

Educational benefits of chess

Chess teaches children to think analytically, logically and on more than one level.

The educational benefits of chess are many and varied.

They are well documented by a large body of research papers from around the world. There is so much evidence, that it is easy to miss the wood for the trees, therefore this document is intentionally brief.

If detailed evidence is required, please refer to the sources and links in the Bibliography.

Chess helps promote intellectual growth and has been shown to improve academic performance.

Chess is a powerful tool for developing thinking and memory in children.

It teaches children to think analytically, logically and on more than one level.

It also helps them build up their decision-making tools. It educates them to be responsible for their decisions and the consequences of those decisions.

The most frequently cited general benefits include the development of:

- Cognitive abilities, such as attention, memory, and logical thinking.
- Essential skills for the development of the individual.
- Increased creativity, through problem solving.
- Critical thinking is developed, improving the ability to assess strengths and weaknesses, establish value judgments and make decisions.
- Ethical sense. Improvements in attitude and general behaviour are often noted.

Process skills / executive functions

Chess makes an excellent teaching tool (p3). Dr Alexey Root has demonstrated, in a series of books, how chess can be used to link with and support all the core curriculum subjects. A million dollar research project funded by the US Government is examining the value of chess for developing Executive Function (Process) skills :

- Planning
- Sustained attention
- Working memory
- Organization
- Time management
- Metacognition

Special education

Chess is a great pedagogical tool in this area.

After a year of playing chess, 'children with learning disorders have shown an improvement in their cognitive skills' – Dr Veena Doss, Head, Dept. Of Psychology, Warren's Christian College, India.

'I've used chess as therapy, even for mentally retarded children who have very low cognitive scores' – Sharon Dominica,

Social benefits

Closely allied to the educational benefits, these include:

- reduced delinquency
- reduced drug use
- improved ethical sense
- improved discipline
- improved sense of fairness
- integration of minorities
- improved social mobility

Reductions in delinquency and in drug use have been noted particularly by the Chess-in-the-Schools program (mostly in The Bronx and Harlem) and by Orrin Hudson's "Be Someone" program, with its emphasis on learning "life lessons", both in the USA.

Research

A 2005 study, sponsored by the Scottish Executive Education Department, concluded that "the group of pupils who participated in 'chess coaching' stood out on improvements in 'social adjustment'."

Minorities

Two projects in Denmark have the goal of creating lasting change and improvement in the lives of youngsters with a minority background or who live in the "ghetto."



Schools



Schools chess programs in many countries have reported improvements in attitude and general behaviour ("ethical sense"). In the schools, chess often serves as a bridge, bringing together children of different ages, races and genders in an activity they can all enjoy.

Chess helps build individual friendships and also school spirit when children compete together as teams against other schools. Chess also teaches children about sportsmanship - how to win graciously and not give up when encountering defeat.

For children with adjustment issues, there are many examples where chess has led to increased motivation, improved behaviour, better self-image, and even improved attendance. Chess provides a positive social outlet, a wholesome recreational activity that can be easily learned and enjoyed at any age.

Testimonials

"The effects have been remarkable," Brown says. "Not only have the reading and math skills of these children soared, their ability to socialize has increased substantially, too. Our studies have shown that incidents of suspension and outside altercations have decreased by at least 60% since these children became interested in chess." Joyce Brown, an assistant principal and supervisor - Roberto Clemente school's Special Education department - NY.

"Whenever we get a child transferred from another school who may have maladaptive behavior, our principal suggests chess as a way of helping him find his niche." Jerome Fishman, Guidance Counselor, C.J.H.S 231, Queens, NY.

Chess has a reputation as a catalyst of social mobility. For me (Kevin O'Connell) it was a case of "seeing is believing." In 1988 a ten-year-old boy I was coaching was functionally illiterate. His family had a very low income, they lived in social housing and he attended the local "sink" school. His future was not bright, but he loved chess and wanted to play in tournaments, so he needed to be able to notate his games. He wanted to push for a place in the National Junior Squad, so he needed to read chess literature. Therefore, he taught himself to read and write. His school work improved so much that he gained a place at the best secondary school in the area. The last I heard, he had passed his final school exams with flying colours and was off to university.

An increasing amount of attention is being paid to the health benefits of chess. These are mostly quite recent discoveries and point to the great value of learning chess during childhood since it seems to confer health benefits almost from the cradle to the grave. They can be summarized as:

Chess leads to an improvement in cognitive functioning and has been cited as a significant tool in the fight against Alzheimer's.

Chess can help patients who have suffered from stroke to recover.

Chess assists recovery in people suffering from physical and emotional disability.

