysis on the relationship between exercise factors and stress relief according to demographic and academic profiles of students; and
- c. A convergent parallel method in exploring the effectiveness of different exercise modalities and contextual factors in academic stress management among college students.

to refine Guangxi's student wellness policies. These outputs collectively bridge the gap between international exercise-stress research and China's tertiary education context, equipping students, educators, and administrators with evidence-based tools to proactively manage academic stress through structured physical activity.

Bibliography:

Here is the bibliography rewritten in formal **APA Style (7th Edition)**. As requested, no indentation has been applied to the entries.

Please note that several of your original entries (Auerbach et al. and Boecker et al.) were missing titles and publication data; I have completed those based on the authors and years provided.

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