

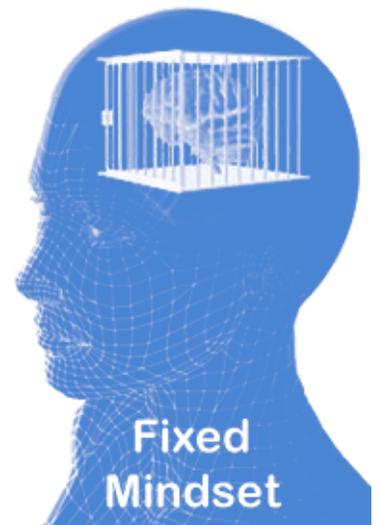
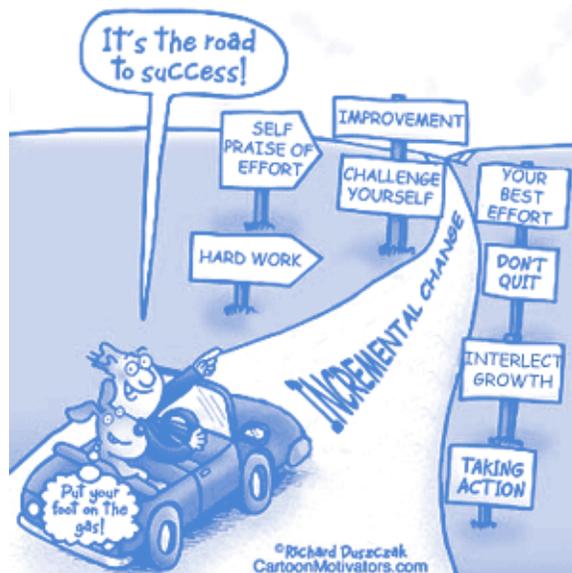
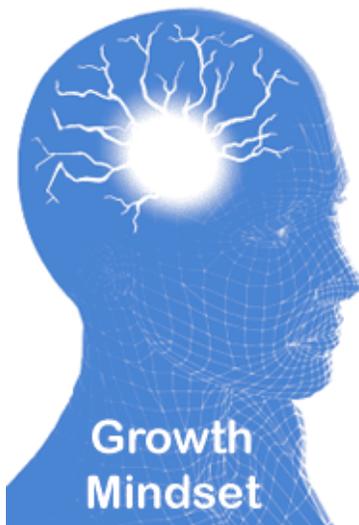
Growth mindset and fixed mindset



WE LOVE A GOOD CHALLENGE.



How self beliefs affect motivation and thus achievement. What we believe about ourselves can greatly influence our ability to get what we want out of life. Carol Dweck and her associates have for many years investigated what people believe about themselves and how this affects their motivation, and their ability to accomplish tasks, achieve goals, and function successfully in life. She proposes, that people tend to have two extremes of belief about themselves, that are the key to their effectiveness or ineffectiveness. One extreme is of a self that is an unchanging entity and the other extreme is of a self that is constantly changing in varying increments. Dweck asserts that one theory is highly adaptive for the human condition (the theory of an incremental changing self) while the other is maladaptive for the human condition (the theory of a self that is an unchanging entity). These self theories can be termed respectively a growth mindset and a fixed mindset. Curiously, this applies regardless of whether the motivation is intrinsic or extrinsic. Although, as we shall see, people with an extrinsic orientation tends to also have a fixed mindset, and people who have an intrinsic orientation tend also to have a growth mindset.



Potential, nonlearners versus learners. The following is quoted from Carol Dweck's book "Mindset":

"Benjamin Barber, an eminent sociologist, once said, 'I don't divide the world into the weak and the strong, or the successes and the failures... I divide the world into learners and nonlearners.'

What on earth would make someone a nonlearner? Everyone is born with an intense drive [I prefer need] to learn. Infants stretch their skills daily. Not just ordinary skills, but the most difficult tasks of a lifetime, like learning to walk and talk. They never decide it's too hard or not worth the effort. Babies don't worry about making mistakes or humiliating themselves. They walk, they fall, they get up. They just barge forward.

What could put an end to this exuberant learning? The fixed mindset. As soon as children become able to evaluate themselves, some of them become afraid of challenges. They become afraid of failing, and they

evaluate themselves, some of them become afraid of challenges. They become afraid of not being smart. I have studied thousands of people from preschoolers on, and it's breathtaking how many reject an opportunity to learn."

[On the other hand a]"...growth mindset is based on the belief that your basic qualities are things you can cultivate through your efforts. Although people may differ in every which way - in their initial talents and aptitudes, interests or temperaments - everyone can change and grow through application and experience.

Do people with this mindset believe that anyone can be anything, that anyone with proper motivation or education can become Einstein or Beethoven? No, but they believe that a person's true potential is unknown (and unknowable); that it's impossible to foresee what can be accomplished with years of passion, toil and training."

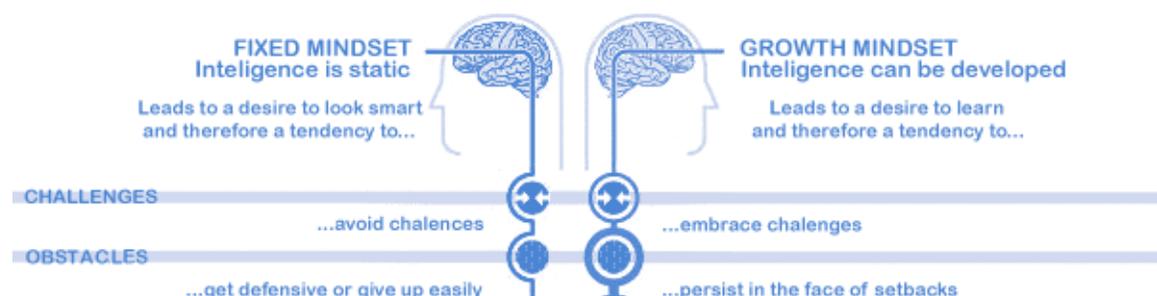
A percentage sample of humanity. Carol Dweck tested a sample of people over time who were quite diverse, from preschoolers to people of university age. She found that while people may vary greatly as to how much they are inclined toward a fixed theory or a growth theory, roughly 40% seemed more inclined toward a growth theory and 40% seemed more inclined toward a fixed theory. The other 20% were undecided. This seems to this site, to be remarkable, because personal experience seems to place the large majority of people in the fixed mindset group. This site suspects that Dweck's sample group may be inaccurate, because the sample of humanity it was taken from was mostly young. The subjects ranged only from university students to preschoolers and this excludes the majority of the adult population. Also, if this site's major concerns are correct, it may well be that society tends to mold people into a more fixed mindset as they get older.

