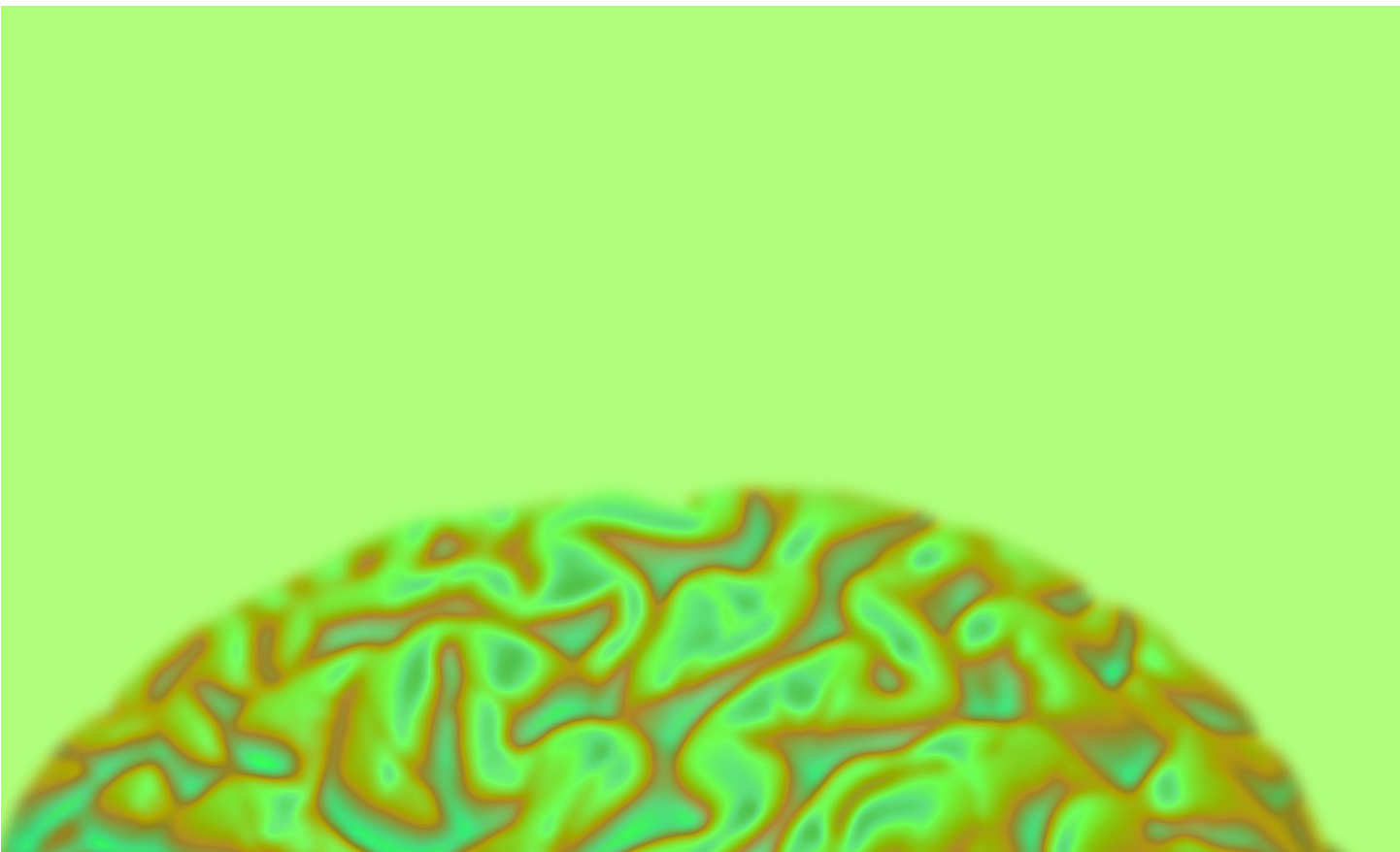




DOES GROWTH MINDSET WORK?



Does Growth Mindset Work?



by Marc Effron,
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On a recent podcast interview, the interviewer called out the chapter in my book *8 Steps to High Performance* where I state that growth mindset isn't proven to work. "I was hurt by that section," he said, "because having a growth mindset has had a very positive effect on my life."

That interaction perfectly highlights the problem with the concept of growth mindset.

Did the interviewer mean that he always believed he could change and grow, and therefore he was successful? Did he mean that he believed in his ability to become more intelligent and therefore became more intelligent? Was he saying that he was resilient when going through challenges? Was he saying that he had often been successful when he tried hard? Was he saying that he had a positive attitude in life and that had served him well?

