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Physical Education – Theory and Practice: Exercise Physiology

Dr. Madhumita Gupta
Assistant Professor -Commerce,
Maharaja Bijli.Pasi Govt P.G. College, Aashiana , Lucknow , U.P.
Email: madhugdc@gmail.com
Mob. no.: 9415301322

Abstract:

Good health is the foundation of learning and academic performance. In children and youth, health is akin to growth. In today's world physical education is essential. Man can live healthy and better life only by doing physical exercise. Today new and new diseases are emerging and have made big harm to man's body. Man life has become dependent on medicines. For example digest medicine, medicine for excretion, medicine for sleep, etc. Because of these medicines man has become like a walking robot. How sad it is that man has time to do the service of technical gadgets like car, freeze, television but he does not have time to take care of his valuable body. Through physical education man can live his day to day life healthily. Physical education plays important role in man's development and proves helpful for better physical, mental, social, emotional and spiritual life. We know that healthy mind lies in healthy body. Now a days video games and computer games have taken the place of our traditional games. Man does not have time to play indoor or outdoor games in the modern age of technology. Sport is important for man's all round development and for living healthy life. Today very fast changes are seen in the field of physical education. First of all man gets physical education and then gets social education Thus man's social education has the basis of physical education. The education today has become technological education. There is a paradigm shift in the education. The education has become so much dependent on technology that man does not spare enough time to take care of his or her body which is a valuable gift of nature to human being. Physical education makes the immunity of our body stronger and so makes body more healthy and only a healthy man can contribute for the society.

***Keywords**: Physical Education, Morbidity, Health & Physical Education, Childhood, Motor Skills, Academic Performance*

Introduction:

Regular physical activity promotes growth and development and has multiple benefits for physical, mental, and psychosocial health that undoubtedly contribute to learning. Physical activity, a behavior, is defined as bodily movement that increases energy expenditure, whereas fitness is a physiologic trait, commonly defined in terms of cardio respiratory capacity (e.g., maximal oxygen consumption), although other components of fitness have been defined . Exercise, a subset of physical activity, is "planned, structured and repetitive" and designed to target a particular outcome for example, cardio respiratory capacity or another component of fitness. Physical education provides opportunities for developmentally appropriate physical activity, usually structured to promote motor skill development, fitness, and health.

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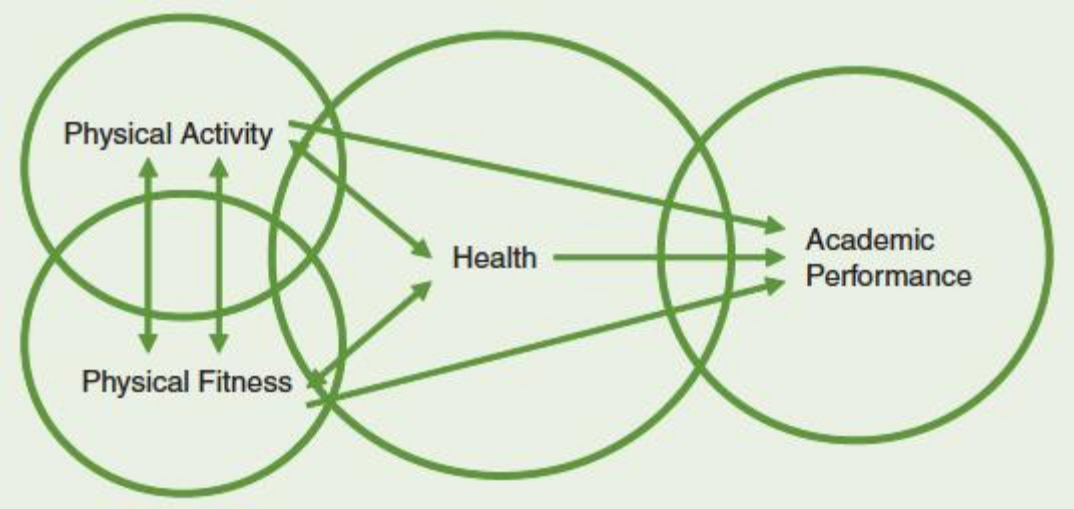
The relationship between physical activity and physical fitness is complex and bidirectional. Numerous studies have shown a significant relationship between physical activity and cardio respiratory fitness, which may mean that physical activity improves fitness or that physically fit individuals choose to engage in physical activity more than their less fit peers, or both. Experimental studies have shown that exercise training improves fitness, although the response is variable and clearly influenced by genetics. Physical activity and fitness are independently related to health and academic performance as explained under reflecting conceptual framework relationships among physical activity, physical fitness, health, and academic performance:-



