

**The Effects of Physical Activity and College Students**  
**Is There a Correlation Between Physical Activity and College Students' Success?**

Benjamin Matias

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**Instructor:** Ursula Heinrich

## Abstract

**Background:** It is universally understood that exercise is a key component in living and maintaining a healthy lifestyle. This being said exercise is usually associated with rigorous training for the purpose of a better physique. While this is an outcome of continual training in combination with a healthy diet, the benefits of exercise can be more than just physical.

**Objective:** This study aims to identify the relationship if any between physical activity and college students' success.

**Design and Method:** This research is solely based on scholarly journal articles. This study is based on years of previous research dating from 2010 to the present day. An examination of relevant literature was undertaken concerning the topic of the effects of physical activity on college student success. Subsequent relevant topics were explored to further support the main finding. The main research questions are: *What effects does physical activity have on the cognitive function of all ages? What effects does physical activity have on young adults? What effects does physical activity have on general education? What effects does physical activity have on college student success?*

**Results:** While there is a continual and present interest in understanding what affects the academic outcomes of students when regarding physical activity there has not been a definitive correlation established. This being said the findings do not completely disregard a potential benefit in academia when physical activity is concerned.

**Conclusions:** While the effects of physical activity on college students' success are still very unclear, there are several studies that demonstrated partial positive results. Further examination of such studies should be explored as these results may indicate a more definitive correlation under certain circumstances. Understanding what can or does not affect academic success, like physical activity, may be beneficial to some as it may induce for some struggling in academia a better academic outcome.

**Keywords:** *Cognitive Function, Physical Activity, Academic Success, College Student Success, Cardiovascular Exercise, Resistance Training*

## **Chapter 1: Introduction**

### *Overview*

It is universally understood that exercise is a critical component of living and maintaining a healthy lifestyle. This idea is that exercise is usually associated with rigorous training for the purpose of a better physique. While this is an outcome of continual training in combination with a healthy diet, the benefits of exercise can be more than just physical. Physical activity is attributed to regulating mood, managing stress, and significantly increasing student performance by improving cognitive function, which ultimately increases attention and memory (Mikael, 2018). The latter of these attributes is the subject of this research.

While the topic of academic success encompasses all stages of education, higher education is specifically essential to understand as higher education passes from a mandatory obligation to an option. College is daunting and can be overwhelming, especially if you feel unprepared. This previously stated can be a catalyst for opting out of college, dropping out, or at the very least being the cause for poor grades. While there is no definitive correlation established between physical activity and academic achievement, understanding the effects of physical activity may generate greater academic outcomes because physical activity is shown to increase cognitive function, simultaneously reducing stress and anxiety. Moreover, the impact of physical activity is distinctly noticeable in young children and older adults, as physical activity has shown to increase their cognitive function. While there are promising results between physical activity and cognitive function, specifically regarding young children and older adults, this is not the case when concerning young adults, like college students. While there is prominent interest in examining the effects of physical activity on cognition and academic achievement, the research

is heavily weighted towards children and older adults. Continuously, for this reason, the younger adult group would benefit from further examination.

### ***Research Questions***

This study will explore the following questions:

**RQ#1:** *What effects does physical activity have on the cognitive function of all ages?*

**RQ#2:** *What effects does physical activity have on young adults?*

**RQ#3:** *What effects does physical activity have on general education?*

**RQ#4:** *What effects does physical activity have on college student success?*

## **Definition of Key Terms**

**Cognitive Function:** *The performance of the mental processes of perception, learning, memory, understanding, awareness, reasoning, judgment, intuition, and language (APA, 2022).*

**Physical Activity:** *Any bodily movement produced by contraction of skeletal muscle that increases energy expenditure above the basal level (APA, 2022).*

**Cardiovascular Exercise:** *Any activity that increases heart rate and respiration while using large muscle groups repetitively and rhythmically (Kreger, 2022).*

**Resistance Training:** *Any exercise that causes the muscles to contract against an external resistance with the expectation of increases in strength, power, hypertrophy, and/or endurance (TREK, 2018).*

## **Chapter 2: Literature Review**

This research aims to identify the relationship between physical activity and college students' success. This particular topic was chosen for research as it is a topic of continual interest in this country. The subtopics of exercise and academics alone drive conversations daily. Associations between physical activity and cognitive function have been previously made, but no definitive conclusions have been derived, especially regarding college student success. A better understanding of the effects of physical activity on cognitive function may induce a better academic outcome in some who are struggling in education. In a more macro sense, a better understanding of the effects of physical activity on cognitive function and how it may relate to college students' success may lead to reforms in education that will benefit students overall.