Regardless of what he meant, could he really be sure that a growth mindset had a positive effect

on his life? Or, were the positive effects he attributed to having a growth mindset really due to other factors?

He is an intelligent individual and intelligence is the largest predictor of our success in life and work.¹ Or, perhaps the benefits he noticed were due to his personality traits that naturally predisposed him to work hard and be resilient.²

That brief conversation raises the two most important questions about the concept of growth mindset – what do those words mean and does growth mindset actually matter?

About “Mindset”

If you believe that growth mindset means that if you try harder you can accomplish more, you can stop reading when you finish this section. We agree and the science in areas from self-efficacy³ to goal setting⁴ to motivation⁵ supports that exerting more effort often leads to better results.

That age-old belief also appears everywhere from the Bible⁶ to Buddha⁷ to Norman Vincent Peale’s *The Power of Positive Thinking*⁸ to the children’s book *The Little Engine that Could*.⁹ If that is how you’re defining the concept, let’s stop using the words “growth mindset” and call it “trying hard” or “having a positive attitude.”

However, if you believe that growth mindset means that different outcomes in life will occur if someone has a fixed mindset or a growth mindset, or that it’s possible to increase one’s intelligence or change one’s personality, please keep reading.

What is growth mindset?

The term “growth mindset” is used very casually by leaders, consultants and the

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media, so let’s start with the author’s original definition. Growth mindset creator Dr. Carol Dweck’s defines it in her book, *Mindset: The new psychology of success*, as “the belief that your basic qualities are things you can cultivate through your efforts, strategies and help from others.”¹⁰

She describes it in a *Harvard Business Review* article as, “Individuals who believe their talents can be developed (through hard work, good strategies, and input from others) have a growth mindset.”¹¹ She states it even more boldly in a recent article, as “students who believed their intelligence could be developed (a growth mindset) outperformed those who believed their intelligence was fixed (a fixed mindset).”¹²

Dweck claims the consequences of having a growth mindset include higher achievement in academic situations at a minimum and, through numerous stories in her book, sug-

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gests that growth mindset can lead to success in any endeavor in life. Her overall theme is that you can achieve superior results if you believe that intelligence and personality can be changed. Her book is filled with stories of people who had a setback (i.e. failed their first photography course) and then later had a success (became a well-known photographer), as evidence.

She defines the opposite of having a growth mindset as having a fixed mindset. She describes this as “believing that your qualities are carved in stone”¹³ or “those who believe their talents are innate gifts.”¹⁴

In *Mindset*, she describes those with a fixed mindset as “fragile” and the consequences of it as, “The fixed Mindset limits achievement. It fills people’s minds with interfering thoughts, it makes effort disagreeable and it leads to inferior learning strategies. What’s more, it makes other people into judges in-

stead of allies.”

An organization’s mindset matters too, according to Dweck. “When entire companies embrace a growth mindset, their employees report feeling far more empowered and committed; they also receive far greater organizational support for collaboration and innovation. In contrast, people at primarily fixed-mindset companies report more of only one thing: cheating and deception among employees, presumably to gain an advantage in the talent race.” Dweck presents no evidence to support those claims.

Is there a problem here and is growth mindset the solution?

Before we discuss if growth mindset solves a problem, we should ask if there is a problem that needs to be solved. There is no research about the percentage of people who have a growth or fixed mindset (and no validated way to measure either of those states).

Dweck states that 40% of students have a fixed mindset but also says that everyone is a mix of fixed and growth mindsets and that “A ‘pure’ growth mindset doesn’t exist.”¹⁵ So, even the concept’s creator can’t say whether 1% or 99% of the general population has a fixed mindset that needs to be changed.

There’s also no science that shows how easy or difficult it is to change one’s mindset from fixed to growth. Can it be changed as easily as telling a colleague, “I’m sure you’ll do a great job”? Can it be changed by redesigning a job so that someone gets more positive reinforcement? Can it be changed through better incentives? Or, perhaps it can be changed with a proverbial, motivational kick in the rear?

This leaves us wondering. If we don’t see an

obvious problem and we don't know if other solutions would be more effective if there is a problem, is growth mindset just a solution looking for a problem?

Does growth mindset work?

The most important question and one that few growth mindset supporters ask is, "Does growth mindset work?" If there are such things as a fixed mindset and a growth mindset, is there any scientifically proven benefit in having one mindset or the other, or in moving from fixed to growth?