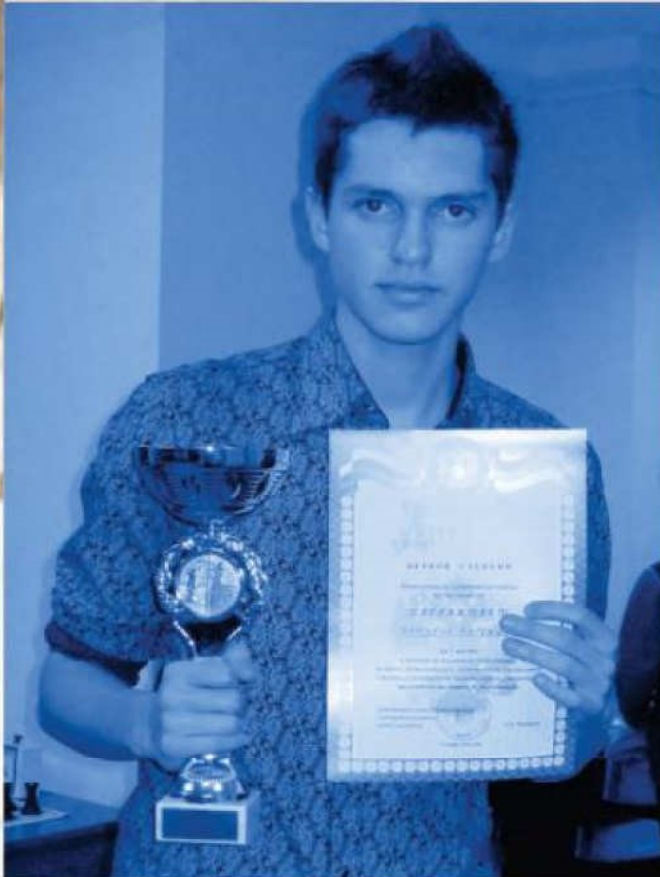
Health benefits



Chess helps to prevent anxiety and depression by encouraging self improvement, improving self esteem and self confidence. By contrast, excessive time spent on activities that do not challenge the brain, particularly watching television, has been linked to an increased incidence of depression.

Chess (as recreational therapy) helps prevent or reduce non-adaptive or inappropriate behaviour.

It has long been known that chess improves attention, memory, organization skills and perception. It improves the ability of cognitive-impaired individuals to work on issues related to orientation, sensory stimulation and environmental awareness.



Valencia, Spain

In 2006 a team from Valencia University Hospital, led by Dr. José Miguel Lainez Andrés, reported some very impressive results concerning the value of chess as an intervention therapy against cognitive decline. The authors pointed out that chess is a complete mental training; in addition to sports and psychological factors, the player is forced to be highly accurate in this complex and elaborate mental process. The object of the study was to examine whether the mental exercise performed during the learning and practice of chess has an impact on improving the performance of some cognitive abilities in older subjects.

Their hypothesis was that "Learning to play chess at the cognitive level is beneficial in older people".

The study population consisted of users of specialized centres for the care of the elderly in four locations around Spain. The chess group attended a weekly chess class for seven months, while the control group attended other courses. Standard tests (including Raven's Matrices, Stroop Test and others) were used to assess changes in cognitive abilities. The tests were performed both at the beginning and the end of the study period.

The researchers discovered that, broadly speaking, approximately two thirds of the entire experimental group of subjects experienced an improvement in neuropsychological test performance, usually progressive.

Alzheimer's disease

Some aspects of age-related cognitive decline begin in healthy educated adults when they are in their 20s and 30s (Salthouse 2009). These declines may seem relatively minor compared with problems that may appear later in life such as Alzheimer's disease and dementia, but just as it's never too early to adopt a healthy lifestyle, it makes sense to take care of our brains now rather than waiting until there has been a serious decline.

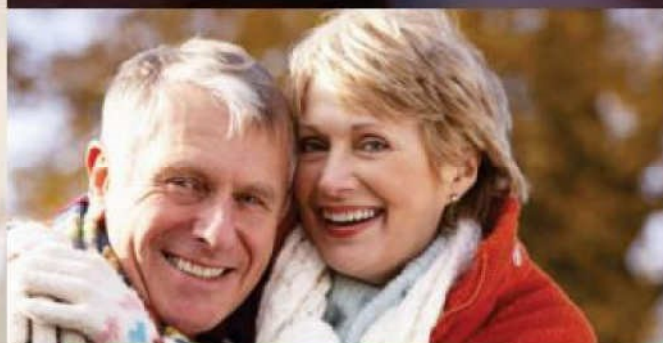
Most attention is being paid to the value of chess in the fight against Alzheimer's which blights the lives of 35 million people and their families.

Research among those over the age of 60 strongly suggests that chess is valuable in combating Alzheimer's.



A collaborative Franco-Russian research effort began recently (December 2010) between the Centre Hospitalier Universitaire of Nice, led by Professor Philippe Robert and Prof. Vladimir Zakharov's team from the Moscow State Medical University.

Dr David Shenk, author of *The Forgetting*, the definitive work on Alzheimer's, commented on the value of chess as an Alzheimer antidote in a 2006 interview: "You need to exercise your brain. Chess is a particularly good brain builder. It's quite easy to learn, but the possibilities are endless - you never run out of a challenge."



Research among those over the age of 60 strongly suggests that chess is valuable in combating Alzheimer's.

Asked when it is best to learn, he answered "the earlier the better. Particularly for young kids, chess is like a Stairmaster for logical thinking."

The World Alzheimer Report 2010 stated that "dementia is significantly affecting every health and social care system in the world and costs of dementia are set to soar." Estimated worldwide costs of dementia are, according to the Alzheimer's Association, US\$604 billion.

Prevention is better than cure and teaching chess in schools is a cheap way to implement something of known value to reduce those costs and greatly improve the lives of those affected.

Chess as sport

Mens sana in corpore sano

Chess was recognised as a sport by the International Olympic Committee in 1999. FIDE is a member of ARISF (Association of IOC Recognised International Sports Federations), SportAccord and other international sport organizations. Chess is an affiliate member, or fully recognized by, National Olympic Committees in 115 countries, and chess as a sport is recognized in 105 countries. These numbers are constantly being revised upwards.



With more than 180 member federations, FIDE is among the biggest sports organizations in the world, very proud of over forty official championships for youngsters, men, women and seniors.