



MYTH OR SCIENCE: DOES THE SMARTEST KID IN CLASS HAVE THE BEST CHANCES OF SUCCESS?

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Insight

One of the most asked questions to children probably is, “what do you want to be when you grow up?”. Most children have wild dreams and beautiful fantasies of everything they want to be and want to do when they grow older. What happens between these aspirations and them starting their actual job(s)? Some children indeed grow up to be astronauts, football players, or ballerinas, while others will not. Besides changing dreams, what determines whether someone will be successful or not? Can we predict this based on certain characteristics? In our society, intelligence is highly valued; “smart” children can sometimes even skip or shorten certain parts of the curriculum. We assume that being smarter will automatically mean that you will have better chances at being successful. But is this true? Is this what we should tell our children? That their intelligence will determine whether they reach their dreams?

Many university study programmes, including medicine and biomedical sciences, choose their students based on a selection process. But how does one fairly select students? In other words, how can you be sure to select students that will succeed in their studies? Often, a knowledge or intelligence test is part of the selection, as intelligence is seen as an important factor. However, does intelligence best predict who will successfully graduate? More specifically, is it true that just being smart will ensure swift progress throughout your studies?

What is grit?

I will give you the answer right away. No, intelligence is not the best predictor of success. Let me introduce you to the real determinant, named grit. Former consultant and teacher, researcher Dr. Duckworth is the person who introduced the concept of grit into the world of research. During her time as a teacher, Duckworth wondered what determined success in her students, concluding that it was not just their IQ [1].

In her first series of studies, she investigated what predicts success in people in challenging situations [2]. Duckworth defined the observed results with the word “grit”, which can be best explained as passion and perseverance to reach long-term goals. Grit did not positively correlate with IQ, but did correlate with average undergraduate grades, retention in the military academy, and predicted who would reach the final of a spelling bee [2]. Let us take a closer look at this series of studies. Firstly, a twelve-item scale to measure grit was developed with two subscales: consistency of interest and perseverance of effort [2]. Then, undergraduate psychology students at an elite university completed the grit scale. Their mental ability was assessed by SAT (university admission test) scores. Grit predicted a higher Grade Point Average, even with a constant SAT score [2].

A next study wanted to predict which military cadets would remain in a highly competitive academy where about 1 in 20 drop out. Grit was the best predictor of completing a summer training program, outperforming admission scores and measures of self-control. In the last study, children who were finalists of the national spelling bee completed an IQ test, the grit scale and a self-control measure. Grit predicted who would reach the final round, both directly and being mediated by training time and prior spelling bee experience [3].

Further research into grit showed that it could be predictive of a wide

variety of capacities beyond high achievement environments, for example, keeping a job, learning a new language, or staying married [3, 4]. Because of the importance of grit for many aspects of life, it is also considered to be of great interest to educational research. Researchers are investigating the role of grit in the classroom and if it is something you can foster in children [5].

Grit in medical students

With grit being defined as passion and perseverance to reach long-term goals, one would expect medical students to be very gritty, as they might be studying for over ten years. What do we know about the specific role of grit in medical students? As expected, grit tends to be high in medical students, and among medical students, grittier students are more likely to finish their undergraduate studies in time, and they perform better on clinical knowledge scores [7]. Moreover, grit seems to protect students against developing a burn-out, which we know is a big risk for (bio)medical students [8]. Moreover, a study that investigated grit and its link to personality measures in medical students, found that grittier students are more empathic during patient care, have higher self-esteem, and lower aggression levels [9]. These are exactly traits one should be looking for in future doctors. Being gritty also protects students against burn-out and low mental well-being during their residency [10, 11]. Also at a later age, once accustomed to one's job, grit has been shown to protect against burn-outs and increase life satisfaction [12]. So, in conclusion, being gritty as a medical student helps you get through your studies and is advantageous as a resident, and eventually as a clinician.

The dark side of grit

If we look at the results given in the previous paragraphs, it would seem that the grittier you are, the more you will achieve in life and the happier you will be. Can we just accept this to be true, or does grit also have a downside? In other words, can you be too gritty? Yes,

you can. Or at least grit is negatively associated with other desirable characteristics. One study, for example, found a negative correlation between grit and cognitive flexibility [13]. In their example, they concluded that being perseverant inhibits people from exploring new ways to solve a problem [13]. Another study found that grit could mean that people want to reach their goals at all costs and that grittier people might put their ethical standards aside [14]. Lastly, research showed that gritty people can have trouble knowing when to give up and acknowledging when they are losing. This goes hand in hand with the finding that grit can lead to a higher willingness to risk failure. Overall, being too gritty can, just like any other personality characteristic, be detrimental.

Conclusion

In conclusion, as it seems from the work of Duckworth, one of the most important factors for success is grit and not intelligence. Grit has been associated with a number of positive outcomes, both in education and well-being. In medical students in particular, grit seems to be an important personality characteristic. Being too gritty has been associated with wanting to reach your goals without taking ethics into consideration, having less cognitive flexibility, and not giving up despite bad odds. Regardless of these downsides, I believe, from the given results, that being moderately to highly gritty can help you achieve success.

Should these results change our way of selecting students; thus, should we not only look at knowledge when selecting students but also at grit? Should we look at their ability to endure and stay passionate during what can feel like a very long study programme? What do you think, and how would you like the university to assess this quality? Grit is important during your studies. In our curriculum, we already learn a wide range of professional skills, and learning about grit and how to become grittier might deserve a spot too.

Anyways, when we think back about asking children what they want to reach when they grow up, think about what you will have to teach the children to help them reach their high aims and big dreams, **GRIT!**

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