This topic does not suffer from a lack of sources; while at first, that seems ideal for research, that was not necessarily the case. There are abundant resources regarding physical activity and academic success, but they majorly focus on early childhood education. Weeding this out of the searches led to another problem; most sources did not solely focus on the effects of physical activity on college student success. All and all, the research was able to benefit from six solid articles that focused specifically on college student success. Several studies on the general effects of physical activity on cognitive function were used to supplement the research.

### **General Overview of the Effects of Physical Activity on Cognitive Function**

It is essential to understand the role of physical activity on cognitive function as it may benefit positively from it, which may impact academic performance. Erickson, Hillman, Stillman, Ballard, Bloodgood, Conroy, Macko, Marquez, Petruzzello, and Powell (2021) conducted a review to understand better the effects of physical activity (PA) on cognitive function. This review is important as it examines the overall impact of physical activity on

cognitive function in all age groups. Erickson et al. (2021) examined 76 articles that were obtained from three main databases PubMed, CINAHL, and Cochrane. The studies examined by the review are limited from 2003 to 2017. The review specifically was able to find 13 articles on children, six on adolescents, five on young adults, seven on older adults, and the remaining were on other groups. Overall, the review was able to find a mild correlation between physical activity and cognitive function. Specifically, children six years and under demonstrate positive effects in cognition due to physical activity, but there isn't enough evidence to conclude a definitive answer. The review found the greatest positive proof in the age group 6-13, where they conclude a positive correlation. It also found a limited positive correlation between physical activity and cognition in the age group 14-18. Subsequently, it also found the young and middle-aged group had mixed results concerning cognition. Lastly, it found promising effects of physical activity with regards to cognition in older adults. Ultimately, the review finds strong evidence of the effects of physical activity on cognition in early and late-life stages (Erickson et al., 2021). While the following study is not all-inclusive, the findings seem to align with this review with regard to age groups.

### **Effects of Physical Activity on Cognitive Function in Young Adults**

Edwards and Loprinzi (2017) conducted a study to examine the effects on cognition when sedentary intervention is induced. This study is important as it tries to understand the effects of physical activity or lack thereof on cognitive function. The study consisted of 33 young adults, ranging from 18 to 35; participants were selected based on their physical activity. The participants were separated into two groups the control group, which was made up of 10 individuals, and the intervention group, which was made up of 23 individuals. The intervention group was limited to only 5000 steps a day for a week, while the control group lived their life as

normal. Participants were made to use a GT9X accelerometer and a Digi-Walk SW- 200 pedometers, to track physical activity. Overall, the intervention group's cognition was tested three times, and the control group was tested twice. A test consisted of 8 cognitive function assessments. All data was gathered and analyzed using SPSS software version 22 and Stata software. The study was unable to find any significant results caused by the intervention (Edwards & Loprinzi, 2017). Erickson et al. (2021) support these findings as the review found inconclusive results in young and middle-aged adults. Likewise, the following study focuses on adults under 35 years of age and reflects the findings by Erickson et al. (2021).

The study conducted by Loprinzi and Kane (2015) is geared towards examining the effects of physical activity on cognitive function with regards to individuals under the age of 35. This study is important as it tries to understand the effects that physical activity has on cognitive function. The study took place within the time span of about one year, August 2013 to September 2014. In total, 87 participants were required to complete two visits one week apart. Their activity was tracked via GTIM accelerometer for seven days. While participating, they answered questionnaires about their physical activity or lack thereof. Participants were randomly placed in four groups that represented the pace they would be exercising, ranging from no exercise to vigorous exercise, to assess cognitive function. After their given task was completed, cognitive function was tested. The study could not find any significant correlations between physical activity and cognitive function. These findings reflect the findings of the previous literature examined. However, they observed one notable result was between concentration and a moderate-intensity workout (Loprinzi & Kane, 2015). This previously mentioned is important as the following study finds a similar outcome.



