

HOW CHILDREN SUCCEED Grit, Curiosity and the Hidden Power of Character

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- Tools of the Mind: Controlling impulses, staying focused on the task at hand, avoiding distractions and mental traps, managing their emotions, organizing their thoughts. Authors believe that self-regulation skills will do more to lead to positive outcomes for their students than the traditional menu of pre-academic skills.
- What matters is not how much information we impart, but our ability to help students develop persistence, self-control, curiosity, conscientiousness, grit, and self-confidence.
- James Heckman, University of Chicago: GED holders good test scores did not seem to have any positive effect on their lives. What Heckman concluded is that the psychological traits that had allowed the HS graduates to make it through school: an inclination to persist at a boring and often unrewarding task; the ability to delay gratification; the tendency to follow through on a plan, also turn out to be valuable in college, the workplace and life. Inadvertently the GED has become a test that separates bright but non-persistent and undisciplined dropouts from other dropouts.
- Adverse Childhood Experiences (ACE score). The part of the brain most affected by early stress is the prefrontal cortex, which is critical in self-regulatory activities of all kinds, both emotional and cognitive. As a result, children who grow up in stressful environments generally find it harder to concentrate, harder to sit still, harder to rebound from disappointments, and harder to follow directions. And that has a direct effect on their performance in school.
- Test of Executive Function: Stroop Test. You see the word red written in green letters, and someone asks you what color that word is.
- Keeping track of tricks and exceptions need to do the test requires a certain amount of cognitive impulse control, and that is a skill that is neurologically related to emotional impulse control.
- On tests of working memory, children who had spent ten years in poverty did worse than kids who had spent just five years in poverty. It is not poverty itself that compromises the executive-function abilities of poor kids; it is the stress that comes with it.
- The reason the teenage years have always been such a perilous time is that the incentive processing system reaches its full power in early adolescence while the cognitive control system does not finish maturing until you're in your twenties.
- The effect of good parenting is not just emotional or psychological, the neuroscientists say; it is biochemical.
- When a rat pup received the comforting experience of licking and grooming as an infant, it grew up to be braver and bolder and better adjusted than a pup who did not, whether or not its biological mother was the one who had done the licking and grooming.
- Suicides who had been maltreated and abused in childhood had experienced methylation effects on the exact segment of their DNA, though the abuse had the opposite effect of licking and grooming: it had switched off the healthy stress-response function that licking and grooming had switched on in the rat pups
- Babies whose parents responded readily and fully to their cries in the first months of life were, at one year, more independent and intrepid than babies whose parents had ignored their cries.

- Early parental care predicted which students would graduate even more reliably than IQ or achievement test scores. Using measures of early parenting only and ignoring the students' own characteristics and abilities, the researchers found they could have predicted with 77% accuracy, when the children were not yet four years old, which ones would later drop out of high school.
- If a new mother experienced insecure attachment with her parents as a child (no matter whether class background), then it will be exponentially more difficult for her to provide a secure, nurturing environment for her own children.
- Attachment is the most powerful lever we have for improving child outcomes.
- Pure IQ is stubbornly resistant to improvement after about age eight. But executive functions and the ability to handle stress and manage strong emotions can be improved, sometimes dramatically, well into adolescence and even adulthood.
- The students who persist in college were not necessarily the ones who had excelled academically at KIPP. Instead, they seemed to be the ones who possessed optimism, resilience, and social agility. They were the students who were able to recover from bad grades and resolve to do better next time; who could bounce back from unhappy breakups or fights with their parents; who could persuade professors to give them extra help after class, who could resist the urge to go out to the movies and instead stay home and study.
- *Learned Optimism* by Martin Seligman (positive psychology): Optimism is a learnable skill, not an inborn trait.
- Hundreds of American public schools now have some kind of character education program in place, but most of them are vague and superficial, and those that have been studied rigorously have generally been found to be ineffective. (See National Center for Education Research)
- The inevitable problem with the values and ethics approach is you get into whose values? And whose Ethics?
- Duckworth found that the students' self-discipline scores were better predictors of students final GPAs than their IQ scores.
- Children who had been able to wait for fifteen minutes for their treat had SAT scores that were, on average, 210 points higher than those of children who had rung the bell after thirty seconds (marshmallow test).
- The problem with self-control techniques like the ones that the most disciplined marshmallow resisters employed is that they work only when a child knows what s/he wants.
- Duckworth finds it useful to divide the mechanics of achievement into two separate dimensions: motivation and volition. Each one is necessary to achieve long-term goals, but neither is sufficient alone.
- Duckworth's tests showed that Low IQ children performed better on the IQ test when offered M&Ms for correct answers.
- Rewards can backfire: Offering money for blood donations lowered the number of people who volunteered to give blood.
- The problem with trying to motivate people is that no one really knows how to do it well.
- The labor market does value the kind of internal motivation required to try hard on a test even when there is no external reward for doing well. The coding test (matching letters to numbers) was measuring a critical non-cognitive skill that mattered in the grown-up world.
- Segal's experiment suggests that the pre-external motivation score is the one that matters in the real world. People who are low in whatever quality it is that makes a person try hard on an IQ test without any obvious incentive is a very valuable quality to possess.

