### What Grit and Growth Mindset Really Mean for the Smart Student



**SMART**  $\neq$  easy

## Agenda

What does the research say?
What predicts success? IQ vs. Grit
James & Susie
Underachievement
Twice Exceptional (2e)
What to do about it

#### Slides: tinyurl.com/gritmindset2023



## A Note

► I hate the word "gifted"

- Poorly understood ("Every child is gifted")
- Negative connotations
- Many believe it is elitist
- But, it's the term used by researchers and most professional organizations

Synonyms

- Smart, very bright, high intelligence, advanced
- ► WA: "highly capable" or HiCap
- NOT (necessarily) high-achieving



## The Central Question: What Predicts Success?

#### Dweck, 2007 Duckworth, 2016

## Grit & Growth Mindset

Terman, 1921 - 1990s Lubinsky, 1972 - now

### IQ, Ability, Intelligence

## What is "Success?"

what the Measured

Academic achievement Eminence in a field Advanced degrees High salary Leadership position Awards High GPA

- Happiness
- ► Fulfilment
- Sense of purpose
- Friends & family
- Meaning
- Security



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# Grit (Duckworth, 2016)

What predicted success at:

- West Point Military Academy
- National Spelling Bee
- High school juniors, 8<sup>th</sup> graders



- "It wasn't social intelligence. It wasn't good looks, physical health, and it wasn't IQ. It was grit."
- "Self-discipline predicted academic performance more robustly than did IQ."

In our data, grit is usually unrelated or even inversely related to measures of talent."
SMART ≠ easy

"Everyone should own this book." — CHIP HEATH & DAN HEATH, authors of *Made to Stick* and *Switch* 

> HOW WE CAN LEARN TO FULFILL

OUR POTENTIAL

\*parenting

\*school \*relationships

CAROL S. DWECK, Ph.D.

### Growth vs. Fixed Mindset (Dweck, 2007)

- "Skills and achievement come through commitment and effort."
- "Praising children's intelligence harms their motivation and it harms their performance."
- "Although people may differ in every which way in their initial talents and aptitudes, interests, or temperaments – everyone can grow through application and experience."
- "Growth mindset is based on the belief that your basic qualities are things you can cultivate through your efforts."
- "The fixed- and growth-mindset groups started with the same ability, but as time went on the growth-mindset groups clearly outperformed the fixed-mindset ones."





### But there are complications...

- "All students can be gifted if they work hard enough and have a growth mindset"
  - "false growth mindset" (Dweck, 2015)
- "The effects [of growth mindset] were modest and were obtained only for the lower-achieving students."
- 88 study meta-analysis of 88 studies showed that grit is only responsible for 20% of achievement difference, grit = conscientiousness (Crede et al, 2015)
- Debunked: 10,000 hours of deliberate practice to mastery (Gladwell, 2011) (Ericsson, 1993)
  - Chess grand masters 728 hours to 16,120 hours of deliberate practice (Gobet & Campitelli, 2007)
  - Meta-analysis of 88 studies: "deliberate practice explained 26% of the variance in performance for games, 21% for music, 18% for sports, 4% for education, and less than 1% for professions." (Macnamara et al, 2014)



### More complications...

 Growth mindset vs. fixed mindset no different for gifted students than typical students (Mofield & Peters, 2018; Esparza et al, 2014)

HOWEVER, 16-49% of all students in the US are working a full year+ ahead in math and/or reading (Peters et al, 2017)

Advanced students less likely to be challenged in school, so not much opportunity to demonstrate a growth mindset...