Engeroff, Banzer, and Niederer (2021) conducted a study to examine the effects of physical activity on cognitive function. This study is important as it examines the effects of physical activity, specifically resistance training, on cognitive function; others primarily focus on cardiovascular activity. The study consisted of 26 participants, 17 male, and nine females, all about 25 years old. Each individual was required to participate on five different occasions. The first appointment served as an introduction and a personal and physical assessment. The following four appointments consisted of four different resistance exercises, at varying resistance levels. The resistance levels were 60%, 75%, and 90% of an individual's one rep max. After the given task was completed, the participants' cognitive functions were assessed. All data was gathered and analyzed using Microsoft Excel 2010 and SPSS version 24. The study was able to find a positive correlation between moderate-intensity training, 50%-70% of a one-rep max, and cognition. They also found no effect between vigorous and low-intensity training (Engeroff et al., 2021). Similar to the previous literature, this study was able to find a positive correlation in young adults. However, it's important to note these findings are limited to a specific intensity. Ultimately, the limited findings of the previous two studies reflect the results of the extensive review by Erickson et al. (2021). Erickson et al. (2021) find mixed results in the middle stages of life and positive results in the early and late stages.

### **Preliminary View of the Effects of Physical Activity on General Education**

Understanding the general effects of physical activity on cognitive function is important as it serves as a base to understand its effects on students' success better. Rasberry, Lee, Robin, Laris, Russell, Coyle, and Nihiser (2011) conducted a review. They analyzed existing studies that attempted to find a correlation between any and all forms of physical activity and academic performance. This review is important as it demonstrates the importance of physical activity in

general education. The review found its studies using nine databases ERIC, Expanded Academic Index ASAP, Google Scholar, PsycNET, PubMed, ScienceDirect, Sociological Abstracts, SPORTDiscus, and the Cumulative Index to Nursing and Allied Health Literature. Studies had to meet specific criteria, be published between 1985 and 2008, focus on students 5 through 18 years of age, speak on physical activity, academic performance, grades, GPA, and concentration or attentiveness in an educational setting, to be considered relevant for examination. They were able to obtain 43 articles, which were then read and coded by reviewers. The review finds many associations correlated between physical activity and academic achievement. Ultimately, these associations amounted to about 50% positive overall, 48% were not significant, and the remaining were negative (Rasberry et al., 2011). While inconclusive and not overwhelmingly one-sided, these findings do edge over the insignificant findings. This conclusion aligns somewhat with Erickson et al. (2021). Erickson et al. (2021) find the most significant positive correlation between physical activity and cognitive function between the ages of 6 and 13, with some positive correlations in the ages of 14 and 18. Unlike the mixed results from Erickson et al. (2021), with regards to the findings in the young adult group, the following study finds a positive correlation between physical activity and cognition.

### **Effects of Physical Activity on College Student Success**

The study conducted by Ludyga, Gerber, Brand, Pühse, and Colledge (2018) was meant to examine the effects of cardiovascular exercise on the cognitive functions of college students while emulating a classroom setting. This study is important as it is attempting to make a direct connection between exercise and cognitive function. The study recruited physically active individuals and attempted the experiment twice. The first group consisted of 18 individuals and the second group consisted of 33. There were 51 participants, 21 male and 30 females. They

were randomly placed in either the exercise group (RUN) or the control group (CON). The RUN group had to perform an exercise, and the CON group just had to read. After completing the given task, they were tested to observe cognitive functions. Participants were tested for inhibitory control, working memory, verbal short-term, and long-term memory. The study finds that the exercise group benefited from the exercise outperforming in inhibitory control, verbal short term, and long-term memory (Ludyga et al., 2018). Ludyga et al. (2018) suggest that these findings are beneficial in an educational setting. Subsequently, these findings are supported by the following review.

