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FROM BEING SEDENTARY TO BEING ACTIVE: SHIFTING PATTERNS OF IDLENESS AMONG CHILDREN

ABSTRACT. Hirsh Alon, *From Being Sedentary to Being Active: Shifting Patterns of Idleness Among Children* [Od siedzącego do aktywnego trybu życia: zmieniające się modele aktywności ruchowej u dzieci]. *Studia Edukacyjne* nr 43, 2017, Poznań 2017, pp. 365-384. Adam Mickiewicz University Press. ISSN 1233-6688. DOI: 10.14746/se.2017.43.22

Physical activity is defined as body movement produced by muscle action that increases energy expenditure. The lifestyle of hominids/humans included physical activity. The way of life associated with hunting, gathering, and agriculture. During the Hellenic Age (336-30 B.C.), Sports were considered "physical training for health", and agonal (competitive) gymnastics were highly regarded. For Romans, some body movements served the purpose as preparation for war and the military. Our young people live in a social and physical environment that makes it easy to be sedentary. The benefits of physical activity for children, though seemingly obvious. Physical activity can reduce anxiety, feelings of stress. A reduction in sedentary behavior can be achieved with minimal financial or time requirements. Positive experiences with physical activity at a young age help lay the basis for being regularly active throughout early and later adulthood. Recommended physical activity guidelines differ according to age group. Performance of a wide variety of physical activities is important for refining already learned motor skills. Sport participation, appropriately directed, could be involved in the development of character, work discipline, teamwork, fair play, and other socially approved characteristics.

Key words: physical activity, ICT, motivation, teachers, sedentary lifestyle

The history of physical fitness

The evolution of hominids can be viewed in the context of Bipedalism that is evident in the fossil records of between eight and five million years before present (mybp) and adaptations associated with upright walking are postulated as central to subsequent biological and cultural evolution.

The lifestyle of hominids/humans included physical activity on a regular basis throughout their evolutionary history. The way of life associated

with hunting, gathering, and agriculture probably included a mixture of continuous and intermittent activities that have ranged from light to moderately vigorous with occasional periods of intense, vigorous activity. The lifestyle of hunter-gatherers was physically active' based on observations of skeletal remains of earlier hunter-gatherer populations Early hunters have been described as endurance specialists, specifically endurance running in a hot environment facilitated tracking and chasing of prey was an adaptive advantage which may have provided early hominids with a reliable mechanism for increasing their intake of animal protein.

On the other hand, others have maintained that early human hunters were adapted to long distance walking and not to running. Activities of late Paleolithic hunter-gatherers included walking (gathering, hunting, migrating), running (after wounded prey, flight), carrying (game meat, children, plants), flint knapping, tool making, meat butchering, digging (roots, tubers), dancing (recreational, ritual), playing.¹

Early hominid evolution took place in woodlands and grasslands with subsistence hard to obtain. The hunter-gatherers who provide us with a model often travel 6-8 mi/day in search of food.² Movement was seen as an obligatory life activity, who viewed movement as lively activity. The need to be constantly prepared for the certainty of life's struggle, gave humans the necessity of physical fitness.³

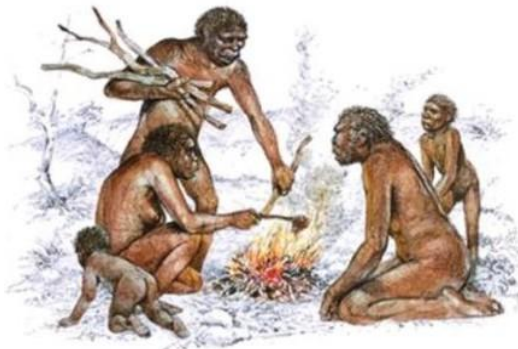


Fig. 1. About 500 000 years ago, the Homo-erectus began to gradually migrate into Asia and parts of Europe. Homo erectus or 'upright man' was the first creature to stand upright. He was probably also the first to use fire. He built campfires and may have made simple ovens with hot stones

¹ B.B. Little, R.M. Melina, *Physical Activity: The Present in the Context of the Past*, 2008.

² M. Hayes, M. Chustek, S. Heymsfield, *Low physical activity levels of modern Homo sapiens among free-ranging mammals*, Helppuide.org. (n,d) How to Start Exercising and Stick to It. 9, 2005.

³ D. Demirel, I. Yildiran, *The Philosophy of Physical Education and Sport from Ancient Times to the Enlightenment*, *European Journal of Educational Research*, 2013, 2, 4, p. 191-202.

