Believe you can change (Aaron Swartz's Raw Thought)

by Aaron Swartz

11-14 minutes

This post is part two of the series Raw Nerve.

Carol Dweck was obsessed with failure. You know how some people just seem to succeed at everything they do, while others seem helpless, doomed to a life of constant failure? Dweck noticed that too — and she was determined to figure out why. So she began watching kids, trying to see if she could spot the difference between the two groups.

In a 1978 study with Carol Diener, she gave kids various puzzles and recorded what they said as they tried to solve them. Very quickly, the helpless kids started blaming themselves: "I'm getting confused," one said; "I never did have a good rememory," another explained.

But the puzzles kept coming — and they kept getting harder. "This isn't fun anymore," the kids cried. But still, there were more puzzles.

The kids couldn't take it anymore. "I give up," they insisted. They started talking about other things, trying to take their mind off the onslaught of tricky puzzles. "There is a talent show this weekend, and I am going to be Shirley Temple," one girl said. Dweck just gave them even harder puzzles.

Now the kids started getting silly, almost as if they could hide their failure by making it clear they weren't trying in the first place. Despite repeatedly being told it was incorrect, one boy just kept choosing brown as his answer, saying "Chocolate cake, chocolate cake."[1]

Maybe these results aren't surprising. If you've ever tried to play a board game with kids, you've probably seen them say all these things and more (Dweck appears to be missing the part where they pick up the game board and throw all the pieces on the floor, then run away screaming).

But what shocked her — and changed the course of her career — was the behavior of the successful kids. "Everyone has a role model, someone who pointed the way at a critical moment in their lives," she later wrote. "These children were my role models. They obviously knew something I didn't and I was determined to figure it out."[2]

Dweck, like many adults, had learned to hide her frustration and anger, to politely say "I'm not sure I want to play this anymore" instead of knocking over the board. She figured the successful kids would be the same — they'd have tactics for coping with failure instead of getting beaten down by it.

But what she found was radically different. The successful kids didn't just live with failure, they *loved* it! When the going got tough, they didn't start blaming themselves; they licked their lips and said "I love a challenge." They'd say stuff like "The harder it gets the harder I need to try."

Instead of complaining it wasn't fun when the puzzles got harder, they'd psych themselves up, saying "I've almost got it now" or "I did it before, I can do it again." One kid, upon being a given a really hard puzzle, one that was supposed to be obviously impossible to solve, just looked up at the experimenter with a smile and said, "You know, I was *hoping* this would be informative."[3]

What was wrong with them?

The difference, Dweck discovered, was one of mindset. Dweck had always thought "human qualities were carved in stone. You were smart or you weren't, and failure meant you weren't." That was why the helpless kids couldn't take it when they started failing. It just reminded them they sucked (they easily got confused, they had "a bad rememory"). Of course it wasn't fun anymore — why would it be fun to get constantly reminded you're a failure? No wonder they tried to change the subject. Dweck called this the "fixed mindset" — the belief that your abilities are fixed and that the world is just a series of tests that show you how good you are.

The successful kids believed precisely the opposite: that everything came through effort and that the world was full of interesting challenges that could help you learn and grow. (Dweck called this the "growth mindset.") That's why they were so thrilled by the harder puzzles — the easier ones weren't any sort of challenge, there was nothing you could learn from them. But the really tough ones? Those were fascinating — a new skill to develop, a new problem to conquer. In later experiments, kids even asked to take puzzles home so they could work on them some more.[4]

It took a seventh-grader to explain it to her: "I think intelligence is something you have to work for…it isn't just given to you… Most kids, if they're not sure of an answer, will not raise their hand… But what I usually do is raise my hand, because if I'm wrong, then my mistake will be corrected. Or I will raise my hand and say… 'I don't get this. Can you help me?' Just by doing that I'm increasing my intelligence."[5]

In the fixed mindset, success comes from proving how great you are. Effort is a bad thing — if you have to try hard and ask questions, you obviously can't be very good. When you find something you *can* do well, you want to do it over and over, to show how good you are at it.

In the growth mindset, success comes from growing. Effort is what it's all about — it's what makes you grow. When you get good at something, you put it aside and look for something harder so that you can keep growing.

Fixed-mindset people feel smart when they don't make mistakes, growth-mindset people feel smart when they struggle with something for a long time and then finally figure it out. Fixies try to blame the world when things go bad, growthers look to see what they can change about themselves. Fixies are afraid to try hard — because if they fail, it means they're a failure. Growthers are afraid of not trying.

