



The Role of Increased Physical Activities in Enhancing the Academic Achievements of Children

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

The main focus of this study lies in assessing the impact of increased physical activities and fitness of children on their studies. Parents and teachers are seen to play a very important role in the upbringing of toddlers. It is their positive or negative influence that shapes the confidence level, activity, and social standing of these children among their peers. Over the past few years, it has been observed that children are seen to be more inclined towards using their gadgets, smartphones, and other video games that keep them occupied for hours. While at one hand, this is somewhat comforting for the parents that their children are tending themselves, this has seen to have a very negative impact on the developing brains of these children. These increased unhealthy activities and sedentary lifestyles make them dull, less focused, and discouraged from their academics and studies. To resolve this problem, experts have found that increasing the physical activity of young children could help enhance their productivity and performance in their academics. Not only can physical activities help in achieving the desired goals of increased performance, but can also strengthen the brain and its capabilities to enable them to perform better in life.

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1. INTRODUCTION

Physical fitness and training have been labeled as some of the essential components of leading a healthy life. Physical fitness helps keep all individuals in shape along with increasing their performance and stamina in nearly all activities of life. Research has also proven that the physical maintenance of an individual helps keep them free from several diseases and thus, reduces the overall mortality rate among groups of such individuals [1].

There are several forms, types, and intensities with which a person could physically train themselves to keep their bodies and health active and fit, however, all these factors vary from person to person. Different age groups have different requirements and thus, their daily requirement for exercise and training falls under different categories. Not only this but various experts have also found a strong link between good and balanced mental health and physical training. This proves that keeping oneself active and fit through physical activities and exercises is one of the most important factors that could improve the longevity and well-being of a person in the long run [2].

The main focus of this study lies in the physical activities and fitness of children. Children ultimately grow up to be healthy and energetic adults. However, this is not the case in today's modern and developing world. The main reason behind this could be attributed to the increased screen times among children of all ages that greatly contribute to their mental education and health and makes them lazy, laid-back, and least bothered about their inactivity [3].

Moreover, it has also been noted that children of today's age are more inclined towards sedentary activities and those activities that require minimal performance and running. This factor has also contributed to making the children more inactive and dull. As a result, there has also been an incidence of increased development of chronic diseases such as diabetes, obesity, and hypercholesterolemia in children from very early ages. Similarly, these same children are seen to perform properly in their academics. As a result, their performance in school is questionable despite having several resources and interactive sessions to gain knowledge from in this era. The decreased performance and interest in studies

have led everyone to develop a very valid concern regarding behavior toward this problem. As a reasonable solution, the increase in physical activities of children from a very young age has been proposed as a solution to this problem [4].

If the statistics remain the same and nothing is done to improve this habit, then it is obvious that the upcoming generation would be nothing but a group of grown-up people suffering from several co-morbidities that sprouted due to their own inactivity and decreased performance. Therefore, this is a very much required need of the time to make the masses, both medical and non-medical, aware of the consequences of decreased physical activity in children and its links with decreased academic performance.

2. METHODOLOGY

A vast literature review was carried out to study the impact of physical activity on children's brain and academics. The literature review was carried out on popular search engines of Google Scholar and Pubmed, and about 50 research articles based on this topic were selected. Only the most authentic journals such as NCBI and Frontier's were shortlisted for the research.

3. PHYSICAL ACTIVITY AND ITS IMPACT ON CHILDREN

From a very early stage, there has been a lot of research done on the topic of physical fitness and its impact on children. However, most of this research was almost always linked to the impact of physical activity on the growth and development of children. It has been no longer than two decades since the topic of research has diverted towards another concerning perspective and that being the association between increased physical activity and its impacts on the mental cognition and well-being of the children, which ultimately made a lasting impact on their academics and studies [5].

According to a report published by the Physical Activity Guidelines Advisory Committee in 2008, higher levels of physical activity and training were found to be linked with better cardiac, respiratory, metabolic, muscular fitness, and bone health-related outcomes [6].

This report further concluded that a training or activity period of at least an hour or more on

average of three days a week could help children and adolescents achieve the required rate for these better health outcomes. These report statistics were based on children between the ages of six to eighteen as children below that age group are still in a delicate growing phase and do not require strenuous, intense activity.

As far as the mental impact of physical activity and training is concerned, an experimental study was carried out by the Healthy Body, Healthy Mind Feasibility Study program. In this study, teenagers and adolescents in the age group of 15 to 25 years were selected. The motive was to evaluate the impact of physical activity on the subject's physical and psychological fitness. This study revolved around making the subjects do higher-intensity workouts and exercise training programs for a period of some weeks and for particularly dedicated hours on those designated days. At the end of the study, it was revealed that all the adolescents who participated in this study experienced better mental health. [7] Moreover, these individuals were also at a reduced risk of developing 'severe' symptoms or exaggerated episodes of any of the mental and psychiatric disorders. This study was another evidence-based proof that staying active and doing physical training helps with keeping the mind in a healthy state and free from disorders [8].