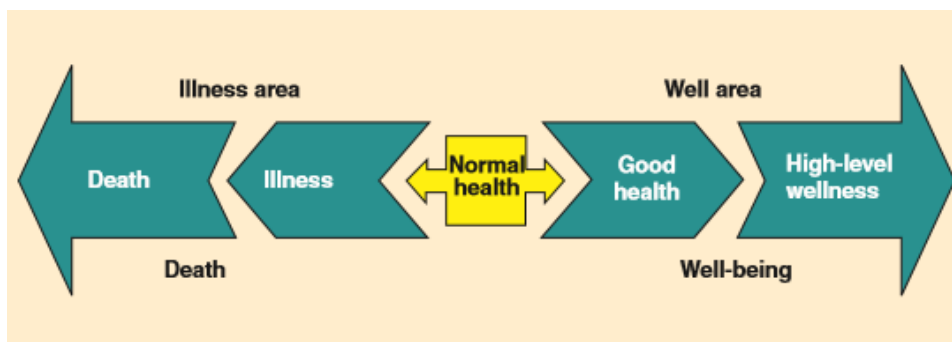


Fig. 2. The health and wellness continuum

Physical fitness in the 21st century – social and behavioral characteristics

Our young people live in a social and physical environment that makes it easy to be sedentary. It has become inconvenient to be active. Social and environmental factors that discourage physical activity include communities that are designed and centered around automobiles with limited access to low or no cost physical activity close to home (such as parks, recreation centers, and walking and biking paths). The new information technology (smartphones, tablets) that are sedentary in nature and have increased concerns about safety in neighborhoods.

A recent study has shown that adolescents now spend more than seven hours per day watching television, DVDs, movies, or using a computer or a mobile device like a cell phone or MP3 player.

Older adolescents are less likely than younger children to be physically active are, and adolescent girls are less likely to be physically active than their male peers (Merino, González-Briones, 2015).

The principle of energy balance is simple; if energy intake (EI) exceeds energy expenditure (EE) a positive energy balance occurs, which if it persists will automatically lead to weight gain. However, understanding the underlying factors and mechanisms, which contribute to a low EE and high EI, is more complex. A combination of environmental pressures, technological factors and societal transitions from childhood to adolescence are likely to promote sedentary behavior, which could potentially lead to weight gain. The benefits of physical activity for children, though seemingly obvious, warrant restating. Most immediately, they include cardiovascular health, muscle and bone strength, kinesthetic awareness, sense of vitality, and sense of physical competence and integrity.

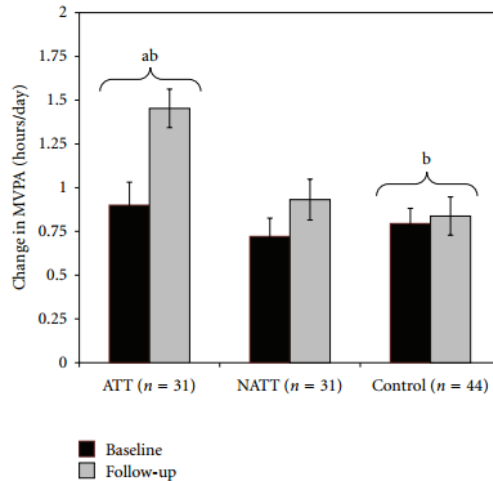


Fig. 3. Base line (black bars) and follow-up (grey bars) measures of MVPA by group. (A) Significant difference from baseline to follow-up measures; (b) change from baseline to follow-up is significantly different between ATT and control groups (Howe, Harris, Gutin, 2011)

* MVPA = moderate-to-vigorous PA, ATT = boys in the intervention group who attended $\geq 60\%$; NATT = intervention boys who attended $< 60\%$; CON = control Moderate to-vigorous PA (MVPA).

Physical activity is one of a number of factors, which influence the growth, and development of children and adolescents. During the formative years, changes in health and motor-related fitness are influenced by growth and maturation.⁴ In some forms, physical activity appears to have self-regulatory benefits for behavior and emotional state and even a self-regulatory effect on chemical/hormonal balances in the body. Physical activity can reduce anxiety, feelings of stress, and, according to a few reports, depression.⁵ Sedentary behavior is associated with detrimental health outcomes, which differ from those attributed to a lack of moderate to vigorous physical activity. This has led to the field of “sedentary physiology”, which may be considered as separate and distinct from exercise physiology. Health promotion professionals and the medical community have known for a long time that regular physical activity plays a significant role in combating chronic diseases. According to a recent study on the actual causes of death in the United States, physical inactivity, along with cigarette smoking and poor

⁴ P. Hills, N. King, T. Armstrong, *The contribution of physical activity and sedentary behaviors to the growth and development of children and adolescents: implications for overweight and obesity*, 2007.