Casebolt, Chiang, Melton, and Russell (2017) conducted a review to identify the connection between college/university instructional physical activity programs (C/U IPAP) and academic success by reviewing existing literature on the topic. College/university instructional physical activity programs (C/U IPAP) are programs that introduce or help develop physical skills in a higher education setting. This review is important as it explores the results of living an active lifestyle on academic success. It examines the work of previous studies such as those of Dwyer, Sallis, Blizzard, Lazarus, Dean (2001), Linder (1999, 2002), Shephard (1997), Tremblay, Inman, and Willims (2000), to identify the correlation between physical activity and academic success. By analyzing all the previously mentioned studies, the review finds that college/university instructional physical activity programs (C/U IPAP) positively impact academic success (Casebolt et al., 2017). This direct correlation in this study disputes the mixed results found in Erickson et al. (2021). The positive findings of this review on college student success are important to note as they are directly attributed to the effects of physical activity on cognition. Ultimately, while the previous two pieces of literature find a positive correlation

between physical activity and college student success, the subsequent studies find little to no correlation.

Mull and Tietjen-Smith (2014) conducted a study to identify if the GPA of a Texas University student correlates with their physical activity or lack thereof. This study is crucial as it tries to determine the role of exercise in a student's life. The study consisted of 819 students. Four hundred seven students were part of the control group, and 412 were part of the experimental group. The control group consisted of a random mix of students from the university, and the experimental group consisted of students in a physical activity course for credit in the university. The study finds that academic success does not correlate with activity but does find that participants who have a set workout schedule had a higher GPA than those in the control group (Mull & Tietjen-Smith, 2014). Ultimately, this association could be related to other factors. Likewise, the following studies make limited associations but conclude no general association.

The study conducted by Joubert, Kilgas, Riley, Gautam, Donath, and Drum (2017) aimed to examine the effects of a cycle desk on academic performance. This study is important because it tries to identify a correlation between physical activity and academic performance. This study was a single semester-long, 12 weeks, involving 24 participants. The participants were separated, randomly, into two groups. One group was the control group (SIT) the other group was the stationary cycle group (CYC). The SIT group regularly sat throughout the semester, and the CYC group attended class while utilizing the stationary cycle desks from FitDesks. Both groups were tested four times during the semester. All data was gathered and analyzed using SPSS 24.0. The study finds that the CYC group outperformed the SIT group in all tests, but the margins are

so close the study concludes there to be no significant difference between either group (Joubert et al., 2017).

Furthermore, Felez-Nobrega, Hillman, Dowd, Cirera, and Puig-Ribera (2018) conducted a study to identify the relationship, if any, between sedentary behavior (SB) and physical activity (PA) with regard to academic success. This study is important to understand, as prolonged sedentary periods can impact health, ultimately affecting academic achievement. The study consists of 120 individuals whose activity was monitored for seven days using an activPAL. This data is then used in combination with the individual user's GPA at the end of the semester. All these values are then interpreted by activPAL Professional Software. The study obtains four main findings. First, it finds no correlation between the percentage of sedentary bouts and academic achievement. Second, it finds no correlation between the number of sedentary breaks and academic success. Third, it finds no correlation between standing time, light-intensity physical activity, moderate to vigorous physical activity, and academic achievement. Ultimately, the study finds a positive correlation between sedentary time and 10 to 20 minutes (Felez-Nobrega et al., 2018).

## **Conclusion**

This literature review demonstrates the importance of physical activity on college student success. The literature examined encompassed a wide range of subtopics in the topic. Intern this helped develop an overall better understanding of the effects of physical activity on cognitive function and how that relates to college student success. Ultimately, the literature on this topic remains split; some have found a direct correlation between physical activity and academic success, while others find little to no correlation. While this topic remains inconclusive, extensive effort has been made in the field in the pursuit of answers. Overall, a strength in this

topic is the extensive research already done on the topic. New research may benefit and expand on existing knowledge which may eventually help find a conclusive answer.

Ultimately, academic success depends on many variables which affect academic success independently. Research may benefit from a better understanding and implementation of such variables. Conversely, the implementation or lack thereof of such variables may have affected the outcome of the previously examined literature. Moreover, an example of such a variable that might affect the outcome of a study and doesn't seem to be accounted for in all the literature examined would be mental health. The effect of physical activity on mental health and how that relates to academic success may help develop a better understanding of the topic.