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# Lubinsky/SMPY (1972 – ongoing)

- Studied 5,000 students who scored in top 3%, 1%, 0.1%, and 0.01% on SAT over 4 decades
- "achieved baccalaureates (90%, 92%), master's degrees (39%, 37%), and doctorates (28%, 24%) well beyond the base-rate expectations of 23%, 7% and 1% respectively"
- "top .01 percent of testers in their adolescence accomplished these things at significantly higher rates even when compared to the top 1 percent of adolescent testtakers"
- BUT look at the MEDIAN!
  - More than 60% of men, and 80% of women had a salary of LESS than \$100,000 (2004)
  - Most highly gifted individuals led typical adult lives

Grade-skippers were 60% more likely to earn doctorates or patents and more than twice as likely to get a PhD in a STEM field"



# Terman Study (1921 – 1993...)

- $\blacktriangleright$  1,500 students with IQ > 140, studied over the lifetime
  - Largely middle class, white, male (and Terman meddling)
- > 2/3 got bachelor's degrees (10x the expected rate)
- Oden compared the 100 most successful and 100 least successful men in the group, defining success as holding jobs that required their intellectual gifts. The successes, predictably, included professors, scientists, doctors and lawyers. The non-successes included electronics technicians, police, carpenters and pool cleaners, plus a smattering of failed lawyers, doctors and academics.

But here's the catch: the successes and nonsuccesses barely differed in average IQ. The big differences turned out to be in confidence, persistence and early parental encouragement."



### **Complications here too...**

- IQ scores only explain 25%-49% of the variance of school grades
  - (Neisser et al., 1996; Anderson & Keith, 1997)
  - Executive function matters a lot in school grades (but probably shouldn't)

 SAT scores predict college grades better than high school grades (Sackett, 2012)



## So, What Predicts Success?

#### Yes, but:

• Effect sizes are modest

• Not all studies agree

# Grit & Growth Mindset

Yes, but:
Wide variety of levels of performance as adults
Successful individuals had SUPPORT and ACCELERATION

IQ, Ability, Intelligence

### Bottom Line: IQ is Not Enough

- Grit & Growth Mindset may explain the difference in success for high IQ individuals
- Renzulli's 3 Ring Model of Giftedness
  - Above Average Ability, Creativity, Task Commitment

But why doesn't teaching grit or growth mindset or task commitment work? What are we missing?



# The Secret to Raising Smart Kids

HINT: Don't tell your kids that they are. More than three decades of research shows that a focus on "process"—not on intelligence or ability—is key to success in school and in life

By Carol S. Dweck on January 1, 2015

A brilliant student, Jonathan sailed through grade school. He completed his assignments easily and routinely earned As. Jonathan puzzled over why some of his classmates struggled, and his parents told him he had a special gift. In the seventh grade, however, Jonathan suddenly lost interest in school, refusing to do homework or study for tests. As a consequence, his grades plummeted. His parents tried to boost their son's confidence by assuring him that he was very smart. But their attempts failed to motivate Jonathan (who is a composite drawn from several children). Schoolwork, their son maintained, was boring and pointless.

Our society worships talent, and many people assume that possessing superior intelligence or ability—along with confidence in that ability—is a recipe for success. In fact, however, more than 35 years of scientific

#### Meet James





James didn't know how to write his letters when he entered kindergarten





#### But with some practice, he learned











...and he did struggle, but the teacher helped him, and he figured it out

No, not that way. Try this instead	Oh, I get it now! Like this?



In Kindergarten, James learned it was OK

- •to ask questions
- •to try
- •to not give up at the first hurdle



#### Meet Susie





Susie is very bright. She started Kindergarten already knowing how to sound out words, and was surprised that other kids didn't read yet.





Susie quickly grew in her abilities, seemingly without trying







#### As Susie grew, she easily picked up on new topics









Susie's parents were very proud of her perfect report card, and remarked at how easily she learned new things

"Susie is a delight to have in class." We're so proud of you!





#### In kindergarten, Susie asked a lot of questions



After a while, Susie stopped asking so many questions



By 2<sup>nd</sup> grade, Susie realized that she didn't need to work very hard to do well in school.



Meanwhile, James grows, and every school year gradually presents bigger challenges...