⁵ R.W. Johnson, *Foundation's Physical (In) activity Among low-Income Children and Youth: Problem, Prospect, Challenge*, 2003.

nutrition, was rated among the most important lifestyle-related risk factors. Body composition and cardiovascular (CV) fitness in young boys, Using

Population-based objective measures of children's PA levels revealed that only 42% of 6-11-year-old children acquire the recommended 60 min/day of moderate to-vigorous PA (MVPA); for 12-15-year-old adolescents, this number drops dramatically to < 10%. In a study: boys (8-12 years of age) participated in a 10- month after-school PA intervention, could prevent deleterious changes in a seven-day PA program.

Table 1

Important terms used to describe the movement continuum

Term	Definition
Sedentary	A distinct class of behavior(e.g. sitting , watching TV, driving) characterized by little physical movements and low energy openture(<_1/5 WET's)
Sedentary	Extended engagement in behaviors characterized by minimal movement, low energy expenditure ,and rest
Sedentary	Meeting established guidelines for physical activity (usually reflects in achieving a threshold number of minutes of moderate to vigorous physical activity per day)
Physically active	Physically active
Physical inactive	The absence of physical activity: usually reflects as the amount or proportion Of time not engaged in physical activity of some predetermined intensity.

Note: METS, metabolic equivalent tasks

Conceptualizing sedentary behavior as distinct from a lack of physical activity is important for three main reasons: (i) the unique nature of sedentary behavior, (ii) the physiological responses of sedentary behavior, and (iii) the measurement of sedentary behavior. For example, Tremblay et al. (2007) illustrated how reductions in sedentary behavior may be achieved through almost limitless micro intervention opportunities designed to promote energy expenditure, whereas physical activity or exercise interventions have more constraints (e.g., time, location, equipment, logistics).

A reduction in sedentary behavior can be achieved with minimal financial or time requirements (e.g., transportation, equipment, prolonged interruptions of work or domestic tasks). Individuals can achieve high levels of moderate to vigorous physical activity and still exhibit high levels of sedentary behavior. One behavior does not necessarily displace the other. For example, an "active" individual might engage in 30 min each day of brisk walking or jogging (and in doing so meet or exceed current public health

guidelines on physical activity); however, this leaves some 15.5 waking hours within which the proportions of time allocated to sitting vs. standing and light-intensity ambulatory activities can vary widely.

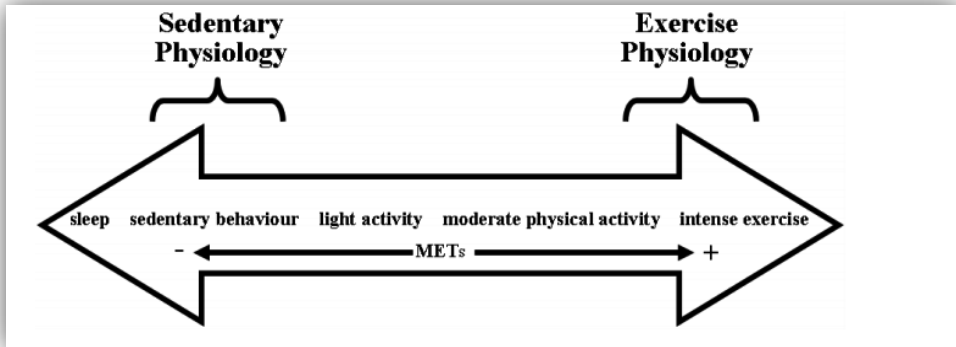


Fig. 4. The movement continuum, illustrating the different focus of sedentary physiology and exercise physiology. METs, metabolic equivalent tasks. This may be described with similar details. Sedentary behavior frequency and the number of bouts of a certain duration

*MVPA = moderate-to-vigorous PA, ATT = boys in the intervention group who attended $\geq 60\%$; NATT = intervention boys who attended $< 60\%$; CON = control Moderate to-vigorous PA (MVPA).

An evaluation on examining the relationships between objectively and subjectively measured sedentary behavior and health indicators in children and youth aged 5-17 years was observed. The intervention (durations, patterns, and types of sedentary behaviors), comparator (various durations, patterns, and types of sedentary behaviors), and outcome (critical: body composition, metabolic syndrome/cardiovascular disease risk factors, behavioral conduct/pro-social behavior, academic achievement; fitness, self-esteem) study criteria. Quality of evidence by outcome has been assessed. The outcomes show that higher durations/frequencies of screen time and television (TV) viewing were associated with unfavorable body composition. Higher duration/frequency of TV viewing was also associated with higher clustered cardio metabolic risk scores. Higher durations of TV viewing and video game use were associated with unfavorable behavioral conduct/pro-social behavior. Higher durations of reading and doing homework were associated with higher academic achievement. Higher duration of screen time was associated with lower fitness. Higher durations of screen time and computer use were associated with lower self-esteem. In 1971, the average age at which children began to watch TV was 4 years; today, it is 5 months.