You can decide for yourself based on the facts, which include:

- Multiple scientific attempts have failed to replicate Dweck's and others' claims about the impact of growth mindset.^{16,17 (for example)}
- A recent study reported on three failed attempts to prove that growth mindset works and found *lower* academic performance for a small portion of the population studied.¹⁸
- A recent experiment comprehensively tested the claims of growth mindset and found that they were not supported. The largest correlation the researchers found was in the *opposite* direction predicted by growth mindset advocates. In that case, "fixed mindset" students performed better after getting negative feedback on a test.¹⁹
- A 2018 meta-analysis found extremely small effects from growth mindset interventions.²⁰
- Dweck and her co-authors' 2007 research has been criticized for reporting results that do not meet typical standards of statistical significance.^{21, 22} Another one of her recent articles²³ has been strongly criti-

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cized by statistics professors for questionable statistical analysis, with one saying that, "They're using statistical methods that are known to be biased . . . they're using statistical methods that will allow them to find success no matter what."

- A recent comprehensive study on growth mindset showed a growth mindset intervention having no effect on the vast majority of students and a minuscule positive effect (0.1 grade points) on a group of low-achieving students.²⁴
- There is no science that shows that a growth mindset will make someone a higher performer at work. A meta-analysis of "goal orientation" – a concept related to growth mindset – found no positive effects in work settings.²⁵
- A rare study that included growth mindset in the workplace (but didn't directly measure its effect) showed that it was leaders

with fixed mindsets who had meaningfully higher engagement and that the largest improvement in engagement was due to people trying harder, not to having a growth mindset.²⁶

Frothy media articles about companies like Microsoft claiming that growth mindset drives higher work performance present no research to support their claims.²⁷ When Microsoft CEO Satya Nadella talks about growth mindset, he makes the same mistake described earlier and talks colloquially about growth mindset as being about “attitude.”

Certainly attitude can drive effort, but that is not related to growth mindset; that is grounded in established science around engagement and motivation. The company’s recent recovery can most reasonably be attributed to their executives making smarter choices about Microsoft’s products and services.

Actually, it would be strange if growth mindset did work

Given what we know about intelligence and personality, there’s no reason to expect that growth mindset should work. We know that intelligence and personality are, by far, the most powerful predictors of success at school and work. Therefore, even with the right mindset, someone with less than ideal intelligence and/or personality characteristics will always be at a disadvantage to someone blessed with more of each.

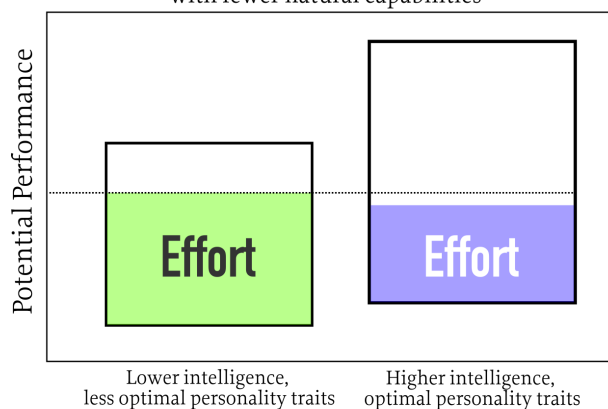
It would also be strange if someone could simply shift their mindset and, independent of their intelligence, personality traits and other individual factors, increase their performance at school or work. That would be a

remarkable performance shift from a relatively minor effort.

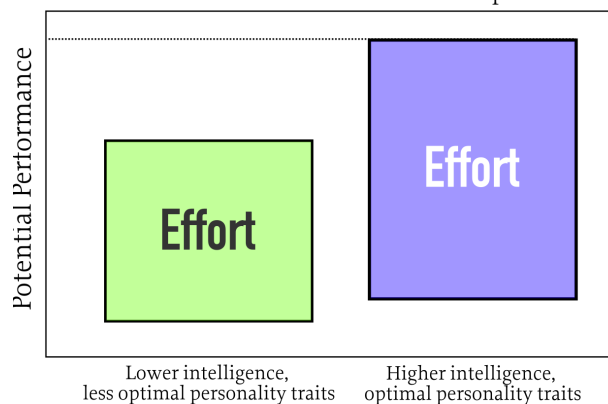
The examples below bring this to life. It is certainly possible for someone with fewer natural gifts to outperform someone with more natural gifts if they exert far more effort (Scenario 1).

But, once the person with natural gifts puts

Scenario 1: More effort from someone with fewer natural capabilities



Scenario 2: Maximum effort from each person



effort into being a higher performer, they will outperform the less gifted person (Scenario 2).