Although medical science may differ on the exact relationship but it is irrefutable that there are multiple health benefits of physical activity. Adults engaged in regular physical activity have lower rates of chronic disease (eg. coronary heart /cardiovascular disease, type 2 diabetes, hypertension, osteoporosis, and some cancers) and are less likely to die prematurely. While the ill effects of chronic disease are manifested mainly in adults, it is increasingly coming into prominence in various studies that the development of these conditions starts in childhood and adolescence. Promotion of health enhancing behaviors must also start early in everyone's life. The growing evidence points to long-term effects of child and adolescent physical activity on adult morbidity and mortality in addition to its more immediate effects.

Evidence for both direct and indirect health effects of physical activities has been reported , and the need for ongoing participation in physical activity to stimulate and maintain the chronic adaptations that underlie those benefits is well acknowledged. The relationship model showing

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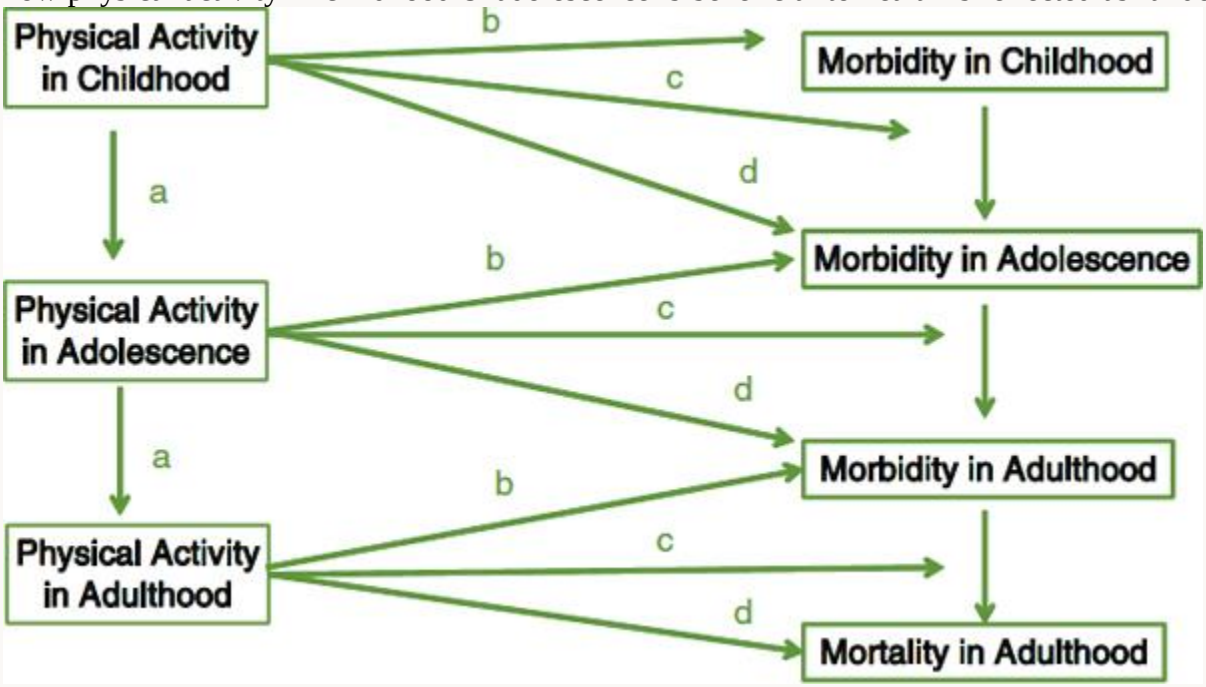
how physical activity in childhood & adolescence is beneficial to health is reflected as under :-