Currently, it is estimated that more than 90% of children had begun watching TV before the age of 2 years, in spite of recommendations to the contrary. The occupational physician Bernadino Ramazzini noted the relationship between sedentary behavior and deleterious health consequences as early as the 17th century. It has been estimated that in the 1960's, around half of the jobs in private industry in the U.S. required at least moderate intensity physical activity, in contrast to less than 20% of the jobs currently. Modern technology and the development of motor-based transport systems, of machines, which take over former high-energy demanding activities both at home and at the workplace, as well as in commuting, have reduced the intensity of, and time spent in, physical activity in our daily living. In the last five decades, daily energy output due to the reduction in occupational physical activity has been estimated to have decreased among US men and women by 140 and 124 kcal, respectively¹, probably affecting energy balance.

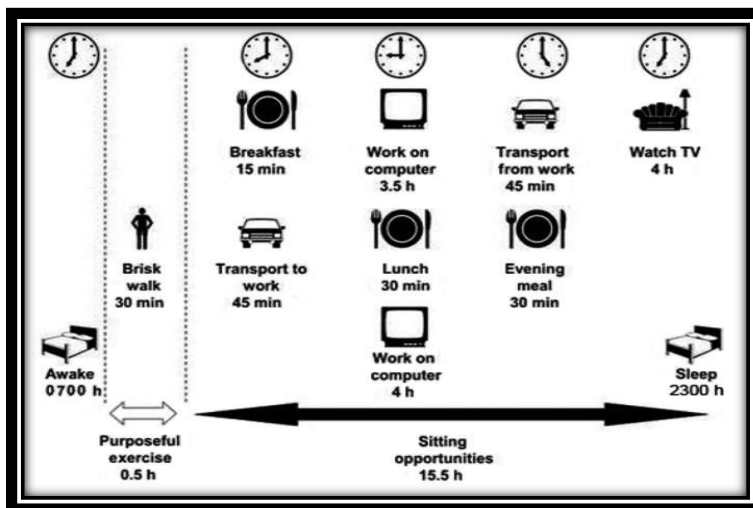


Fig. 5. Major contexts for sedentary behavior and their distribution over a typical adult's waking hours. (From Dunstan et al. 2010a, reproduced with permission of Touch Briefings, *European Endocrinology*, vol. 6, p. 20, # 2010.)

Recent evidence on sedentary physiology suggests that sedentary behavior has a direct influence on metabolism, bone mineral content, and vascular health. One of the demonstrated effects of sedentary behavior is metabolic dysfunction, characterized by increased plasma triglyceride levels, decreased levels of high-density lipoprotein (HDL) cholesterol, and decreased insulin sensitivity.

There is substantial evidence linking the number of hours of TV viewing and being overweight or obese in children and adolescents. For example, in a representative sample of 7216 children aged 7 to 11 years, TV watching and video game use were risk factors for being overweight (17% to 44% increased risk) or obese (10% to 61%) In order to develop evidence-based public health strategies and implement large-scale interventions that will reduce population wide levels of sedentary behaviors, there is a need to understand the determinants of the behaviors themselves. Prospective studies and intervention trials can identify the environmental, social, and personal factors that may lead to prolonged time spent in particular sedentary behaviors. There is the need for models that are specific to sedentary behavior. This may systematize relevant evidence from the multiple domains that are likely to influence sedentary time in particular settings. These settings can personal preferences and other time uses in relation to domestic TV viewing time; or the transportation infrastructure in relation to time spent in automobiles.

***Motivation for physical fitness among children and youth - some recommendations**

Motivation is the basis of every human activity; it is a combination of energetic powers coming from some internal or external individual proclivities such as conditions, events or activities. They affect his or her behavior and determine the form, the direction and the duration of this behavior. Motivation lies at the basis of all human activity; it is "a process and a state with a number of interactions and different variables (necessities, intensity of proclivities expectations, unconscious factors) acting as behavioral regulators".⁶ The motivation for success is a construct with the following referents: a desire for success in the activity performed. Its adequate appreciation and evaluation. An aspiration for overcoming of obstacles with higher levels of difficulty. A proclivity for solving more difficult and challenging tasks. A desire to receive feedback for one's own abilities and an aspiration to live up to standards of high quality. The interest as a relatively constant preference for activities allows the target to be achieved. (Sebirel, Jago, Fox, Edwards, Thompson, 2013). The Centers of Disease Control and Prevention (CDC, 2008) found that positive experiences with physical activity at a young age help lay the basis for being regularly active throughout early and

⁶ N. Tsankov, E. Deliverska, S. Ivanov, *Achievement motivation as a determining factor for sports quality and animation activities with children*, 2015.

