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It has often been said that chess is a "gymnasium for the mind", but what exactly are the benefits that a child can derive from the Royal Game? Can we go so far as to claim that it can teach children important life skills and boost their academic performance? Well, I can't say that I've carried out meticulous scientific research, but I have taught chess and I am aware that studies have been undertaken, with very encouraging results.

I also have my own growing-up experience to draw on. How did I manage to succeed academically and later carve out a professional career as a chartered engineer when no-one in my immediate family ever made it beyond the realms of factory floor worker or shop assistant? Well it would be wrong of me to imply that it was all down to the influence of a single board game, yet it so happened that the kid at the end of my street was something of a chess prodigy and county under-18 champion at just thirteen years of age. I was eleven at the time and probably not the best student he'd ever had, but I persevered and developed a fascination for the game that has lasted all my life.

So, what are the qualities that we need to play a typical game of chess? And how might playing the game make a kid smarter?



Chess activity can take place anywhere

Source: Wikipedia - photo by Adam Jones - adamjones.freeservers.com $\,$

Fun: It all starts here. Children crave fun, so it's an essential part of keeping a child absorbed and productive. A chess game allows you to command an army. You can order your soldiers to sacrifice themselves, act as a battering ram, wait until more firepower arrives, storm the centre, switch to the flanks, attack, defend, capture the enemy pieces, make new queens by promoting pawns etc. etc.. With every new game comes a challenging new battlefield, demanding the formulation of new plans and a novel set of tactical ideas. Such varied gameplay, rich in its possibilities, guarantees a limitless supply of fun and enjoyment to anyone with a basic grasp of the rules.

Concentration and motivation: As we all know, children can be fidgety at the best of times, but get them involved in something fun and inspiring and they will soon become focused. Creative things like drawing, painting, building sandcastles, or decorating cakes are great motivators, as



7 Surprising Health Benefits of Playing Chess

by PRINCESTER 13 minutes ago

are puzzles like 'joining the dots' to reveal a picture, or 'finding the hidden word' in a matrix of letters. Chess combines many of these elements of creativity and puzzle solving and so by captivating and holding the child's attention, can improve their concentration levels, while motivating them to learn more.

Imagination and creativity: It is an amazing fact that a typical game of chess contains more possible continuations than there are atoms in the universe. Consequently, even the most powerful supercomputers cannot calculate what would constitute the perfect game. This makes chess an infinitely large canvas for inventing and testing fantastical and beautiful ideas. The most creative players are able to conjure unique and esoteric masterpieces by combining known strategems with elements of 'blue sky thinking'.

Logic and reasoning: Chess relies on stringing together a series of logical thoughts. The corollary of a particular continuation may be that we have a more centralised knight ready to spring an attack, but our opponent will free his bishop to go marauding on the queenside. It is then a question of balancing the merits and demerits of those two opposing outcomes. Children need to learn this skill, as life is full of dilemmas requiring fine judgment and it will be useful to know how to go about reaching a satisfactory conclusion.

Strategic thinking: Strategic planning is something that few people do consciously and yet, in every aspect of life, we must see the bigger picture before taking far-reaching or commital decisions. And so it is with chess; you can speculate that a flurry of tactics will gain you a pawn, but if the resulting position leaves too many long term weaknesses in your camp, then you'll lose the game anyway. Thinking strategically helps you to avoid such pitfalls.

Decision making: Chess is all about being decisive. In serious play, the clock is ticking and you simply must choose between the many possible moves on offer. Accordingly, we develop mechanisms that allow us to rate and compare the various possible outcomes. Typically, these assessments are formed from calculation, or by recognising winning and losing patterns and structures. The process can even be entirely intuitive, once you have the necessary experience and confidence in your own ability. Ultimately, the clock is boss and no-one wants the disappointment of losing on time, so we learn to make quick decisions and strive to prove them correct.



The \min of fun and serious thought is palpable

Source: Wikipedia

Determination: Any chess player who has bounced back from a poor position or watched his opponent do the same, learns the value of a relentlessly determined approach. The many complexities of the game mean that our best efforts are regularly thwarted and so, it is important not to become disheartened, as moves borne of fatigue or desperation will rarely catch out a skilful opponent. In a poor position, it is vital you remain active and resourceful, as it may be possible to generate sufficient counterplay to turn the tables later in the game. There

are even situations where an extremely poor position can be turned into a 'fortress', meaning that the player with advantage cannot make progress and the player with seemingly little hope escapes with a draw. After skill, determination is considered by most experts the next most important attribute in a chess player.

Patience: An impatient attitude rarely works in chess. Players who sacrifice pieces or bring out their queen early in the game and seek a quick checkmate will usually be frustrated by accurate defence. Successful strategies must be properly planned and prepared. This is as important in life, as it is in chess and a valuable lesson for any child to learn.