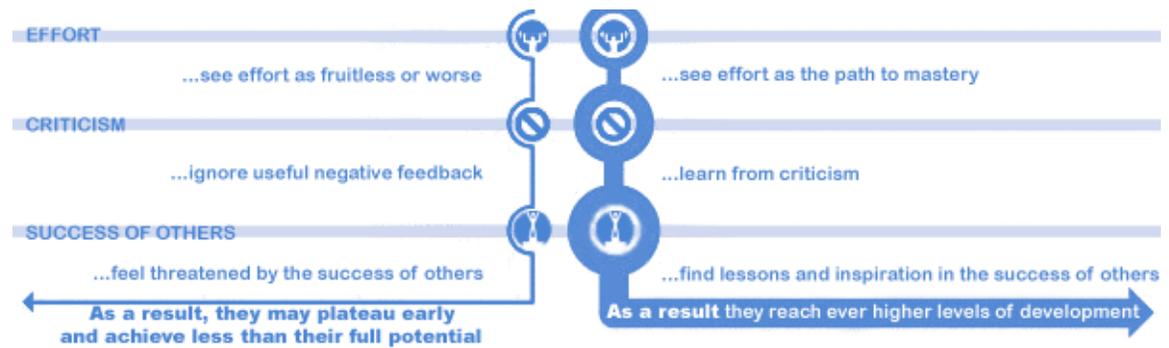
Self theories 'entity' versus 'incremental'. If Carol Dweck's survey is correct, about 40 percent of the people in the world, would believe that they each are an unvarying entity and thus impossible to change. They would believe that their intelligence is an unvarying entity, that their abilities are an unvarying entities, and that they are helpless to change any of it. On the other hand about 40 percent of the people in the world would believe the opposite, that they gradually improve by increments. They would believe that their intelligence increases in increments of knowledge and that their abilities increase in increments according to how much effort they apply to improving them.

Mindset 'fixed' versus 'growth'. (This is a slightly more generalized reformulation of the self theories.) If Carol Dweck's survey is correct, about 40 percent of the people in the world would believe that people are fixed to their genetic heritage, and thus impossible to change. They would believe that intelligence is fixed, that abilities are fixed, and that they, and all other people are fixed, and that we are all helpless to change any of it. Conversely, about 40 percent of people in the world would believe that they, and all others, gradually develop and grow over time. They would believe that intelligence grows with knowledge, and that abilities improve and grow according to how much effort we apply to improving them.

World theories orientation 'constant' versus 'malleable'. (The fixed/growth mindsets tend to change people beliefs about the world.) If Carol Dweck's survey is correct, about 40 percent of the people in the world would believe that everything is constant and thus impossible to change. They would believe that people are constant and that the world is constant and that we are all helpless to change any of it. Conversely about 40 percent of the people in the world would believe that people are malleable and that they and others can change if they so wish. They would believe that the world is malleable and that anyone in the right place at the right time, with sufficient effort, can change the world or contribute to changing it.

Behavior 'performance' versus 'mastery'. The people who believe that everything is fixed, tend to be set on maintaining and validating their abilities, their intelligence and their position in the world, by performing in order that others may judge their intelligence, abilities and status. The people who believe that everything develops and grows, set out to learn all they can and to improve all their skills so that their intelligence will increase and their abilities will develop and their status increase. They judge themselves against their previous selves to see how much they have improved.





Brain waves tell the story. The following is also taken from Dweck's book "[Mindset](#)":

"You can even see the difference in people's brainwaves. People with both mindsets came to our brainwave lab at Columbia. As they answered hard questions and got feedback, we were curious about when their brain waves would show them to be interested and attentive.

People with a fixed mindset were only interested when the feedback reflected on their ability. Their brainwaves showed them paying close attention when they were told whether their answers were right or wrong.

But when they were presented with information that could help them learn, there was no sign of interest. Even when they'd gotten an answer wrong, they were not interested in learning what the right answer was.

Only people with a growth mindset paid close attention to information that could stretch their knowledge. Only for them was learning a priority."

Common sense is often wrong. Ability, intelligence and confidence are not enough.

1. The belief that students with high ability are more likely to display mastery oriented qualities is wrong.
2. The belief that success in school directly fosters mastery oriented qualities is wrong.
3. The belief that praise, particularly praising a student's intelligence, encourages mastery oriented qualities is wrong.
4. The belief that student's confidence in their intelligence is the key to mastery oriented qualities is wrong.

Belief, 'fixed' verses 'growth'. After extensive research on numerous groups, Dweck and her colleagues gained an understanding that this division of people into fixed or growth mindsets tended to predict how **successful**, how **accomplished**, how **healthy** and how **happy** people were. People with a growth mindset were more successful, accomplished and happy. Carol Dweck explains how people with a fixed mindset manage to function as follows:

"Sure, people with the fixed mindset have read books that say: success is about being your best self, not about being better than others; failure is an opportunity, not a condemnation; effort is the key to success.