later adulthood. Recent research, suggests that many children lack proper motivation for active participation in physical education and sport programs. In 2005, only 36% of high school students had participated in the nationally recommended level of at least 60 minutes of physical activity per day on five or more of the previous seven days, and only 33% attended physical education class daily.⁷ Many children are insufficiently physically active to increase children's physical activity (PA), it is necessary to understand its social, environmental and psychological underpinnings. Understanding the social cognitive factors that can influence a child's social milieu is important because they could be targeted through theory-based interventions to increase PA. For example, giving advice to influential figures in children's lives such as teachers and parents on how to support PA may provide a mechanism for increasing children's motivation. Ensuring that youth are physically active is essential for their physical and emotional health. Rates of physical activity, however, are low among youth and decline during adolescence. (Sebirel Jago, Fox, Edwards, Thompson, 2013). According to Maehr and his colleagues, Social Approval Goals are reflected in students influencing their physical activity behavior. For example, a student may decide to exert more effort if they feel their success is connected to the social approval of others. Social approval motivation, within the specific motivational framework of achievement goal theory, has been linked to the purpose of an individual's achievement. In other words, Maehr and his colleagues asserted that an individual's perceived social purpose of trying, or not trying, to achieve in an achievement setting is their social approval goal.⁸ It had been suggested that adolescents who engage in sport and physical activity for enjoyment and intrinsic interest. Yet, physical education research studies in the UK and in Greece, have reported that participation and interest in physical education gradually declines with age. There is also a similar trend occurring in the United States. Currently there is consensus among researchers that the individual variable intrinsic motivation is of central importance not only to physical education research but as an outcome variable to achievement goal literature as well. In fact, intrinsic motivation has been one of the most widely studied concepts in physical education.

Self-efficacy has been found to be a strong direct predictor of physical activity behavior. More specifically, research on adolescents has consistently found that individuals who feel more efficacious are likely to expend more effort, perform better, persist longer, and are more likely to continue being active in sport and physical activity than those with low levels of self-

⁷ F. Destani, *Relationships among the physical education climate and physical activity in junior high school physical education: A mediational analysis*, 2011.

⁸ *Ibidem*.

efficacy In fact, self-efficacy and intrinsic motivation both have been found as strong correlates of physical activity.

It is a challenge today to accurately assess adolescents' physical activity. There are multiple categories of techniques (e.g., self-report measures, direct observation, monitoring devices, etc.) used to assess adolescents' physical activity with each having their own strengths and weaknesses. The choice of which particular physical activity assessment method to use largely depends on the design of the study and the age of the participants. Pedometers, a type of monitoring technique that detects motion, have become increasingly popular in physical education studies to look at the students' step counts because they are relatively inexpensive, unobtrusive, and their output (step counts) is easily understandable.

Accelerometers, another monitoring technique, although more accurate than pedometers in assessing physical activity, are expensive and not always the more practical choice in physical education research. In short, pedometers allow for objective, reliable, and practical measurement of physical activity on self-report methods (e.g., questionnaires) to assess physical activity behaviors. Achievement motivation research in physical education has largely relied on self-report methods (e.g., questionnaires) to assess physical activity behaviors.⁹ In order to investigate physical activity levels and to identify motivational factors, a study was held in Amman, Jordan, that suffers from limited resources and increase in chronic disease. Focused on risk behaviors such as smoking and nutrition. In addition, physical activity has received little or no attention.

Based on the recommendation that physical activity requires at least 30 minutes of physical activity, 3 or more days per week, trans theoretical model indicates that individuals go through five stages of change to alter their behavior (These stages are: precontemplation, contemplation, preparation, action and maintenance. Pre-contemplation is the stage of change in which an individual has no intention to take action within the next 6 months. Contemplation refers to the stage of change where the individual intends to take action within the next 6 months. In the preparation stage of change, an individual intends to take action within the next 30 days and then must take some steps in that direction. The action stage of change is where the individual has changed their behavior, but only within the last 6 months. The maintenance stage of change is where the individual has changed the behavior for more than 6 months.¹⁰

⁹ Ibidem.

¹⁰ H. Madanat, M.R. Merrill, *Motivational factors and stages of change for physical activity among college students in Amman, Jordan* 2006.

Table 2

Physical activity recommendations by age group. Adapted from WHO 2010

Age Group	Physical activity recommendations	Additional comments
5-17 years	Children and youth aged 5-17 should accumulate at least 60 minutes of moderate - to vigorous- intensity physical activity daily.	For this age group. Bone loading activities
	Amounts of physical activity greater than 60 minutes	Can be performed as part of playing
	additional health benefits	games , running , turning or jumping
	Most of the daily physical activity should be aerobic. Vigorous intensity activities should be incorporated.-	- Muscular fitness. Bone health and ca cardio-vascular and metabolic health biomarkers.
	Strengthen muscle and bone at least 3 times per week.	