### Chapter 3: Methods

The design of this research is qualitative and descriptive in nature. First, I undertook an examination of the relevant literature concerning the topic of the effects of physical activity on college student success. To further support the finding in the literature on the impact of physical activity on college student success, I also examined other related areas. These areas specifically revolve around the effect of physical activity on cognition, and they include a general overview of all age groups and a concentrated view of young adults. Lastly, this was also followed by a review of the effects of physical activity on general education. This study is based on years of previous research dating from 2010 to the present day. This topic persisting in relevancy is fairly covered, with reviews of literature being the prominent way of encapsulating studies on the topic. Limited on time, this research method was the most ideal for conducting. This research is solely based on scholarly journal articles. All of the literature reviewed was acquired using the Purchase College Library online database, EBSCOhost. EBSCOhost allowed me to digitally download reliable resources as well as request literature pertaining to my topic that was not readily available.

As a guide for my research, I established guiding questions:

**RQ#1:** What effects does physical activity have on the cognitive function of all ages?

**RQ#2:** What effects does physical activity have on young adults?

**RQ#3:** What effects does physical activity have on general education?

**RQ#4:** What effects does physical activity have on college student success?

To achieve my search goals, I employed specific search terms. Keywords include *physical activity, PA, effect, college, student, higher education, university, exercise, function, cognitive function, cognition, young adults, resistance training, activity, executive function,*

*academic performance, academic success, academic achievement, correlation, outcome, impact, brain, aerobic exercise, cardiovascular exercise, GPA, and activity.* I also benefited from excluding words from my search. These words include *elderly, old, gender, children, kids, adolescents, youth, schoolchildren, grade, obese, overweight, primary school, middle school, high school, disability, and disabilities.* Continuously, I also refined parameters using the filter options. Parameters were defined only to include peer-reviewed academic journals, language: English, and geography: America. Ultimately, this specific research led me to find ten distinct pieces of literature relevant to the research. This endeavor was achieved within the time span of two weeks, from February 22 to March 8, 2022. Furthermore, the literature was categorized and designated into computer files based on the topics they addressed. These topics were the effect of physical activity on cognition, the effects of physical activity on general education, and the effects of physical activity on college student success.

The topic of the effects of physical activity on college success was important for me to pursue because it is something I can relate to as a college student. Being a college student, the ability to work at my fullest potential is paramount. Physical activity is commonly associated with greater cognitive function, and anything that can derive better academic performance should be explored fully. Moreover, the subtopics, physical activity, and academic success that compose the main topic are relevant and continual points of interest in this country. This previously mentioned, while true, has not amounted to a definitive conclusion even with such attention on the topic. While my research may not find a conclusive answer, the topic benefits from continual exposure and examination. Understanding the effects of physical activity on academic success may help contribute to a better academic outcome for those in pursuit of an education.



This topic being part of a more critical topic, the effects of physical activity on academic success, benefited from comprehensive coverage. This coverage also contributed to initial problems of acquiring specific material on the topic because interest expands past that of just college student success. The topic of the effects of physical activity on the academic success of children and other groups is highly favored when compared to the effects of physical activity on college student success. This situation was solved, as previously mentioned, by excluding specific words from the search results. Moreover, for this reason, my topic was supplemented with some of the excess material found as well as with literature on the effects of physical activity on cognitive function. This content served as an excellent base for which to better understand the results derived from the literature on the effects of physical activity on college student success.

## Chapter 4: Results

This research topic is the effects of physical activity on college student success.