But they can't put this into practice because their basic mindset - their belief in fixed traits - is telling them something entirely different: that success is about being more gifted than others, that failure does measure you, and that effort is for those who can't make it on talent."

Some of the other conclusions Dweck and her colleagues reached are the following:

Fixed mindset people.

1. **Intelligence.** Fixed mindset people believe we are born with our level of fixed intelligence, and that it changes little over the course of our lives. They tend to see how their intelligence is now as how it is going to be in the future.
2. **Intelligence and trying hard.** Fixed mindset people believe that if we have to try hard to understand or to solve problems, that this shows how low our intelligence is. They believe that if our intelligence is high, everything will be easy to understand and problems will be easy to solve.
3. **Abilities.** Fixed mindset people believe we are born with our various fixed levels of ability and that these change little over the course of our lives.
4. **Abilities and trying hard.** Fixed mindset people believe, that if we have to try hard to do things or to

build a skill, that this shows how inferior our abilities are. They believe that if our abilities are great, everything will be easy to do and that skills will be easy to build.

5. **Change.** Fixed mindset people believe they are born a certain way, and that neither they, nor anybody else, can do anything to change them. Likewise, they believe other people are also born a certain way and also cannot be changed. They see no point in trying to change themselves or others. Fixed mindset people are therefore more likely lump people into stereotype straitjackets.
6. **Change the world.** Fixed mindset people believe, though it seems to defy common sense, that the world cannot be changed and that it especially cannot be changed by them. Though they see the world as changing, they believe this is outside the ability of anyone to influence. They see no point in trying to change the world if nothing they do has any effect.
7. **Validation.** Fixed mindset people believe their purpose in life is to validate and live up to the statuses that others have conferred on them. They do this by continually trying to perform at the expected level of various standards.
8. **Challenges.** Fixed mindset people tend to avoid challenges and risk. They are willing to pass up learning opportunities if they are likely to reveal inadequacies or entail errors.
9. **Performance.** Fixed mindset people tend to perform for others to judge, and not for their own edification. They are more interested in the appearance of being knowledgeable or skilled at work, rather than the actuality of it. They can pass exams, get degrees, but only a minimal amount of real learning trickles through.
10. **Effort.** Fixed mindset people tend to believe that things should be accomplished with little effort. They believe that having to exert effort indicates that people have insufficient knowledge, skill, or intelligence. They therefore tend to minimize effort, and feel it shows their lack of intelligence and ability when they find it necessary to try hard.
11. **Obstacles.** Fixed mindset people see obstacles as a threat. They see mistakes, difficulties in understanding and doing, as signs of weakness in their intelligence and abilities. They tend to want to avoid obstacles if they can, preferring to do easy work rather than hard work.
12. **Failure.** Fixed mindset people see failure as the refutation of the statuses that have been conferred on them. They see failure as indictment of their stupidity and incompetence. They are thus ever afraid of failure which threatens their feelings of worth, status and esteem.
13. **Response to failure.** In response to failure, fixed mindset people tend to indulge in negative self talk. They tend to over estimate the amount or extent of the failure. They tend to lose faith in their abilities and intelligence to be able to still do things they have already accomplished.
14. **Giving up.** Fixed mindset people tend to give up easily when faced with obstacles or difficulties. They give up before they have exhausted their strategies. They are more likely revert to wild guesses. They are more likely to lose interest in things they are failing at or finding difficulty with.
15. **Success.** Fixed mindset people revel in any successes which they see as validating their high intelligence and competence. They are thus ever seeking successes which bolsters their feelings of worth, status and esteem.
16. **Conditional.** Fixed mindset people live lives that are conditional. Their confidence, self worth and self esteem rise and fall on what others hold as standards, and on their performance ability in obtaining or passing those standards. This may go back to their childhood where the love and esteem provided by their parents was probably conditional.
17. **Learning.** Fixed mindset people do not see learning of value in itself, but rather see it as only having value if assessed.
18. **Motivation.** Fixed mindset people are not usually motivated by intrinsic motives and are mostly motivated by extrinsic motives. Whether they are trying for an external reward, or they are trying to gain the approval of some others, or they are trying to pass a standard, or they are simply trying to live up to expectations, it is all extrinsic motives.
19. **Cheating.** Fixed mindset people are so concerned with appearance and status that they are more likely to consider cheating.

20. **High Achievement.** Some fixed mindset people start off strong early in life accomplishing much, but become more and more fearful of risk and so take less and less chances as time goes by. This causes their accomplishments to gradually diminish till often they are no better than average or even worse. Their academic achievements are often spectacular when young, but diminish as they find the work difficult or as they have to deal with failures.
21. **Low Achievement.** Some fixed mindset people are what are often referred to as losers. Such people feel generally helpless in most situations. Such talent as they have is so overwhelmed by their fixed mindset that they never achieve anything of worth.

Growth mindset people.

