

ADDRESSING REMOTE LEARNING'S IMPACT ON ACADEMIC STRESS

(Technical Paper)

AN INVESTIGATION INTO THE LINK BETWEEN PHYSICAL FITNESS & CLASSROOM  
PERFORMANCE

(STS Paper)

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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## **Introduction**

*How can academic stress be mitigated in students through active physical fitness?*

Academic stress is one of the leading issues deterring students, at every level of education, of their peak academic performance capabilities. Given the problem of stress, that at some point in one's academic career every student faces, we must show students how physical activity/fitness can help with its mitigation. Although academic performance stems from a complex interaction between intellect and contextual variables, we cannot deny health as a vital factor in a student's ability to learn and retain information. The relationship between physical activity and cognitive health is a major argument for the idea that healthy individuals learn better is empirically supported and well accepted (Basch, 2010).

Physical activity has a “-positive influence on memory, concentration, and classroom behavior.” (Barile, n.A). Targeting these three important aspects leads us to believe that with an increase in a student's physical activity comes about these benefits. Furthermore, with the benefits detailed earlier, you now have a student who can more easily retain information and focus better in the classroom – all major factors in a student's academic performance. If a student is retaining information more easily, is focused and he is much more motivated to continue down this path and perform well, greatly reducing the stress placed on him by academics.

## **Addressing Increased Academic Stress due to Remote Learning**

*How can academic stress be minimized in times when remote learning is essential?*

Academic stress has played a huge role in the life of students for the past year and for some adults it still continues to do so. With the incorporation of remote learning now in the life of students, academic stress is more potent than ever. Although, remote learning is the best form of teaching to keep students on track of their education during a time where social distancing is important – the same learning environment is causing stress and reduced motivation to learn. Online learning has taken away the face-to-face interactions with fellow students and teachers. For some students, this lack of social interaction can lead to feelings of isolation (Mile High Psychiatry, 2021). Continuing on the topic of social distancing, it is an effective way to slow the spread of COVID-19, but it can also lead to many mental health issues, including the following depression, anxiety, among others (Mile High Psychiatry, 2021). All in all, you can make the assumption that remote learning has led to a number of cases where students feel isolated because they can no longer interact with their classmates at close proximity and in turn has caused for them no longer be as motivated as before to learn. When students can just roll out of bed right before class starts and log onto their computer, it takes away the schedule and routine they created for themselves before remote learning (Mile High Psychiatry, 2021). Given the pandemic, remote learning has not been able to bridge the gap between a routine for students to follow and its lack of structure can contribute to stress, anxiety, and even clinical depression. The lack of both a routine and structure for students means less motivation to learn.

Research shows that a host of factors related to remote education could chip away at children's mental health, including isolation, decreased access to mental health services, loss of free and reduced-cost meals, disrupted routines, decreased physical activity, lack of structure, stress due to technological limitations, and lack of identification of abuse and neglect (Van Beusekom, 2021). There are a lot of factors leading to mental health issues in students at all grade levels. It is tough to think about how simply being in front of a screen, instead of having face-to-face interactions with peers, can cause someone to feel isolated to the point where they no longer feel the need to be motivated.

In times of remote learning, we need ways in which we can minimize all of this stress that can lead to numerous mental health issues. One effective way to prevent further stress would be using the Pomodoro Technique. In short, the Pomodoro Technique encourages individuals to set a timer for 25 minutes and focus on a single task until the timer rings. Once the timer rings, take a much deserved 5-minute break. I would encourage to apply this technique in remote learning so that students are taught that if they can focus for a given amount of time they will receive a break. Sometimes involving a small token of reward, gives students the motivation they need to focus and get their work done. If classes are an hour long you could do this twice in a class period and even let students out 5 minutes early, which I am sure would be that more motivating.

The overall goal of this project is to highlight how participating in vigorous- or moderate-intensity physical activity diminishes academic stress, a timely topic given the time we're in. To accomplish this, I propose running an experiment where we take several students,

all who do not regularly are active outside the classroom and break them up into two groups. Group 1 - will be our control group and remain their daily routine and not workout. Group 2 - on the other hand will be our experimental group and start working out 4/week regularly. We will run the experiment over the span of 2 months and have bi-weekly checkpoints to assess the progress of both groups.

### **Physical Fitness Implications on Classroom Experience**

*How has the lack of movement been harming student's learning ability and what can be done to help students be motivated to learn?*

With remote learning there's been an increase in how much work has been given to students to keep them busy and create some sort of a structure. However, with a lack of motivation this actually has the opposite effect. *Spark: The Revolutionary New Science of Exercise and the Brain* explores the connection between exercise and the brain, providing strong evidence that aerobic exercise physically remodels the brain for peak performance on all fronts. "First, it optimizes your mind-set to improve alertness, attention, and motivation; second, it prepares and encourages nerve cells to bind to one another, which is the cellular basis for logging in new information; and third, it spurs the development of new nerve cells from stem cells in the hippocampus." In short, not only does the exercise help the brain get ready to learn but it actually makes retaining information easier (Barile, n.A).

Our students face enormous stress in the classroom and in their lives, including peer pressure, work overload, and high stakes testing. Exercise controls the emotional and physical feelings of stress, and it also works at the cellular level. Physical activity is a natural way to

prevent the negative consequences of stress because it can ward off the ill effects of chronic stress and actually reverse them. Additionally, studies show that people who add physical activity to their lives have become more socially active, which boosts confidence and helps establish and maintain social connections (Barile, n.A). In being more socially active students decrease their chances of mortality. Studies consistently show that individuals with the lowest level of involvement in social relationships are more likely to die than those with greater involvement (Umberson, 2011). However, this is solely for social relationships of good quality – poor and low-quality social ties are also associated with higher chances of mortality and impaired immune functions, among other things.

The technical portion of this project is tightly coupled with the application of physical fitness and its link to in-class performance. Researching what exercises and methods work best to increase the motivation and retainment of information in students, is vital in this study, due to the relevance of the global pandemic and remote learning.

## **Conclusion**

It cannot be denied that remote learning has facilitated a lot of the issues with learning during the pandemic, due to social distancing and slowing down the spread of COVID-19. However, it is critical that we also pay attention to the degree at which remote learning can also impair a student's mental health and cause harm in the long term. Educators all over are trying to find ways in which to keep students motivated and focused on the tasks they should complete. There's plenty of room for improvement, and we can minimize the effects of academic stress by

placing more emphasis on ways for the ordinary student to be more physically active to in turn be able to retain information better and be more motivated to learn.

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