Education is mainly a topic of utmost importance in this country, with many avenues are taken to understand better the outcomes and what may hinder or improve them. Exercise, in particular, is commonly associated with improved cognitive function. Subsequently, greater cognitive function may be beneficial in education. Moreover, this research aims to identify any correlation between the effects of physical activity and college student success. To garner this information, this research relied on existing reviews of literature coupled with specific studies regarding this topic. Although this topic is divided into subtopics, the research benefited from analyzing these related topics to understand better the results of the effects of physical activity and college student success. Chapter IV Results includes the results of the methodology study, which was conducted to answer the following research question(s):

### **RQ#1: What effects does physical activity have on the cognitive function of all ages?**

Understanding the general effects of physical activity on cognitive function is paramount for a better understanding of the effects of physical activity on college student success. This section utilizes one extensive review of literature by Erickson et al. (2021), which serves as a base to better interpret the results of the following research questions. This section serves as a base because Erickson et al. (2021) reviews the literature concerning the effects of physical activity on the cognitive function of all age groups, including the pertinent age group for this research, young adults, or the college-age group. While Erickson et al. (2021) are able to find a limited positive correlation between physical activity and cognition, the individual results for each age group examined are much more telling. For the age group 6 and under, there were limited studies performed in this age group leading to an inconclusive result. The greatest finds

came from the age group 6-13 years old. A positive correlation was established with a bountiful amount of literature and similar findings across the age group. Similar to the age group six and under, there was limited literature on the age group 14-18 years old, but enough to find a limited positive correlation. Notably, the results were inconclusive concerning the college-aged group or the age group 18-50 years old. With limited literature in this age group, the literature that was present was mixed, with some finding a positive correlation while others little to none. Lastly, when concerning the age group 50 and older, the review was able to establish a positive correlation.

### **RQ#2 What effects does physical activity have on young adults?**

Similar to research question number one (RQ#1), research question number two (RQ#2) is meant to serve as a base from which to better interpret the results of the leading research question. Moreover, this research question directly examines and goes more in-depth on the effects of physical activity on cognitive function in young adults. This section utilizes three different studies in order to investigate the impact of physical activity on young adults when concerning cognition. The study by Edwards and Loprinzi (2017) was meant to examine the difference between a regularly active individual and an individual whose activity was restricted to minimal activity. Ultimately, their study found no discernable difference when concerning cognition in individuals who continued an active lifestyle compared to those individuals whose physical activities were restricted. Unlike, the results by Edwards and Loprinzi (2017), both Loprinzi and Kane (2015) and Engeroff et al. (2021) identify notable findings when examining the effects of physical activity on cognition in young adults. The study by Loprinzi and Kane (2015) examined the specific intensities of exercise, ranging from no exercise to vigorous exercise. With the information gathered by their examination, they could not conclude any

general correlation between physical activity and cognitive function. This notable finding arises in their examination concerning concentration. They note that higher concentration is demonstrated after a bout of moderate-intensity workouts, but this isn't enough to conclude a definitive positive correlation. Likewise, Engeroff et al. (2021) are examining the effects of specific intensities in regards to physical activity and how it relates to cognition but are specifically focused on resistance training compared to other studies which focused on cardiovascular exercises. Unlike the previous two studies, Engeroff et al. (2021) established a positive correlation between physical activity and cognition based on their results. It's important to note that their assessment is based on only their moderate-intensity training group, which showed positive results compared to the low and high-intensity groups that did not show positive results.

### **RQ#3: What effects does physical activity have on general education?**

With the general effects of physical activity on cognitive function established, it is important to see how this translates in general education. This section utilizes one extensive review of literature by Rasberry et al. (2011) to better understand the effects of physical activity on students' success. The review examined a range of studies regarding the performance of students in an education setting. In total, the review benefited from 43 articles directly associated with the topic. Ultimately, the data gathered was inconclusive as the results were mixed. The study found a 50% positive correlation, 48% insignificant results, and 1% negative results.

### **RQ4: What effects does physical activity have on college students' success?**

With a good foundation on the effects of physical activity on cognitive function and how it translates into general education, the results of the impact of physical activity on college students' success can be cross-examined and understood better. This section is comprised of

multiple studies and one existing review of the literature to examine the ultimate effects of physical activity on college students' success. Of the four studies and reviews found directly associated with the impact of physical activity on college students' success, only two pieces of literature establish a direct positive correlation. Specifically, the study by Ludyga et al. (2018) was able to establish a positive correlation. The study examined physically active individuals who were separated into two groups, the active group, and the control. Ultimately, when both groups were assessed, the active group was able to outperform the control group in inhibitory control, verbal short-term, and long-term memory. Continuously, the extensive review of literature by Casebolt et al. (2017) furthers the position of physical activity when concerning college students' success. As a result of their extensive research, they were able to establish a positive correlation between physical activity and college students' success.