1. **Intelligence.** Growth mindset people believe, that we are born with a malleable intelligence, and that it changes in response to accumulation of knowledge and understanding over the course of our lives. They tend to see how their intelligence is now, as just that now, and in no way indicating anything about the future.
2. **Intelligence and trying hard.** Growth mindset people believe that in order to increase our intelligence we have to try hard to improve and understand or to solve problems, that intelligence is a function of learning. They believe that our intelligence can only become high by putting every effort into the accumulation of knowledge and understanding, because intelligence is knowledge and understanding.
3. **Abilities.** Growth mindset people believe we are born with various malleable potentials, and that the only way to turn those potentials into abilities is to work hard to develop the skills necessary to those abilities through constant learning. They tend to see abilities as ever developing and evolving over the period of their life. Even potential they do not see as fixed because they believe it is unknowable.
4. **Abilities and trying hard.** Growth mindset people believe that we have to try hard to do things or to build skills, and that the only way to develop abilities is to put in the effort to learn and maintain them. They believe that nothing is worth doing or worthy of them if it is accomplished too easily. They believe that anything worth doing must stretch and challenge them, so that they are always leaning the most they possibly can.
5. **Change.** Growth mindset people believe they are born with infinitely flexible and malleable bodies, like silly putty, that they can change and mold into whatever they wish. They believe that the environment can change them, but only if they allow it to. Likewise, they believe other people are also born as flexible and malleable as them, and though they can be changed by others, that they should be changed by themselves. They see the only point of living is to try to change themselves or others for the better. Growth mindset people are remarkably free of prejudice, and far less likely to think of people in terms of stereotypes, because they believe in this ability of all people to change.
6. **Change the world.** Growth mindset people believe that the world is in constant change and that anybody and everybody can and should contribute to that change. They are especially sure that the world is open to improvement, and that they can be highly instrumental in bringing about such improvements. They see the world as changing mostly through the efforts of people like themselves who try to change it and believe it can be changed by them. They see the main point of living in trying to change the world for the better.
7. **Validation.** Growth mindset people see no purpose in trying to validate others opinions of them, or to try and live up to the statuses that others have conferred on them. They feel validated only by their own judgment of their own continual improvement. They are uncaring of the opinions of others and only perform to standards of others, when society seems to present no other course of progressing.
8. **Challenges.** Growth mindset people tend to love challenges and are willing to take reasonable risks in order to improve. They are often bored by tasks that are so easy as to offer no challenge. They are quite willing to risk looking stupid if the opportunity to learn seems sufficiently challenging. They will sacrifice opportunities to look smart in favor of challenging their intellect.
9. **Performance.** Growth mindset people tend to perform only for themselves and for their own edification. They are more interested in the increasing their knowledge than of being thought knowledgeable. They are more interested in being skilled than being thought skilled. They would rather do quality work than be thought to have done quality work. They can pass exams, get degrees, but

do quality work, than be thought to have done quality work. They can pass exams, get degrees, but are only interested in doing this in so far as society is likely to prevent them from doing what they want otherwise.

10. **Effort.** Growth mindset people tend to believe that the only way to improve is through effort. They believe that exerting effort is how knowledge, understanding and abilities are acquired. They therefore tend to maximize their efforts to learn, and feel that is how they expand their intelligence and skills.
11. **Obstacles.** Growth mindset people see obstacles as challenges. They see mistakes, difficulties in understanding and doing, as signs that they need to try new strategies and work harder. They tend to want tasks that involve obstacles, so they can be challenged and overcome those obstacles. They prefer hard work to easy work.
12. **Failure.** Growth mindset people see failure as the ultimate challenge, as an opportunity to really dig in and try something new, to work harder and to persist by trying again. They basically redouble their efforts in the face of failure. They see failure as an opportunity to learn. They are thus never afraid of failure, and only more resolved to do better next time when it occurs.
13. **Response to failure.** In response to failure growth mindset people tend to indulge in positive self talk. This is usually in the form of self instructions to work harder and increase effort and try new strategies, but sometimes it takes the form of talk to reinforce their self theory such as, "I love a good challenge". They tend to under estimate the amount or extent of the failure, to become more determined to succeed, and remain confident in their ability to do so.
14. **Giving up.** Growth mindset people tend not to give up even when faced with many obstacles or difficulties and persist, often to an unreasonable extent. They may give up using one strategy only to try many others. They are more likely to increase their concentration. They are more likely to become even more interested in things they are failing at or finding difficulty with.
15. **Success.** Growth mindset people, like others, enjoy their successes, which they see as the outcome of their strategies, effort and hard work. They are thus, far more often successful in any of their undertakings and creative in overcoming their failures.
16. **Conditional.** Growth mindset people live unconditional lives. Their confidence, self worth and self esteem, are very stable and independent of conditions others try to place on them. This is because they are always perceiving evidence of their own improvement. Their confidence is not confidence in abilities or intelligence, but rather confidence in their aptitude to improve through trying various strategies, applying more effort, and persisting. Their esteem and self worth are generated by their own perception of themselves as being increasingly successful, despite perhaps, a current temporary failure. This likely goes back to their childhood, where the love and esteem provided by their parents was always unconditional.
17. **Learning.** Growth mindset people see learning as of value in itself. As a result their learning tends to be meaningful, well integrated into their cognitive structure, and not easily forgotten. They tend to enjoy and love learning, which in turn, makes them good candidates for being life long learners.
18. **Motivation.** Growth mindset people are motivated by intrinsic motives and are hardly ever motivated by extrinsic motives. Though they are normally motivated by intrinsic motives, they tend to be flexible, in that they are able to tackle performance goals or growth goals with equal enthusiasm, if they perceive the performance goals to be necessary to their intrinsic motivation. Whether they are trying gain entry to a school, or pass a standard required for entry to a profession of choice, they are still primarily internally motivated.
19. **Cheating.** Growth mindset people are very unlikely to cheat, as they see value only in knowing and understanding and see no value in demonstrating skills, abilities or knowledge that they do not have.
20. **High Achievement.** Some growth mindset people start off strong early in life, accomplishing much early. They tend to continue in this manner throughout their lives like Mozart. The number of prodigies this happens to seems to be far smaller than the those that fall by the wayside. These high achieving growth theorist's academic achievements may take no spectacular leaps, but show a steady growth and improvement. Despite this, they are often at their best when facing difficulties

and improvement. Despite this, they are often at their best when facing difficulties.