Somatic Growth, Development, and Function: Growth occurs through a complex, organized process characterized by predictable developmental stages and events. Although all individuals follow the same general course, growth and maturation rates vary widely among individuals. Just as it is unrealistic to expect all children at the same age to achieve the same academic level, it is unrealistic to expect children at the same age to have the same physical development, motor skills, and physical capacity. Regular physical activity does not alter the process of growth and development. Rather, developmental stage is a significant determinant of motor skills, physical capacity, and the adaptation to activity that is reasonable to expect.

Developmental Stages:

Postnatal growth is commonly divided into three or four age periods. Infancy spans the first year of life. Childhood extends from the end of infancy to the start of adolescence and is often divided into early childhood. For example, young children are active in short bursts, and their capacity for continuous activity increases as they grow and mature adults and likely also adolescents. Intermittent exercise has the same benefit as continuous exercise when mode and energy expenditure are held constant. .

Children require frequent opportunities for practice to develop the skills and confidence that promote ongoing engagement in physical activity. Physical education curriculum are structured to provide developmentally appropriate experiences that build the motor skills and self-efficacy that underlie lifelong participation in health-enhancing physical activity, and trained physical education specialists are uniquely qualified to deliver them. However, physical education usually

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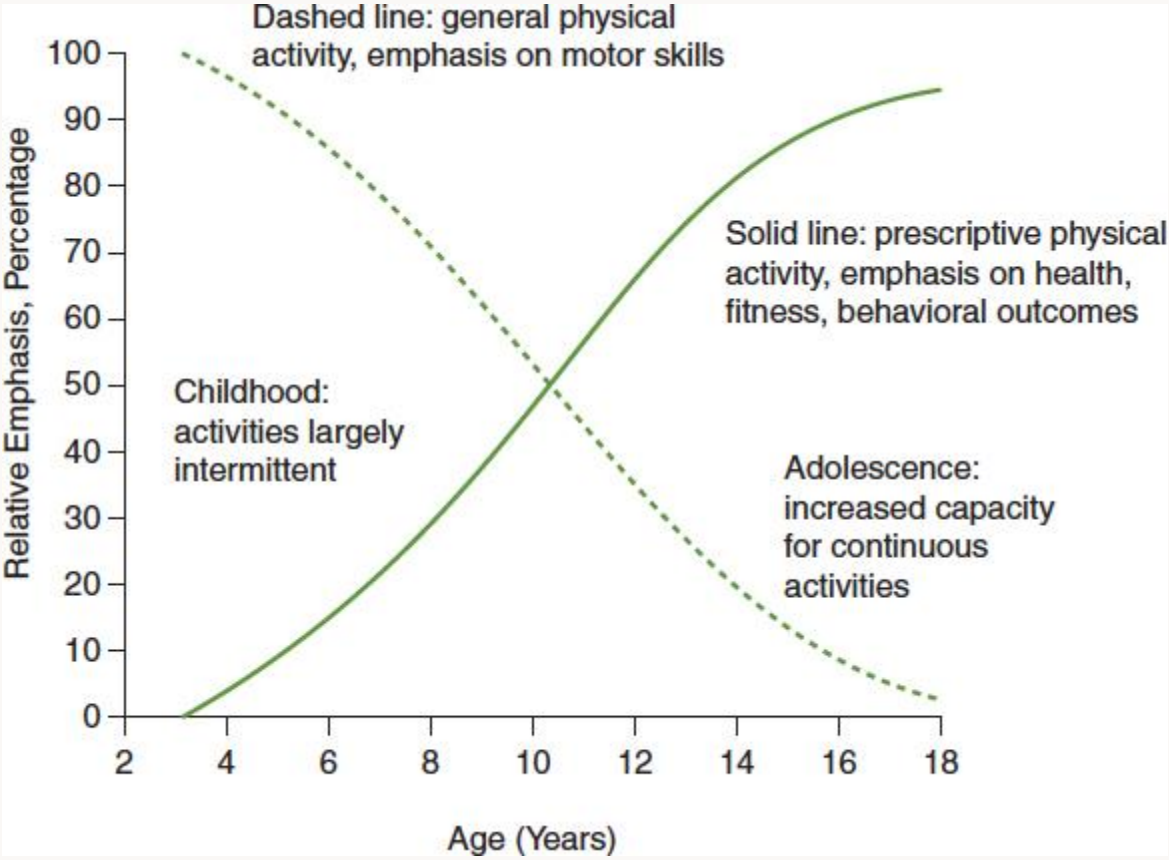
is offered during a single session. Therefore, other opportunities for physical activity can supplement physical education by addressing the need for more frequent exercise during the day. In addition to the immediate benefits of short bouts of physical activity for learning and for mental health, developmentally appropriate physical activity during those times, along with the recommended time in physical education, can also contribute immensely. The changes in physical activity needs with increasing age of children and adolescents is depicted as below:-