Contrary to the previous two results, the following three studies identify little to no correlation. In particular, Mull and Tietjen-Smith (2014) conducted a study in which they compared the grades of students enrolled in a class that requires physical activity and students who are not in such a class. At the end of the semester, they were able to conclude no significant difference in either group. Continuously, the study by Jourbert et al. (2017) examines the effects of physical activity and how it relates to academic performance much more directly. The study compared the results of a semester-long college class that was divided into two groups a control group and a cycling group. Its purpose was to analyze the direct impact of exercise in an educational setting. Ultimately, the cycling group slightly outperformed the control group, but the results weren't enough for the study to conclude a positive correlation. Lastly, the study by Felez-Nobrega et al. (2018) addresses the effects of sedentary time in relation to physical activity

and how that may or may not affect academic success. Ultimately, the study finds no relation to any form of physical activity, ranging from standing time to vigorous-intensity training.

## **Chapter 5: Discussion**

This research aims to identify a correlation between the effects of physical activity and college student success. There is continual and ongoing interest in understanding students' academic outcomes in the pursuit of an education. At the same time, there is a continual and present interest in understanding what affects the academic outcomes of students when regarding physical activity; there has not been a definitive correlation established. This outcome exists because pertinent literature on the topic, whether it be specific studies or reviews, has mixed results. Some studies and reviews have established positive correlations, while others find little to no correlation. Likewise, this review of literature based on the analyses and review of literature examined cannot establish a definitively positive correlation. Nevertheless, the findings do not entirely disregard a potential benefit in academia when physical activity is concerned.

Physical activity is a conduit that is commonly used by many individuals to tackle mental distress and hearing anecdotally the positive effects on one's mental health after participating in such activities, a much more definitive positive correlation was expected. As stated, previous literature, alongside my review of literature, is split down the middle concerning the effects of physical activity on cognition, academic success, and, notably, college student success. This concept, in particular, is dissimilar to my understanding of the relationship with physical activity and how it is known to subdue mental instability such as anxiety, depression, and stress. Anxiety, depression, and pressure are closely attributed to college student life, and physical activity is associated with reducing such feelings; it was inferred that such benefits would translate to an academic setting. A takeaway from this examination of literature may be that academic success

is subjective to the specific needs of sole individuals, meaning that there is no one solution to achieve it.

### **So, What?**

Since the literature on this topic is inconclusive in all regards, my understanding of this topic which was that physical activity would affect college students' success, was challenged. As an athlete and a scholar, my overall experience in both endeavors would have to be an overall positive one. This concept is said my academic performance and what I need to achieve may be different from what others need. Moreover, my perception of success is most likely different from the perception of success in other individuals. While it's clear that there is no single solution for academic success, understanding what can or does not affect academic success, like physical activity, may be beneficial to some as it may induce for some struggling in academia to achieve a better academic outcome. The alternative of not furthering our understanding of what possibly impacts academic success could be detrimental to future society. In modern times many people are opting out of continuing higher education, and while their many reasons for this, two of these reasons are fear and uncertainty. Fear and uncertainty are the seeds of anxiety, depression, and stress. Mental health is a distinctly absent observation in the literature pertaining to this topic. The effects of physical activity on mental health and how that relates to academic success is something that should be explored as it may help generate some more results on the topic.

### **Now What?**

While the effects of physical activity on college students' success are still very unclear, several studies demonstrated partial positive results. Specifically, two studies focused on the



intensity aspect of physical activity found these partial positive results. One study focused on cardiovascular intensity, and the other focused on resistant training levels, and both established limited results under moderate-intensity workouts. Further examination of such studies should be explored as these results may indicate a more definitive correlation under certain circumstances. Additionally, in the realm of this topic, it would be beneficial to implement consistencies such as baselines, as such inconsistencies may be contributing to a varying degree of results.

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