21. **Low Achievement.** Some growth mindset people start off weak early in life, but slowly become more and more skillful and knowledgeable as time goes by. Their absolute faith in the eventuality of success enables them to gradually catch up to others, even prodigies, and eventually surpass them. They do this by effort and hard work. When young their academic achievements are often inferior, but gradually they overcome their flaws and learn the necessary skills.john

Hopeful signs. There is a very hopeful side to this idea of self theories or mindsets. One of the things that Carol Dweck established early on in her research was that it was relatively easy to change a person's mindset from fixed to growth or entity to Incremental and vice versa, at least temporarily. In experiment after experiment it was made clear that a very simple intervention could change completely how people thought and acted, at least for the period of the experiment. Dweck identified a number of different sorts of intervention that could quickly help or induce people to have a more incremental self theory. They are:

1. **Knowledge of self theories.** The mere knowledge of the existence of these self theories or mindsets were instrumental in moving people toward the incremental or growth side.
2. **Nature versus nurture.** Nature versus nurture is an old debate, but its importance, as Dweck explains, is not in which side is true, but rather in that, whichever idea we believe decides which side we gravitate toward, the entity theory or the incremental theory. The mere inclusion of an article supporting nurture will automatically move people toward having an incremental theory at least for the period of the experiment.
3. **Facilitation by praise.** Praise of entity aspects of people (intelligence/abilities) or even work (competence) move people toward the an entity theory. This encourages people to feel entitled and at the same time dependent on the praise, and ultimately makes them fragile in the face of evidence to the contrary. However, praise of problem solving strategies, praise of effort, praise of persistence and praise of hard work all move people toward an incremental theory.
4. **Facilitation by criticism.** Criticism of the sort that people need to try different strategies, that they need to put in more effort, that they need to be more persistent or that they need to try harder all move people toward forming an incremental self theory.
5. **Improvement.** One way Dweck and co. discovered to help people to change to an incremental theory, was to consistently draw their attention to the amount of improvement they had made. Drawing attention to improvement is actually illustrating increment.
6. **Attitudes and expectations.** The attitudes of the role models around children, usually their parents and teachers, has an important effect on whether children form an entity theory or an incremental theory. If parents have an incremental theory their every action is modeling that theory for their children to absorb. Likewise, teachers who have an incremental theory will believe their students can and will change and so help bring this about, by the force of their belief through self fulfilling prophesy. Other role models affect people similarly in later life. What people believe about children is also demonstrably able to effect the kind of mindset they develop.



Your brain grows by being exercised. Carol Dweck and her associates have developed a workshop for students who were losing interest and motivation in schoolwork. The purpose of the workshop is to move students from having a fixed mindset to having a growth mindset by lending academic authority to the growth mindset. The following is a excerpt from what those students are taught in part to instigate that change:

"When they do think about what intelligence is, many people believe that a person is born either smart, average, or dumb - and stays that way for life. But new research shows that the brain is more like a muscle - it changes and gets stronger when you use it. And scientists have been able to show just how the brain grows and gets stronger when you learn."

"When you learn new things, these tiny connections in the brain actually multiply and get stronger. The more that you challenge your mind to learn, the more your brain cells grow. Then, things you once found very

hard or even impossible - like speaking a foreign language or doing algebra - seem to become easy. The result is a stronger smarter brain."

True or false. The point of this above passage, was to change what people believed was possible, so its actual truth or falsity was unimportant as long as people believed it. However, if you take a look at our section on the plastic brain, you will see that there is considerable evidence that this is true.

1. Knowledge of self theories. Carol Dweck has just written a book called "[Mindset](#)", a popular non technical book for the general public, and she did this at the behest of her students. Her students felt transformed by her lectures on mindsets, which they felt moved their self theories from entity theories to incremental self theories. Because they felt so transformed, they felt the general public needed to be informed about Dweck's work. This site concurs with the belief of those students to the point where everyone should read "[Mindset](#)", especially parents and teachers.

2. Nature versus nurture. Are we born with a fixed amount of intelligence, or does our intelligence build in increments over time constantly growing and becoming more with our growing knowledge? Are we born with fixed abilities, or are these too developed over time in increments depending on the amount of effort we put in and the persistence we maintain? If so, does this have any bearing on how great we can become as people, or what contribution we can make to society and humanity? The answer is probably somewhere in the middle, but Carol Dweck and her associates have shown that what we believe about nature and nurture, is essential in the structuring of our self theories. Are our abilities provided by our genes or are abilities developed by our intentions and our environment? Is our intelligence provided by our genes or is intelligence developed by our intentions and our environment?

As to the matter of intelligence, which these days is normally measured by an IQ test, it is interesting to note, as Dweck points out, that it was not developed to measure something fixed. The developer of the test, Alfred Binet, created the IQ test in order to identify children who were not profiting from the Paris public schools, so that new educational programs could be designed to get them back on track. Here is a quote from Binet's book "[Modern Ideas About Children](#)":

"A few modern philosophers... assert that an individual's intelligence is a fixed quantity, a quantity which cannot be increased. We must protest and react against this brutal pessimism... With practice, training, and above all, method, we manage to increase our attention, our memory, our judgment and literally to become more intelligent than we were before."

Ultimately it does not matter whether nature or nurture is correct, and it is best we never know the answer, unless it is nurture. Because, if we believe nurture is correct, this gives us an advantage in life, it allows us to be inclined toward a growth mindset, which in turn, enables us to change and become more competent in everything we do.

3. Facilitation by praise. Growth praise. In terms of Carol Dweck's mindsets, good praise means the reinforcing of the idea that you can change what you are. If you seem less intelligent you can learn and become more intelligent. If you lack skills you can learn them. If you are socially incompetent you can learn how to be socially competent. If you are not so beautiful you can do something about that also. Here is what Dweck said, *"If the wrong kinds of praise lead kids down the path of entitlement dependence and fragility, maybe the right kinds of praise can lead them down the path of hard work and greater happiness."* How do you convey this? You praise the process not the person. Praise how the person has improved and is improving. Praise the amount of challenge that is being attempted, the problem solving strategies that were used, the hard work, the persistence and especially the effort. Here are some variations of examples from Dweck's book:

"I think it's great how you found what you were still weakest at and focused on improving that."