Safety tips for beginning exercisers: If you have never exercised before, or it has been a significant amount of time since you have attempted any strenuous physical activity, keep the following health precautions in mind:

- **Health issues-** Get medical clearance first. If you have health concerns such as heart disease, asthma, diabetes, or high blood pressure, talk with your doctor before you start to exercise.

- **Warm up-** Warm up with dynamic stretches—active movements that warm and flex the muscles you’ll be using, such as leg kicks, walking lunges, or arm swings—and by doing a slower, easier version of the upcoming exercise. If you are going to run, start with walking, for example. Alternatively, if you are lifting weights, begin with a few light reps.

- **Cool down-** After your workout, it is important to take a few minutes to cool down and allow your heart rate to return to its resting rate. A light jog or walk after a run, for example, or some gentle stretches after strength exercises can also help prevent soreness and injuries.

- **Drink plenty of water-** Your body performs best when it is properly hydrated. Failing to drink enough water when you are exerting yourself over a prolonged period of time, especially in hot conditions, can be dangerous.

- **Listen to your body-** If you feel pain or discomfort while working out, stop! If you feel better after a brief rest, you can slowly and gently resume your workout. However, do not try to power through pain. That is a surefire

recipe for injury. (Trusted guide to mental, emotional & social health ,para 1, n.d)

Training methods for beginners of male/female youth

In the past, children engaged more in spontaneous and unstructured physical play while having regular opportunities to enhance fundamental movement skills, increase muscle strength, make friends and have fun. To support the development of muscular strength and motor skills in school-age youths, physical education classes were more gymnastics based in nature until the late 1950s.

Because of the timing of brain development and the associated neuroplasticity for motor skill learning, pre-adolescence and early adolescence may provide a unique opportunity to enhance muscular strength and develop fundamental movement skills. This can prepare youth for a lifetime of health-enhancing physical activity and cognition. In addition, the bidirectional relationship between motor skill learning and physical activity may reveal a positive feedback loop that could enhance physical fitness and lifelong engagement in physical activity.

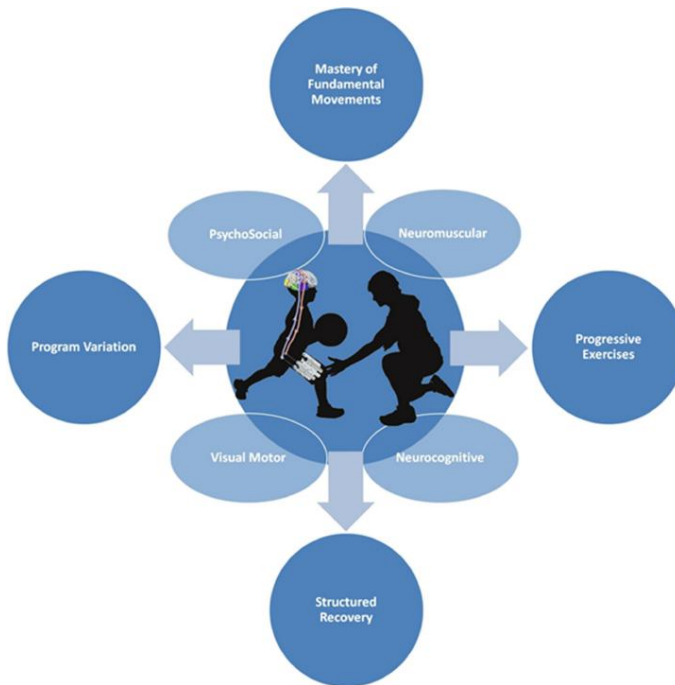


Fig. 6. Qualified education and instruction support the complex programming components for effective Implementation of integrative activities

Children may inherit sensitivity to the certain types of training and exercise during the growing years. There may also be genetically linked nervous system thresholds that differentiate between a child's ability to exploit critical maturational thresholds for the development of complex motor skills (i.e., physical acts of the body or implement that must be moved into the right place at the right time in order to accomplish a task).

In a 10-year longitudinal study of 630 adolescents, the participants who first became involved in organized youth sports clubs between the ages of 6 and 10 years were more physically active as adults than adolescents who initiated sport involvement at older ages. Today, technological influences and sedentary leisure time activities have reduced moderate to vigorous physical activity (MVPA) during the growing years; replacing time and the needed opportunity that should be spent to practice and reinforce developing motor skills.