- Big Five dimensions of personality: agreeableness, extraversion, neuroticism, openness to experience and conscientiousness. The students who were internally motivated on the M&M test scored particularly high on conscientiousness.
- Openness is about creativity and has the strongest correlation with liberal ideology.
- People high in conscientiousness get better grades in HS and college; they commit fewer crimes; and they stay married longer. They have fewer strokes, lower blood pressure, and a lower incidence of Alzheimer's disease. It goes cradle to grave in terms of how well people do.
- Strength of character (conscientious, responsible, insistently orderly, not prone to daydreaming, determined persevering) is three times more successful in predicting college performance than any combination of cognitive ratings, including SAT scores and class rank.
- Bowles and McGintis found that the students with the highest GPAs were the ones who scored the lowest on measures of creativity and independence, and the highest on measures of punctuality, delay of gratification, predictability, and dependability.
- Perhaps the most important ingredient of conscientiousness is self-control.
- Peterson and Seligman contend that there is no true disadvantage of having too much self-control. Block argues that too much self-control could be just as big a problem as too little. Too much leads to excessive constraint, difficulty in making decisions, and unnecessary delays in gratification and pleasure. Conscientious people are classic squares: they are compulsive, anxious, and repressed.
- Adults with the lowest self-control scores in childhood were three times more likely to have been convicted of a crime than those who scored highest as kids. They were three times more likely to have multiple addictions, and they were more than twice as likely to be raising their children in a single parent household.
- The most accurate predictor of which cadets persisted in West Point and which ones dropped out was Duckworth's simple twelve-item grit questionnaire.
- Character education can be divided into two categories: programs that develop "moral character," which embodies ethical values like fairness, generosity, and integrity; and those that address "Performance character," which includes values like effort, diligence, and perseverance.
- Affluent teenagers use alcohol, cigarettes, marijuana, and harder illegal drugs more than the low-income teens.
- Kindlon discovered disproportionately high levels of anxiety and depression among wealthy students; especially in adolescence, and he found that the emotional disconnection that existed between many affluent parents and their children often meant that the parents were unusually indulgent of their children's bad behavior. Parents who made more than one million dollars a year were, by a wide margin, the group most likely to say that they were less strict than their own parents.
- Wealthy parents shield their children from exactly the kind of experience that can lead to character growth.
- Traditionally, the purpose of a school like Riverdale is not to raise the ceiling on a child's potential achievement in life but to raise the floor, to give him the kinds of connections and credentials that will make it very hard for him ever to fall out of the upper class. What Riverdale offers parents, above all else, is a high probability of non-failure.
- One of the most fruitful times to transform pessimistic children into optimistic ones was before puberty, but late enough in childhood so that they are metacognitive.
- Mental Contrasting with Implementation Intentions was developed by Oettingen. She discovered that people tend to use three strategies when they are setting goals and that two of those strategies do not work very well. Optimists favor indulging, which means imagining the future they would like to

achieve and vividly envisioning all the good things that will go along with it. Indulging feels really good when you are doing it, but it does not correlate at all with actual achievement