"I like the way you tried all kinds of strategies on that math problem until you finally got it."

"You thought of a lot of different ways to solve the chemistry problem and found the one that worked."

"I like that you took on that challenging project for your science class. It will take a lot of hard work but you are really going to learn a lot."

"The truth is that previously you weren't using your brain to the fullest, but now you are really challenging yourself."

"I am really excited about how you're stretching yourself now and working to learn hard things."

"I really admire the way you concentrated and kept trying till you finally found the solution."

"I love the way you have put so much thought into this essay."

"You're really going places kiddo. I really admire the amount of effort and hard work you have put into your studies this year."

"Wow only last year you couldn't do any of those things. Look how much you have improved in just a short time."

"Do you remember asking me about how quantum mechanics worked a few years back? You had no understanding then but now you are teaching me. See how far you have come, how much you have improved?"

- 4. Facilitation by criticism. Growth Criticism.** As with praise, criticism can be a way of reinforcing the mindset of the person being criticized. If the person seems less intelligent you can help them come to feel they can learn more and so become more intelligent. If they lack skills they can be made to feel they can learn them. If they are socially incompetent you can convince them they can learn how to be socially competent. If they are not so beautiful you can make them believe they can do something about that also. How do you convey this? You can criticize them by concentrating the process of change. Criticize how the person is working or has been working, how the person has improved and is improving. Criticize the amount of challenge that is being attempted, the problem solving strategies that were used, the amount of hard work, the persistence and especially the amount of effort put in. One of the simplest ways Dweck and co. found to help move people from an entity theory to an incremental theory, was to simply point out that the reason people had failed was because they hadn't tried hard enough. They then pointed out that the people should therefore try harder the next time. Here are some examples:

"What you really need to do is, find what you are still weak at and focus on improving that."

"You haven't tried enough kinds of strategies on that math problem. You need to try more and different kinds of strategies."

"You didn't try enough different ways to solve the chemistry problem. If you don't try more ways you'll never find the one that works."

"You didn't take on a challenging enough project for your for your science class. You will never learn much if you don't challenge yourself more."

"The truth is that you haven't been using your brain to the fullest. You have been just coasting along on what you already know. You will never learn much if you never try to do things that are hard."

"You really need to stretch yourself. You haven't been working hard enough. You really need to work harder and attempt things that are more difficult."

"You would do better if you concentrated more and kept trying till you finally found the solution."

"This essay is a bit formularized you could have put more thought into what the essay needs to be about."

"You haven't improve improved as much this year as last year. You really need to put in a greater amount of effort and hard work next year."

"Look at how much you improved last year and compare it with your improvement this year. You really need to put in more effort."

"Do you remember how you went from understanding nothing about algebra to becoming an expert at it? You really need to put that much effort into learning and understanding your other subjects?"

- 5. Improvement.** Drawing attention to improvement is the easiest way of facilitating the development of a growth mindset. It is just a matter of, instead of saying how good something is, you say how much

better it is than it was before. If you want to say how clever someone is, say instead how clever they have become. If you want to say how well your child has done in his school work, simply tell him how much better he has done this year compared with last year. If you want to say how beautiful and creative a piece of artwork is, you simply say how much more beautiful and creative it is compared with work the person has done in the past. It is easy for teachers to say how much some work has improved or how much more the person knows than just a few months back, because at school, we are in a position to be absorbing knowledge at a phenomenal rate. (Although many of us unfortunately are forgetting it at the same rate.) Still the knowledge we have is always greater than before. The skills we have, are always more than before.

It may well be, the real function of tests to simply provide students with feedback about how much they have improved. Tests could be prepared in such a way, as to compare them with previous tests or with previous test questions. The thing is, tests could be about how much our mental skills have improved, how much more knowledge we have stored away, and how much better our understanding of the universe has become, but at present it is not.

- 6. Attitudes.** Children with a growth mindset usually turn out to have grown up in a household where at least one of their parent has had a growth mindset. Some such children when facing difficulties say things like, *"I hoped this would be informative."* or, *"Mistakes are our friends."* or, *"I love a good challenge."* Such children have clearly grown up in a household where such comments are often heard and so repeated. Such households, must have been places where the unexpected was embraced, challenges enjoyed and where failure triggered determination to try again and do better.

Expectations. Expectations are another kind of attitude that can bear heavily on the kind of mindset children develop. If parents believe their children are smart, even if they do not tell them so, it will tend to somehow be conveyed to them. But as already pointed out, encouraging children to believe that they are smart is not helpful as it encourages a fixed mindset. If simply believing children are clever is almost the same as telling them so, then expecting children to do well without effort, would clearly not be helpful in encouraging a growth mindset. Dweck believes that the research conducted by Rosenthal and Jacobson on teacher expectations was widely misinterpreted to mean, that teachers when expecting students to do better, tended to tell those students or conveyed to them in other ways that they thought they were smart. On reading "Pygmalion in the Classroom", the book where Rosenthal and Jacobson explained their research I find no evidence that they suggested anything like that. In her book "[Self Theories](#)" Dweck puts it like this:

"Another reason that this belief [that it is somehow helpful to tell students they are smart] is so widespread stem from the research by Rosenthal and Jacobson (1968) on the 'Pygmalion' or teacher-expectancy effect. In this research grade school teachers were given positive expectations for certain children in their classes at the beginning of the school year. The teachers were told that tests that these children would bloom over the coming school year. In fact, the children had been designated at random from the children in their class. Yet these children made greater gains in achievement over that year than did comparable children for whom the teachers were not given high expectations.

These findings were taken to mean that when teachers think children are smart and convey this to them, children thrive. The lesson that was derived from this was that we should convey to children at every opportunity, that they are smart, and this will aid their achievement.