The 2008 US Physical Activity Guidelines for Americans clearly state the duration, frequency and intensity of aerobic physical activity recommended, with general recommendations for muscle-strengthening activities is to be performed three times per week. The World Health Organization (WHO) mirrors these guidelines with similar specificity for aerobic activity, and lack of specificity for resistance exercise. The physical activity guidelines from the National Association for Sport and Physical Education for children aged 5-12 years (which predate the US guidelines by 4 years) recommend at least 60 min of physical activity on most days of the week, but make no mention of muscle-strengthening activities. The UK guidelines are similar to the US guidelines, with mention of muscle-strengthening activities made, but no specificity other than frequency (three times per week).¹¹ However, Health Canada promoted a recommendation among Canadian children and adolescents that reached 90 minutes/day in moderate to vigorous, physical activity (MVPA). Another concern is that these physical activity recommendations do not distinguish between children and adolescents despite the well-documented biological differences between the two life periods, as well as the decrease of physical activity from childhood to adolescence.¹² Recommended physical activity guidelines differ according to age group. For infants (birth to 12 months), safe opportunities for physical activity and sensorimotor play are necessary for mastery of motor skills. Encouraging physical activity among infants in the prone position. For toddlers (1-3 years), at least 30 minutes daily of structured physical activity and minutes daily of

¹¹ G. Myer et al., *Sixty minutes of what? A developing brain perspective for activating children with an integrative exercise approach*, 2015.

¹² D.R. Martinez-Gomez et al., *Recommended Levels of Physical Activity to avoid an Excess of Body Fat in European Adolescents*, 2010.

unstructured physical activity should occur for development of motor skills necessary for movements that are more complex. Safety remains paramount during this period, and parent modelling is similarly important in influencing how children interact with the physical world. For preschoolers (3-5 years), the physical activity requirement is for 60 minutes daily of structured physical activity and 60 minutes to several hours of daily, unstructured physical activity. For children >5 years of age-appropriate moderate to vigorous physical activity on five or more days of the week. Performance of a wide variety of physical activities is important for refining already learned motor skills; similarly, parent modelling is crucial for instituting physical activity as a part of the daily routine.¹³

The importance of contributing time in physical activity as a valuable life lesson for children and youth

In historical terms, the idea that participation in sport has some utility (other than being enjoyed for its own sake) can be traced to the mid-nineteenth-century United Kingdom. Middle-class reformers in the areas of education and urban welfare began to develop the idea that sport participation, appropriately directed, could be involved in the development of character, work discipline, teamwork, fair play, and other socially approved characteristics. Thus, sport began to be justified in education (physical education, organized games), in youth detention centers, and by urban agencies, such as the YMCA, in an attempt to affect the character and behavior of participants.

The utility of sport for building social inclusion is a result of its utility in reducing social exclusion. Recent attempts to understand, quantify and/or specify the relationship between sport, children/youth and community building. Sport makes a major contribution to Canada's economy and society, not only through the development of skills and the improved health of citizens, but also through the building of social cohesion and capital.

Child and youth participation in sport, not only as athletes but also as volunteers and officials, means that children and youth are experiencing and learning the values of citizenship and leadership – as they take on more responsibility for their sporting experiences and for the future administration of sport in their community.

H.J. Sallis, P.J. Kauthor, *The role of primary care in promoting children's physical activity*, British Journal of Sports Medicine, 2009, p. 19. ¹³

Recent research suggests that sport-based programs focused on children and youth in areas of conflict offer a means of both resolution and, in turn, reconciliation, for example, it was found that sport can facilitate positive social opportunities in post-war Africa, where violence and child soldiering have severely restricted or foreclosed the health and welfare of children and youth. Similarly, documented the success of Open Fun Football Schools in reintegrating ethnic communities in the post-war Balkans, although they caution that “football is something like frontline farmland: fertile, but likely to be mined.” When war leads to limited avenues for social and personal development, the importance of physical activity for children and youth may be thought to increase. (The use of sport to foster child and youth development and education, Peter Donnelly 2007).

Anti-social behavior or delinquency among children and youth is seen increasingly as a social problem that is responsive to sport-based interventions. For example, in Canada, 49% of citizens believe in the ability of community-level sport to reduce crime among young people. Likewise, in 2002, the Australian Institute for Criminology identified over 600 programs that used sport and physical activities to reduce youth crime and anti-social behavior. In general, research suggests that sports are effective tools in alleviating deviant behaviors among children and youth, if provided through positive, supportive, and non-authoritarian approaches. (The use of sport to foster child and youth development and education, Peter Donnelly 2007).

Many theories that attempt to explain how sports directly affects delinquency credit the structured nature of sports involvement for legitimating social norms. These explanations are consistent with the assumption that under conformity to social norms leads youth to engage in anti-social behaviors. Among the most cited explanations are:

- Sports involvement encourages less frequent, shorter, or less intense interaction with deviant others;
- The “values” of sports – such as teamwork, effort, and achievement – reflect those of wider society;
- Sport involvement decreases the amount of unsupervised leisure time;
- Being labeled an “athlete” reflects positively on youth; thus, they will be encouraged towards more positive behaviors (this is complicated by some research that indicates that athletic youth are not less delinquent, but less likely to be punished.
- Sports programs aimed at reducing youth delinquency work simply by reducing boredom in youth and creating a diversion from less desirable, sometimes criminal, behavior.