... because personality and intelligence don't change that way

Growth mindset advocates argue that you should believe in your ability to change your personality and intelligence. The strong

science in the areas of personality and intelligence challenges that possibility.

Intelligence (fluid intelligence or your “processing power”²⁸) and your core personality are generally stable over time.²⁹ It’s certainly possible for you to learn about more things (this is our “crystallized intelligence”³⁰) but that doesn’t increase your brain’s core processing power. Knowing more things is not the same thing as being more intelligent.

Similarly, our core personality traits are relatively fixed and typically don’t change over short time periods (3 – 5 years) as growth mindset fans claim is possible. When those traits change over longer time periods (10 – 30 years), it’s normally due to a dramatic life event (e.g. death of spouse, severe illness) or the same predictable personality changes that happen to everyone as we age.³¹ It’s important to note that those personality changes happen *to you*. They are rarely a result of your consciously deciding to, or making a sustained effort to, change them.

To be clear, the most extensive and conclusive science shows that our intelligence and personality traits are stable and undergo very limited change in adults. Those changes have no relationship to adopting a growth mindset.

But there has to be something there!

Many reasonable people will ask, “if growth mindset doesn’t do what it promises, how come when I changed my mindset I was able to overcome obstacles or to succeed where I previously couldn’t?”

There are a multitude of reasons that people succeed at something after they first fail or under-perform. The most obvious reason

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is that they were capable the entire time but didn’t try or didn’t try hard enough. When they either tried, tried again or tried harder, their existing capabilities allowed them to succeed.

Why isn’t that the epitome of growth mindset? First, because Dweck explicitly states that growth mindset is not about effort.³² Second, because you could put a less intelligent person in that same situation, have them apply the same mindset and the same amount of effort and they wouldn’t achieve the same results.

A less intelligent, personality-disadvan-

Think you have a growth mindset? You're probably just smart.

It's no surprise that someone would believe in growth mindset if they think their success is due to persistence and a positive belief about their abilities. That individual can likely recount many instances where they tried harder, changed their beliefs or shifted their mindset and then experienced success.

Our view of our success and other's failures are hopelessly colored by attribution bias. We look for easy to understand and often self-serving explanations about why things happen to us and others. If you try and then succeed, you may attribute that to your growth mindset since it seems to be a reasonable explanation.

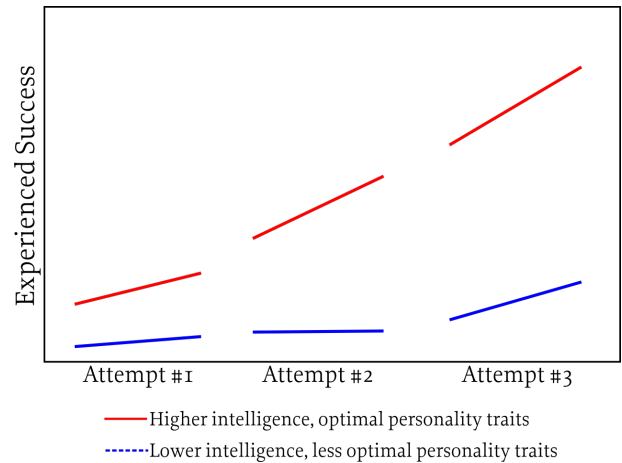
What you discount is that others who are less intelligent than you would not have succeeded (or not as fully) or that those with different personality characteristics might not have tried to succeed at all.

Let's consider two individuals who are trying to learn how to play chess. Success in chess is correlated with intelligence and with effort (deliberate practice) and effort is partially due to personality traits.¹

In a series of three attempts to improve their chess skills (let's say each attempt is 10 rounds of practice), the more intelligent individual with the right personality traits will be able to process and learn from their experiences more successfully than the less intelligent person. With each round of practice, a capability gap will grow between the two individuals, *independent of their mindset*.

One can exhort the individual with lower intelligence and less optimal personality traits to have a "growth mindset" so that they can improve. But, that type of "encouragement" just reflects the bias and arrogance of the speaker and doesn't change anyone's fundamental ability to succeed.

¹ Hambrick, David Z., Frederick L. Oswald, Erik M. Altmann, Elizabeth J. Meinz, Fernand Gobet, and Guillermo Campitelli. "Deliberate practice: Is that all it takes to become an expert?" *Intelligence* 45 (2014): 34-45.