J. Wyszynska et al. conducted another study where they worked to compare the physical activity levels and screen time in adolescents with intellectual disability and those without any intellectual disability. It was found that the group of adolescent children who were suffering from some form of intellectual disability were found to have significantly lower physical activity than the other group of adolescents who had no intellectual disability. This difference was found to be four times the normal in the latter group, thus signifying that intellectual or mental states of mind are also involved in shaping the physical states of children [9].

All in all, the studies that were carried out to find out the effects of physical training and activities on children were conclusive of the fact that physical training indeed helps keep children active, fit, and healthy.

According to the World Health Organization (WHO), children must engage in a physical activity session that is of moderate-to-vigorous intensity for at least an hour daily. This helps keep their mind and body healthy and fit and makes them better equipped to deal with the

various challenges of life easily. However, all over the world, children nowadays are not seen to be engaging in this required active time, which ultimately results in their decreased mental cognition and health. Schools also play an important role in shaping the physical training life of their students, and many schools have been seen to be involved in such activities that help keep their students active and in shape [10].

Parents are also seen to play an important role in influencing their children's behavior towards physical activities of all sorts. Parents who hold a positive attitude towards increasing the physical training and activity of their kids were seen to raise children who had a similar approach towards physical training. It was also seen that those children whose parents engaged with them in different physical activities were seen to be more active than children whose parents do not do similar activities with them [11].

4. PHYSICAL TRAINING AND ACTIVITIES AND THEIR IMPACT ON THE ACADEMIC ACHIEVEMENTS OF CHILDREN

There are several parents who believe that physical activity might hinder the academic performance of their children, although this is not true. This fact has also been proven by various research studies that physical activity does not, in any way, influence the academic performance of children negatively. If anything, it enhances their mental cognition and makes them capable of performing well in their studies. Therefore, it is also very important to make the parents aware of this concept because only then would they be willing to make their children get engaged in such activities [12].

According to a study, children who were seen to spend more time on their physical activities and training were found to pass with higher grade point averages than those who did not engage in such activities. Moreover, these active children also had a higher level of understanding of their curriculum and they had an enhanced vision for their future because they possessed motivated mindsets. For such children, their mathematics, reading, and teacher evaluations all were found to be at a significantly better level than that of those students who only focused on their studies and did little to no physical activity [13].

As far as the specific mechanisms that relate to physical activity and its impact on the academic

achievements of children are concerned, many experts have been working on this topic for a while now. So far, it has been found that physical activity activates and stimulates certain cellular components of the brain that enhance its functioning and cognitive processes.

A study revealed that actively engaging in physical activities enhances the executive functions of a child's brain, which includes selection, organization, and goal-directed actions. This whole enhancement or influence on a child's brain helps them with problem-solving, decision-making, leadership goals, and overall improving their performance in the academic sector [14].

This is one of the main reasons why energetic and physically active children are seen to be 'all-rounders' among their peers and colleagues and this continues for a long time after their school ages as well, provided that their lifestyle remains the same in the longer run. These children were also found to have a well-directed and more oriented response towards certain neural processes ongoing in the brain [15].

Physical activities and training help children with adaptive classroom behavior, psychomotor skills, and certain metacognitive processes. All in all, the benefits of staying physically active for a duration of only 60 minutes per day are indeed worth the hassle and have also been found to be scientifically proven beneficial for the mental and physical well-being of a child in their growing ages [10].

However, despite the majority of the studies proving physical activity and exercise to be a great and positive link, there were also some studies that provide otherwise. A study carried out by Singh et al. in 2019 showed that physical activity had little to no impact on the functioning and performance of growing children [16].

Another study carried out by Rasberry et al. in 2011 showed that out of a majority of children selected for judging the impact between physical activity and academic achievements, only a few of them showed the desired results positively, whereas 48% of the children had little to even a negative impact on the academics. However, one point worth noting is that in this study, the teacher's evaluation was used to measure the outcome, and no scientific tool or expert analysis was used to judge the outcome. These findings only help in concluding the fact that for a child, their family's environment and support, self-

motivational levels, and social standing, all help towards contributing to their mental health and cognition. All these factors help in enhancing and improving the academic achievements of children in the longer run [17].

5. CONCLUSION

Physical activity and training are a major part of one's life. Almost every other individual is intentionally or unintentionally involved in physical activity of some sort. Children are a topic of interest, mainly because their behaviors are diverse, and judging them through the impact of various activities is always helpful in understanding in how human behavior works.

Therefore, the evaluation of physical activity and training was done on them to see how it influences their life and most importantly, their academics in general. It was found through various studies that physical activity or staying active for about an hour daily helps children stay mentally fit and cognitively active in the long run.

Although every child has a different mental capacity, physical activities help enhance their individual capabilities and emerge as better, goal-oriented individuals.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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