Specific types of activities address specific health concerns. For example, vertical jumping activities contribute to energy expenditure for obesity prevention and also promote bone development (via the resulting ground reaction forces), potentially contributing to lower fracture risk. Other activities contribute to prevention of chronic disease. Since different types of physical activity contribute to distinct aspects of physical, mental, and psychosocial health, a varied regimen is likely to be most beneficial overall.

The quality of physical activity programming also is critical; psychosocial outcomes and improvements in specific motor skills, for example, are likely the result of programming designed specifically to target these outcomes rather than just a result of increase in physical activity. These psychosocial outcomes are likely to lead to increased levels of physical activity in both the short and long terms, thereby conferring greater health benefits. Unstructured physical

activity or free play also confers unique benefits and is an important supplement to more structured opportunities. Quality physical activity programming that makes these activities attractive, accessible, and safe for children and youth of all skill and fitness levels is critical to ensure that all youth participate in these activities and can therefore derive the health benefits.
Sedentary activities, such as screen viewing and excessive time spent sitting contributes to health risks both because of and independent of their impact on physical activity. Thus specific efforts in school to reduce sedentary behaviors, such as through classroom and playground design and reduction of television viewing , are very much essential .

Aim: Both habitual and single bouts of physical activity contribute to enhanced academic performance and physical fitness in children and individuals which in turn will be the assets for society. The paper aims to indicate a robust relationship of exercise and physical activities to increased attention and physical fitness with evidence reflecting strong relationship between participation in physical activity and disciplinary behaviors, time on task, and academic performance. Many adult diseases have their origins in childhood. This study aims of putting together with the finding that health-related behaviors and disease risk factors may track from childhood into adulthood, underscores the need for early and ongoing opportunities for physical activity. More fit children allocate greater resources to a given task and demonstrate less reliance on environmental cues or theoretical learning's and are thus better prepared to serve society.

Conclusion: Physical education is helpful for creating intimacy with society. In physical education team spirit is very important. Team is like a family. It is a miniature form of society. Team is the centre where the person gets opportunity to know the importance of co operation with other people. According to the saying "With One Hand No Clap", the person can not get complete advantage of physical education on his own. This limitation motivates man to co operate with others. Thus man develops faith in the feelings of communality and oneness with others. This faith becomes a part of man's character and connects man with his or her family, society, nation, and the world. Physical education prepares an ideal citizen unknowingly and unintentionally. And such ideal citizen breathes in the air of freedom in the society being free from limited narrow mindedness. He creates happiness not only for himself but also for the society. Thus people devoted to the society, nation and the world can be prepared through physical education. A comprehensive physical activity plan with physical education at the core, supplemented by other varied opportunities for and an environment supportive of physical activity throughout the day, would make an important contribution to children's health and development, thereby enhancing their readiness to learn.

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