- Pessimists tend to use dwelling, which involves thinking about all the things that will get in the way of their accomplishing their goals.
- Mental contrasting means concentrating on a positive outcome and simultaneously concentrating on the obstacles in the way. Doing both simultaneously creates a strong association between future and reality that signals the need to overcome the obstacles in order to attain the desired goal. The next step to a successful outcome is creating a series of implementation intentions, specific plans in the form of if/then statements that link the obstacles with ways to overcome them.
- When you make rules for yourself, you are enlisting the prefrontal cortex as your partner against the more reflexive, appetite-driven parts of your brain. Rules are not the same as willpower. They are a metacognitive substitute for willpower.
- Virtues are no more and no less than simple habits.
- One word for working hard on boring task is conscientious another is foolish. But in the long run, it serves most people well to have conscientiousness be their default option. Because when it does matter, then you will probably make the right choice without exertion or exhaustion.
- Group identity can have a powerful effect on achievement – both positive and negative. If you give a person a subtle psychological cue having to do with his group identity before a test of intellectual or physical ability, you can have a major effect on how well he performs.
- One of the most effective techniques, which has now been tested in a variety of settings, is exposing students are risk of stereotype threat to a very specific message: that intelligence is malleable. If student internalize that idea, these studies show, they gain confidence and their test scores and GPAs often rise too.
- Regardless of the facts on the malleability of intelligence, students do much better academically if they believe intelligence is malleable.
- Whether or not intelligence is malleable, mindset certainly is. With three right interventions, students can be switched from a fixed mindset to a growth mindset, and their academic results tend to rise as a result.
- Character strengths can become character weaknesses. (e.g. too much grit, and you lose empathy)
- Two of the most important executive functions are cognitive flexibility and cognitive self-control. Cognitive flexibility is the ability to see alternative solutions to problems, to think outside the box, to negotiate unfamiliar situations. Cognitive self-control is the ability to inhibit an instinctive or habitual response and substitute a more effective, less obvious one.
- Perhaps what pushes middle school students to concentrate and practice as maniacally as Spiegel's chess players do is the unexpected experience of someone taking them seriously, believing in their abilities, and challenging them to improve themselves.
- If you believe that your school's mission or your job as a teacher is simply to convey information, then it probably does not seem necessary to subject your students to rigorous self-analysis. But if you are trying to help them change their character, then conveying information is not enough.
- Speigel's approach (many middle ranking students versus a few high ranking students) was a perfect strategy for team championships. It was the ability of the fourth-best player, not the best player that made the real difference.
- When it comes to ambition, it is crucial to distinguish between wanting something and choosing it.
- What was so fun about a year of complete immersion in chess? It was mostly the feeling of being intellectually productive. So much of the time I feel like I am not really challenging myself or

pushing myself, just kind of wasting my brain. I never feel like that when I am studying or playing or teaching chess.

- You simply do not experience flow if you are not good at something.
- Karl Popper: One can never truly verify scientific theories; the only way to test the validity of an y particular theory is to prove it wrong, a process called falsification. This idea made its way into cognitive science with the observation that most people are actually quite bad at falsification in daily life. An individual does not instinctively look for evidence that contradicts it; he looks for data that prove him right, a tendency known as confirmation bias.
- It feels much better to find evidence that confirms what you believe to be true than to find evidence that falsifies what you believe to be true.
- Expert chess players are more pessimistic than novices. Experts look for all possible pitfalls; novices look for confirmation of their approaches.
- Part of getting good at chess is feeling confident that you have within yourself the power to win.
- In the past decade, the US has fallen from first to twelfth in the percentage of its 25 to 34 year olds who are graduates of four-year colleges. It is not that the overall college attainment rate in the US has gone down, but that it has been growing very slowly, while the rates of other nations have raced ahead. The rate of disadvantaged young American students graduating from college actually fell.
- The US does not have a problem of limited and unequal college access; it has a problem of limited and unequal college completion. It ranks second to last, just ahead of Italy.
- An American with a BA can now expect to earn 83% more than an American with only a HS diploma.
- Undermatching: students attending schools well below what their GPA and test scores qualify them for.
- Choosing a less challenging college did not make it more likely that those highly qualified students would graduate – it had the opposite effect. Undermatching was almost always a big mistake.
- The far better predictor of college completion was a student’s high school GPA, not ACT or SAT scores.
- Standardized test scores are predicted by scores on pure IQ tests; GPA was predicted by scores on tests of self-control.
- The current HS system was designed at a time when critical thinking and problem solving abilities were not highly valued.
- The traditional American HS was never intended to be a place where students would learn how to think deeply or develop internal motivation or persevere when faced with difficulty.
- OneGoal teachers emphasize: resourcefulness, resilience, ambition, professionalism and integrity.
- The heaviness of being successful being replaced by the lightness of being a beginner is what some college dropouts seek.
- The new generation of neuroscientists has made the powerful connection between infant brain chemistry and adult psychology.
- There are fewer entrepreneurs graduating from our best colleges these days; fewer iconoclasts; fewer artists fewer everything. In fact, except investment bankers and management consultants.
- In the past decade, the poverty debate disappeared: it merged with the education debate.
- The consensus of most reform advocates is that there are far too many underperforming teachers, especially in high-poverty schools, and the only way to improve outcomes for students in these schools is to change the way teachers are hired, trained, compensated, and fired.

- Many of the most popular school reforms, including those high-performing chart schools, seem to work best with the most able low-income children, and they often do not work very well with the least able.
- The character strengths that matter so much to young people's success are not innate; they do not appear in us magically, as a result of good luck or good genes. And they are not simply a choice. They are rooted in brain chemistry, and they are molded, in measurable and predictable ways, by the environment in which children grow up. That means the rest of us can do an enormous amount to influence their development in children.