As Dweck continued her research, she kept finding this difference in all sorts of places. In relationships, growth-mindset people looked for partners who would push them to be better, fixies just wanted someone who would put them on a pedestal (and got into terrible fights when they hit problems). Growther CEOs keep looking for new products and ways to improve, fixies cut research and tried to squeeze profits from old successes. Even in sports, growther athletes got better and better through constant practice, while fixies blamed their atrophying skills on everyone around them.

But Dweck applied a growth mindset to the question of mindset — and discovered that your mindset could itself be changed. Even small interventions — like telling students they

were doing well because they tried hard, rather than because they were smart — had huge effects. With more work, she could change totally fixed-mindset people into fervent growth-mindset ones.

She herself changed, converting from a fervent fixed-mindsetter, always looking for excuses to prove how smart she was, to a growther, looking for new challenges. It was hard: "since I was taking more risks, I might look back over the day and see all the mistakes and setbacks. And feel miserable. [You feel like a zero]… you want to rush right out and rack up some high numbers." But she resisted the urge — and became a leading psychologist instead.[6]

The first step to getting better is believing you *can* get better. In her book, *Mindset*, Dweck explains how to start talking back to your fixed mindset. The fixed mindset says, "What if you fail? You'll be a failure." The growth mindset replies, "Most successful people had failures along the way."[7]

Now when I first heard about this work, I just thought: that's nice, but I already do all this. I believe fervently that intelligence can change and that talents can be learned. Indeed, I'd say I'm almost pathologically growth mindset. But even I began to notice there are some things I have a fixed mindset about.

For example, I used to think I was introverted. Everyone had always told me that you were either an extroverted person or an introverted person. From a young age, I was quite shy and bookish, so it seemed obvious: I was an introvert.

But as I've grown, I've found that's hardly the end of the story. I've started to get good at leading a conversation or cracking people up with a joke. I *like* telling stories at a party a story or buzzing about a room saying 'hi' to people. I get a rush from it! Sure, I'm still not the most party-oriented person I know, but I no longer think we fit into any neat introversion/extroversion buckets.

Growth mindset has become a kind of safe word for my partner and I. Whenever we feel the other person getting defensive or refusing to try something because "I'm not any good at it", we say "Growth mindset!" and try to approach the problem as a chance to grow, rather than a test of our abilities. It's no longer scary, it's just another project to work on.

Just like life itself.

Next in this series: Look at yourself objectively

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August 18, 2012

An experience I had as a teenager really drove this lesson home for me, and is partly responsible for successes I've had since.

My Dad had copy of 'Drawing on the Right Side of the Brain' by Betty Edwards lying around. I'd always been really bad at drawing - never progressed beyond the kids-drawing phase, got bad feedback on drawing at school, so stopped.

Anyway, Edwards's theory is that 'bad' drawers don't look at the thing itself and draw its shape, they translate reality into abstract concepts first and then draw what that concept visually looks like. So I'll look at a face, then decide I'll draw the 'eye' first, query my mind to see what an 'eye' looks like, then draw the generic eye I've always drawn since I was a child.

Whereas a skilled artist looks at the eye in front of them - which looks nothing like the standard symbol for ‘eye’ - and draws THAT.

Edwards has a bunch of exercises to prove this, and one of them triggered a massive epiphany for me.

She had a Picasso sketch in the book which was printed upside down on the page. Her instructions were to copy the drawing, keeping it upside down, and never naming the limb/whatever you’re drawing, and never turning your drawing right-side-up until it’s complete.

I was sceptical, but decided to test her theory. So I started copying this upside-down drawing, fully expecting it to turn out even worse than usual.

When I finished, the drawing was AMAZING. It looked like someone else had done it. It was a genuine likeness. The figure I’d drawn looked alive.

I went on to learn to draw pretty well. So after that, my mind always looked back and thought - well, if I can learn to DRAW, and I was so BAD at drawing initially, I can pretty much learn to do anything - i.e. the growth mindset.

posted by Nabeel on August 20, 2012 #

I read and enjoyed Dweck’s book when it first came out (though it took me a while to internalize the insights, mainly because of my anxiety over fear of failure, ironically).

Another great book along similar lines that complements Dweck’s is Seligman’s ‘Learned Optimism’. Again, he shows how the difference that makes all the difference is mindset, this time between an optimistic mindset and a pessimistic mindset.

posted by haig on August 20, 2012 #

Aaron, great article. Interestingly enough, Angela Lee Duckworth and K. Anders Ericsson’s work on grit also leads to more or less the same conclusion.

Look forward to your next article.

posted by Bin on August 22, 2012 #

You might enjoy Susan Cain’s “Quiet: The Power of Introverts in a World that can’t stop talking.” She makes the fascinating point that introversion/extroversion has little to do with people and social skills—at least directly.

Thanks!

posted by Chris McKenzie on August 24, 2012 #

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