But notice that Rosenthal and Jacobson did not simply tell teachers that certain children were smart or had high IQs. They told them that these children were likely to bloom; in other words they conveyed that these children were open to learning, were ready to grow, could profit from teaching. What this message probably did was lead teachers to work more effectively with these children, and not simply praise their intelligence."

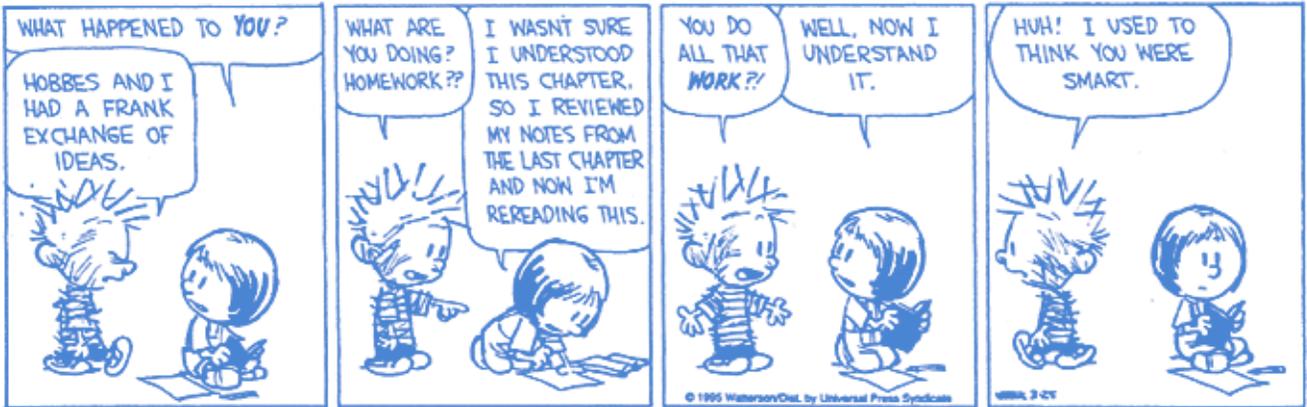
On reading "Pygmalion in the Classroom" it becomes clear that Rosenthal and Jacobson never intended that teachers should tell children they were smart, or implied in any way that they should. In fact, their research is very growth oriented in that they talk about increases in IQ points.

Effort and hard work. For fixed mindset people effort almost seems to be terrifying. Why is this? In her book "[Mindset](#)" Carol Dweck has this to say:

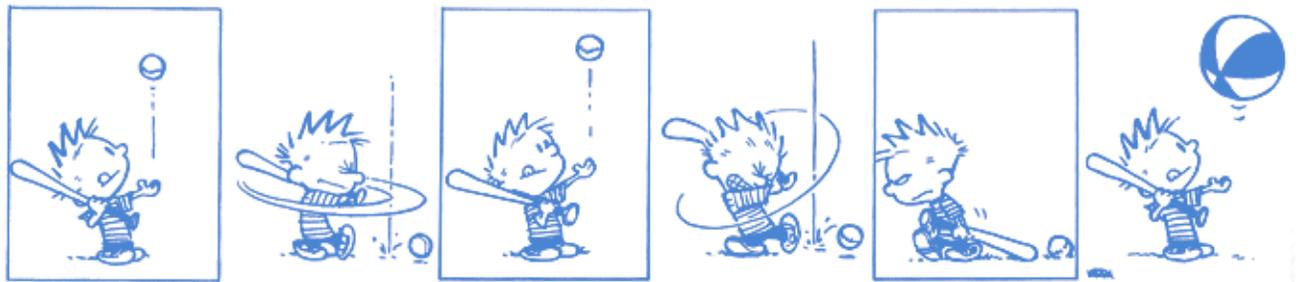
"There are two reasons. One is that in the fixed mindset, great geniuses are not supposed to need it. So just needing it casts a shadow on your ability. The second is as Nadja suggests, it robs you of all your excuses. Without effort, you can always say, 'I could have been [fill in the blank]'. But once you try, you can't say that anymore. Someone once said to me, 'It could have been Ya Ya Ma. If she had really tried for it, she

that anymore. Someone once said to me, I could have been 10-10 Ma. If she had really tried for it, she wouldn't have been able to say that."

Incremental theorists or people with a growth mindset put in a lot of effort and work hard because they believe that is how they will become more intelligent and more competent. Entity theorists or those with a fixed mindset think that this shows people have low intelligence and are incompetent. Calvin in the cartoon below typifies this fixed entity orientation.



Easy work. Entity theorists do not put in a lot of effort. They believe that showing effort will portray them as lacking intelligence and ability. Instead they try to work at things that they can succeed in easily. Activities that they try and find difficult or at which they fail, they tend to give up on, and instead try something that they are sure to succeed at. Of course this is not such a bad thing if they were to try something easier as a step on the way to doing something difficult, but fixed mindset people do not do it for that reason. Calvin in the cartoon below typifies people with this fixed entity self theory.



Performance. Entity theorists are all about how they look to other people, and in a sense they are always performing for others to make judgments about. They tend to be lacking in real interests and instead tend to do things that they hope others will be able to access as competent, and thus judge them as being competent. The cartoon below beautifully captures this fixed entity orientation.



Blaming others. People who have an entity or fixed theory about them selves often try to discount tests by characterizing them as too difficult or unfair, as this allows them to maintain the perception that they are intelligent and competent as the exam was faulty. They can blame others for their failure and thus they never failed.

Self handicapping. Entity theorists also tend to indulge in self handicapping, especially in the form of not trying. After all, if you do not try it is difficult to say that you have failed. Besides what is the point of trying if you believe you are going to fail.

In the cartoon below the two characters are both blaming others and self handicapping in order to maintain the perception that they are intelligent and competent.