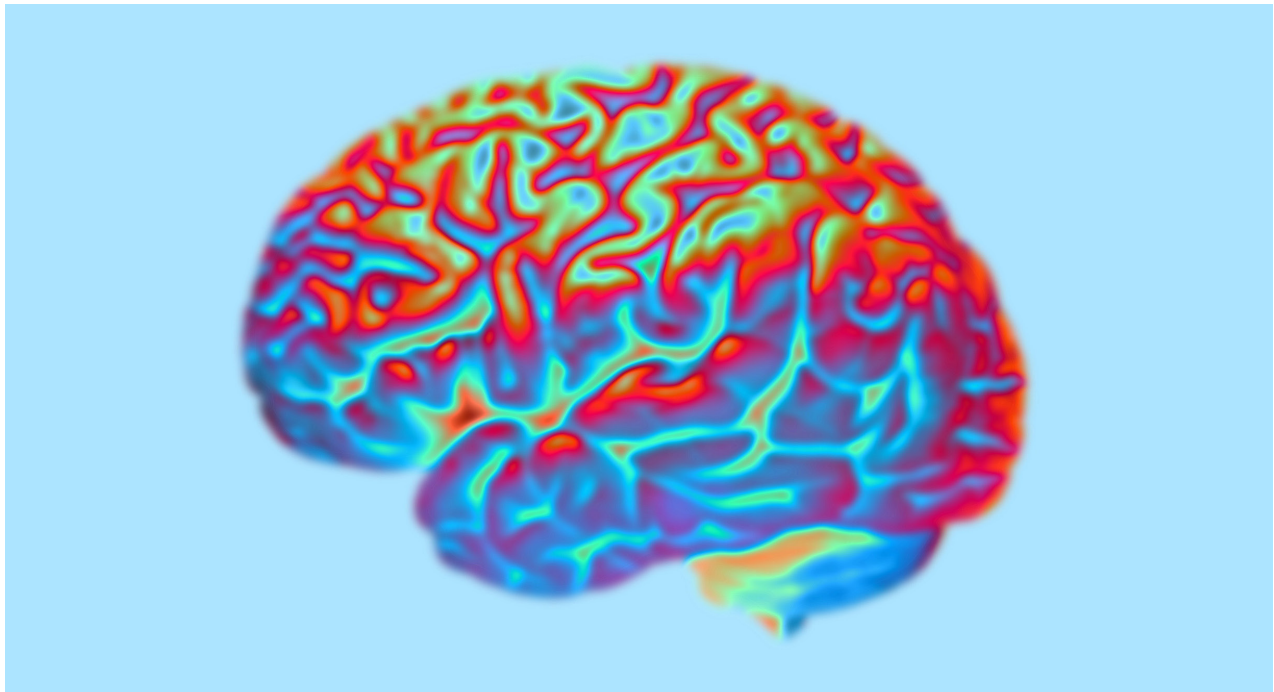
taged individual with a growth mindset will not outperform a more intelligent person with a growth mindset. The difference in achievement will be due to fixed characteristics like intelligence and personality, not to someone's mindset.

People can also succeed at Time B where they didn't succeed at Time A if they apply any of the scientifically proven methods to improve their performance at work. Those methods include setting goals, changing

their behaviors, working harder, influencing better or any of the other scientifically-proven approaches I wrote about in [8 Steps to High Performance](#).³³

In that book, I also cautioned that our core personality traits and intelligence are the largest factors in our success and that one's efforts and mindset will only move someone as far as those fixed characteristics will allow.

It would be wonderful if everyone engaged in all of those scientifically proven tactics



so they could be as successful as possible. There's no proof that also having a growth or fixed mindset would make any difference in the outcome.

Why you should avoid the term “growth mindset”

You may believe that there's no harm in urging people to have a growth mindset. It may not hurt if, when you say that term, you mean that someone should engage in tactics that are proven to make them more successful. But, in that case, why not tell someone specifically that they should try harder or practice more or keep a positive attitude.

If you mean that they should have a "growth mindset" (they should believe that intelligence and personality can change and that they will be more successful for that belief), you're harming individuals who may not be able to succeed and doing nothing for people who would have succeeded anyway.

Let's separate positive intention from scientific proof

The growth mindset concept captures the best of our humanistic spirit (anyone can

improve if they just believe!) and confirms the worst of our scientific ignorance (can't anyone improve if they just believe?).

It purports to solve a problem that may not exist or that may be more effectively addressed by other means if it does exist. In any case, a growth mindset intervention would be sharply constrained by the more powerful influence of intelligence and personality.

The science is clear that adopting a growth mindset does not meaningfully increase performance in adults or children. You become a higher performer when you engage in any of the multitude of activities that are proven to make you a high performer. If we want to help more people to succeed, let's focus our efforts there first.

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