The use of sport to foster child and youth development and education (Donnelly, P. 2007).

Discussion

In this article we reviewed physical activity from different angles. Environmental factors play a major role in the determination of physical activity levels at the population. One factor that may influence youth activity levels is the social context. Youth are more likely to be active when they are in the company of peers and friends than when they are alone. Because youth physical activity typically involves some, form of play that requires peers or play partners. Peer relationships offer important opportunities for companionship and recreation and may set the occasion for physically active alternatives to eating and sedentary behavior.

The odds of being an active child or adolescent are almost two times greater with supportive versus unsupportive parents. An increase in parental support or modeling behavior is associated with an increase in child/adolescent PA.¹⁴

The presence of a friend increased overweight and non-overweight youth's motivation to be physically active as well as their actual physical activity (i.e., distance biked). It is possible that participants biked more in the presence of friends because of social facilitation. Friends are generally more assured of their mutual affection and have less need to use strategies to obtain each other's approval.¹⁵

People with chronic diseases, such as a heart condition, arthritis, diabetes, or high blood pressure, should talk to their doctor about what types and amounts of physical activity are appropriate.

Tips to help get you started:

Look for opportunities to reduce sedentary time and to increase active time. For example, instead of watching TV, try taking a walk after dinner.

Set aside specific times for physical activity in your schedule to make it part of your daily or weekly routine.

Start with activities, locations, and times you enjoy. For example, some people might like walking in their neighborhood in the mornings; others might prefer an exercise class at a health club after work.

Try activities with friends or family members to help with motivation and mutual encouragement.

¹⁴ J. Pugliese, B.A. Tinsley, *Parental Socialization of Child and Adolescent Physical Activity: A Meta-Analysis*, *Journal of Family Psychology*, October 2007, 21(3), p. 331-343.

¹⁵ S.J. Salvy et al., *Effect of Peers and Friends on Youth Physical Activity and Motivation to be Physically Active*, 2009.

Start slowly and work your way up to more physically challenging activities. For many people, walking is a particularly good place to begin.

When necessary, break up your daily activity goal into smaller amounts of time. For example, you could break the 30-minute a day recommendation into three 10-minute sessions or two 15-minute sessions. Just make sure the shorter sessions are at least 10 minutes long. (2011, introduction, para, 1)

Strategies for Overcoming Obstacles to Physical Activity:

If you are just getting started, you might face certain obstacles that seem difficult to overcome. A few examples of common obstacles and strategies for overcoming them are shown in the following table.

Table 3

Strategies for Overcoming Obstacles to Physical Activity

Obstacle	Try This
I just do not have time to be physically active.	Identify available time slots. Monitor your daily activities for one week. Identify at least three 30-minute time slots you could use for physical activity.
I do not have anyone to go with me.	Develop new friendships with physically active people. Join a group, such as the YMCA or a hiking club.
I am so tired when I get home from work.	Schedule physical activity for times in the day or week when you feel energetic.
I have so much on my "to do" list already, how can I do physical activity too?	Plan. Make physical activity a regular part of your daily or weekly schedule by writing it on your calendar. Keep the appointment with yourself.
I will probably hurt myself if I try to be more physically active.	Consult with a health professional or educational material to learn how to exercise appropriately considering your age, fitness level, skill level, and health status.
I am not coordinated enough to be physically active. I cannot learn something new at my age!	Select activities requiring no new skills, such as walking, climbing stairs, or jogging

Obstacle	Try This
My job requires me to be on the road, it is impossible for me to exercise.	Stay in places with swimming pools or exercise facilities. Alternatively, find a DVD exercise tape that you enjoy and request a DVD player with your room.
I have small children and it is impossible to have time to myself for exercise.	Trade babysitting time with a friend, neighbor, or family member who also has small children. As children get older, family bike rides or walks might be another option.

Conclusion

Participation in sport there is a diverse benefit (except pleasure). This we know since the early humans. Over the years, the person was active as a result for the need to survive and exist.

With the onset of the industrial revolution 200 years ago, man found himself increasingly using machines that allowed him to change his ways of life naturally, causing him to be less active.

It is now clear to everyone that we consume more food and expend less energy. This means: obesity can create serious illnesses such as heart attacks and Type 2 diabetes.

We must make the change: change the ways of thinking and create an active day. Actively implement an agenda ranging from preschool to adulthood while finding motivation tools for change among the adult population moving the younger ones born into a society of saturation.

There is no doubt that there is a recognition of the problem, but we do not know how to deal with the many temptations that an affluent society offers. Existing tools do not give a proper answer to solving the problem. If we can influence the priorities of policy makers, we will begin a new way to changes in habits and conduct of modern society that is healthy and satisfying.

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