Confidence. Confidence is different for the two mindsets. People with a fixed mindset are confident that they can do things because they are smart or have abilities. People with a growth mindset are confident that they can learn to do things if they are willing to put in sufficient effort. Carol Dweck explains the growth mindset of confidence as follows:

"A remarkable thing I've learned from my research is that in the growth mindset, you don't always need confidence. What I mean is that even if you're not good at something, you can still plunge into something because you are not good at it. Actually, sometimes you plunge into something because you are good at it. This is a wonderful feature of the of the growth mindset. You don't have to think you're already great at something to want to do it and enjoy doing it."

Self theories and attractiveness. Abilities and intelligence are by no means the only attributes that people with an entity theory might dwell on, or feel crushed about according to how others judge them to be. Young girls often seem to spend an inordinate amount of time telling each other how ugly or unattractive they are. Now, if they happen to have an entity theory about themselves, which Dweck tells us is much more likely in girls, they are likely to feel therefore very unattractive. If on the other hand they had an incremental theory they would not be crushed, even if they actually felt they were ugly. With an incremental theory, if you are not so beautiful you can do something about it, you can make up for it with a sparkling and charming personality, use makeup to beatify yourself, dress in beautiful clothes, lose weight or have cosmetic surgery. People with an incremental theory would probably do some of these things if they came to feel ugly, or even if they would like to be more attractive.

People who are physically attractive often seem to have less need to improve social skills, which tend to come easily or rather seem to. That is to say, attractive people do not need to know how to make others like them, nor do they need to have skills at approaching and getting to know people. People already like them and are tripping over each other trying to get to know them. One can easily see how attractive people can end up with entity mindsets as they are constantly praised and adored.

Self theories and social competence. Just as people with a fixed self theory feel they cannot improve intellectually or improve creative and vocational abilities, they also tend to feel less capable of improving their social skills. People with a fixed mindset often not only misunderstand, but also believe that what they attribute to others cannot be changed. This makes relationships fragile and easily broken, as not only do entity theorists not believe others can change to be more compatible with themselves, but are equally unable to change themselves. People with an incremental theory however, see relationships as tenuous arrangements at first, which can be made more and more solid by working at changing both themselves and encouraging others to change likewise to be more and more compatible. We can be bad at this and get better at it, or we can always react the same way because that is who we are and we do not believe we can

Self theories and self esteem. Soon you will be able to [click here](#) to learn more.

Self theories and self-actualization. Soon you will be able to [click here](#) to learn more.

Self theories and personal maps of reality. Soon you will be able to [click here](#) to learn more.

Self theories and brain maps. We know quite a bit about how the brain works these days. We know that certain areas of the brain can be mapped to certain functions, but that the brain is plastic. If a brain function is not used, that area of the brain will be taken over by a function that is being used. It should not surprise us to know then, that if we stop learning our ability to learn actually diminishes. People with a fixed mindset do of course continue to learn, but they learn only small, additive, safe bits of learning that do not threaten the knowledge that they already have. In this way the brain is no longer required to restructure itself much as learning takes place, and so, the ability of people with a fixed mindset are more likely to find their brain capacity or even IQ gradually diminishes.

Deci & Ryan's self-determination and intrinsic motivation. There is a connection between Dweck's theories of self and Deci & Ryan's theory of self-determination.

Fixed mindset people are performers who are performing for external reward and they tend to evaluate all their own actions in terms of how it will be perceived by others and how that will result in external reward (that is to appease others or result in money, fame or some other external gratification). Fixed mindset people tend to see the locus of causality normally outside themselves, and no wonder they are prone to feeling helpless, and do not really believe much can be done about anything, especially by them. Because of their more external orientation, they are more easily controlled and tend to try and control others as a way of feeling more autonomous. Fixed mindset people, because they have so little internal motivation, are less creative and are less generally able to accomplish even externally generated goals.

People with a growth mindset tend to be intrinsically motivated. That is to say, that while they can be manipulated by others and by the use of external rewards, their preference is to be internally motivated, and are more easily able to motivate themselves in the absence of external incentives. It follows, that in order to overcome obstacles, to continue learning in the face of failure, intrinsic motivation is almost essential. Growth mindset people tend to be less interested in controlling others, and will more strongly resist the efforts of others to try and control them. Though growth mindset people are normally motivated by intrinsic motives, they tend to be far more flexible. They are able to tackle performance goals such as exam results or growth goals, such as learning for its own sake or in order to improve themselves, with equal enthusiasm. But here exam results are not an end in themselves, but rather a prerequisite for some intrinsic goal such as the ability to go to a good college or in order to get a particular job. So we must ask ourselves, "How likely is a Deci and Ryan locus of causality to be anywhere, but inside a growth mindset person?"

Life Long Learning. Although Dweck's studies do not claim that all growth mindset people are also life long learners, it seems to this site that they have a much better chance of becoming life long learners than do fixed mindset people. Why do I say this? Well for the same reason that they are more likely to be learners than nonlearners. Learning is all about change and change for the better.

For the most part fixed mindset people do not believe in change. They do not believe they can change themselves. They do not believe others can change themselves. They do not believe that anyone can make much difference in the world. They really do not believe that the world changes much. They believe the old dictum 'the more things change the more they stay the same'. This rules out much of the motivation to learn. But there are other reasons that fixed mindset people tend to avoid learning. Fixed mindset people tend to be afraid of challenges, they avoid obstacles, and they are afraid of anything that might highlight their lack of intelligence or their lack of abilities. They are literally afraid to learn.

Growth mindset people on the other hand are not afraid of looking stupid or acting stupid. For them every setback is a challenge and every challenge is enjoyable. Growth oriented people are more likely to become life long learners because they enjoy learning for its own sake, and because they believe it will increase their knowledge, their intelligence, their skills, and their abilities. This in turn is the process that they find most worthwhile and thus enjoyable, (changing themselves for the better). With luck they can do it all their lives.

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