Discipline: Children quickly learn that a disciplined approach to chess pays huge rewards. Applying 'good practice' principles will give them an excellent foundation to build from. Extensive practice, some home study, coaching and/or self-tutoring will then increase their understanding of winning strategies and techniques. Perhaps most important of all is the after-match analysis. This may be painful after losing a game, but should reveal to the child the error of their ways and enable them to avoid repeating the same mistakes over and over (even more painful).

Taking responsibility for your own actions: How many times do we walk past the local tennis courts and see someone throwing a tantrum over a rally they just lost? - "The ball was out", "my racket's useless", or "if my leg wasn't injured, I'd beat you easily". Similarly, in team sports like soccer, a poor result can be blamed so effortlessly on others - "he wouldn't pass the ball", "the referee was biased", or "our goalkeeper had a terrible game". Unfortunately, children learn these blame shifting behaviors from the professionals, who are very often the masters of excusemaking. On the other hand, the outcome of a game of chess really is down to individual effort alone. If they win or draw, children can take pride in their achievement. If they lose, then understanding how they could have played better is the only way forward.

Respect: Chess is a very curteous game. Players shake hands before and after each game and quickly learn the value of good sportsmanship. There is nothing to which a child can attribute their defeat, other than their opponent's greater mastery of the game. By respectfully acknowledging this fact, they have already taken the first step to recognising how they might improve.

Memory: A developing long term memory will enable a child to remember pre-match preparation and the principles that guide strategic thinking. Similarly, a well exercised short term memory will enable them to store and revisit the calculations they just performed, so that conclusions can be drawn or revised at each step along the way. Chess is a playground for memory training and it's easy to see how these skills will be transferrable to their educational activities and to examination study in particular.

Mathematical concepts: Chess embraces a myriad of mathematical ideas, such as mental calculation, iteration, x and y coordinates, geometry, symmetry, triangulation, pattern recognition etc. What other sport or pastime allows children to explore so many mathematical concepts en-passant?

Visualisation: There are many applications for this skill in everyday life; for example, remembering the face of an old acquaintance, driving to a destination you have visited only once before, or picturing a finished piece of art before you start work on it. Similarly, a child's progression in chess will rely, in part, on them developing an ability to picture what the board will look like some moves down the line. This will allow them to make comparisons with similar positions they have already encountered.

Spatial awareness: Many strategic and tactical aspects of chess hinge on an appreciation of time and space, or in other words, counting how many moves are needed to achieve an objective. An obvious example is judging how long it will take to promote a pawn and whether the enemy king will be able to intercept it before it reaches the eighth rank. Another, more complex question may arise - how long will it take to re-route my minor pieces to the queenside, where the opponent is weak? Pieces cover distances and arrive at squares at different speeds. We can calculate properly when the clock allows, or when it is expedient to do so, but it is important that we make at least an informal judgement and re-evaluate as we go. Such pointers allow us to continuously assess the position and formulate the correct plans.

Notation: Aside from practicing basic writing skills, chess also has its own notation or code, which describes the moves on the chessboard. Children quickly pick up this notation and can then record their games, something they must do in serious competition, according to the laws

of the game. The notation relies on abbreviated names for the pieces; N=knight, K=king, B=bishop etc. and the use of coordinates to describe the square moved to. Learning code, manipulating symbols and appreciating the need to keep accurate records are yet more examples of useful skills that chess will teach children.

In conclusion

I doubt very much that this is an exhaustive list of the skills and abilities chess can confer on a child, but hopefully it gives parents a feel for some of the rewards on offer. If you can think of other important points that I have missed, then please add them to the comments below.

Critics of indoor games will of course be anxious to point out the virtues of outdoor activities and physical sports in improving fitness and reducing child obesity. Naturally, a balance must be struck and children should commit equally to indoor and outdoor recreation, with the aim of developing a healthy mind and body. Many



Chess crosses generations Source: Wikipedia

chess players are fine sportsmen too; for instance former two-time British chess champion George Alan Thomas was a seven-time All-England badminton champion and a semi-finalist at the Wimbledon tennis championships. In more modern times, the Norwegian Simen Agdestein represented his country at the top level, both as a chess grandmaster and a professional footballer.

Chess remains an option after more active sports have fallen by the wayside through injury or advancing years. Children make lifelong friends at chess clubs and tournaments and will often thank you for getting them involved.

The game is also an excellent tool for bridging the generational divide and can be a great icebreaker when visiting distant or foreign lands. Try setting up a board next to the communal swimming pool on your next family holiday; you'll be amazed how many people will come and challenge you or your kids to a game, or just use it for a reason to chat!

Source: http://colinmartyn.hubpages.com/hub/How-Chess-Benefits-Children