James has had lots of practice learning how to attack new, hard challenges.

- •He has strategies
  - Don't give up.
  - Read it again.
  - Ask for help.
  - Try it, even if you're not sure how to do it at first.



James goes to middle school, high school, college...

All along, learning how to tackle bigger and bigger challenges.





Meanwhile, Susie continues to achieve despite not putting in any real effort




Meanwhile, Susie continues to achieve despite not putting in any real effort





Susie grows too. She starts middle school, and does well in her honors classes





But the next year she takes Honors Geometry...









Because Susie's elementary school experience didn't challenge her, Susie never had the opportunity to develop these skills:

- Self-confidence
  - to know that she can tackle a truly hard problem
- Emotional coping skills
  - to persevere through a challenge
- Delayed gratification
  - to put forth sustained effort
- Tolerance for failure
  - and learning from mistakes
- Study skills
  - to learn something you don't already understand



#### Susie never learned how to LEARN



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Our society worships talent, and many people assume that possessing superior intelligence or ability—along with confidence in that ability—is a recipe for success. In fact, however, more than 35 years of scientific We can't expect bright kids to develop **Grit** or a **Growth Mindset**...

...if they rarely experience challenge ...if they rarely have to put forth conscious effort

They had no opportunity to practice



#### Identity Crisis: Smart ≠ Easy

"Things have always been easy for me, because I am so smart."

"Uh oh, this new thing isn't easy."

"Maybe I'm not smart anymore..."

Some kids dig deep and adjust, but others...



#### It can go <u>really</u> bad

- ► High School dropouts...
- ► Suicide...
- School shooters...
- ► Prison...



## Underachievement is common

- ► Has its roots in 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> grade
  - But often isn't visible until middle or high school
- Kids may never have to develop:
  - ► How to handle a real challenge
  - Persistence, perseverance, "grit"
  - Emotional coping skills, tolerance for failure
  - Study skills, time management skills

Learning disabilities may be hidden until the material gets challenging enough

Twice Exceptional (2e)



#### Disengagement

"When they start to underachieve, the natural response for self-preservation is to actually stop caring. They're like: "I don't care about school anymore, this is stupid, this is boring." You'd rather be disengaged and do bad, than **try** and do bad.

Typically, over time we start to see elements of anxiety and depression that kick in."

- Dr. Dan Peters, Summit Center



## Smart Kids at a <u>DIS</u>-advantage

- They are rarely challenged in school, so have little personal experience with effort  $\rightarrow$  results
- Parents who don't push elementary students to stretch themselves
  - "There's time for that later, in middle school"
  - Especially girls...
- Parents who don't allow kids to struggle
  - Learned helplessness
- It's hard to truly challenge a smart kid
  - They are capable of a LOT more than they let on



# The brighter the child in a too-easy environment...

...the more you reinforce these traits

#### ▶ <u>Perfectionism</u>

- Sensitive to criticism
- Intense reactions to setbacks
- Stubborn/inflexible
- Takes feedback personally
- Afraid to try new things
- Dwells on mistakes

These traits predispose kids to avoid challenge

SMART≠easy

- Or to give up too soon
- Avoiding risk, mistakes, failure

I never recognized myself as **G** gifted, and school came easy to me. I never learned to study until I almost failed my first year of college. Kids who weren't as smart as me, had skills that I had never " learned, and understood how to work the system, it was humiliating to figure that out the hard way.



I was never challenged in " school until college, and I almost lost an academic scholarship my first semester because I had never learned how to study or work hard! " My whole concept of self was shaken when I finally "failed" at something.



# " I'm not good at things I'm not good at.

"



#### Underachievement

**SMART** ≠ easy

#### What is underachievement?



Level of achievement, skill development, domain mastery



#### **Causes of Underachievement**

- Lack of grit (persistence, self-discipline, etc.)
   Fixed mindset that encounters frustration
- Under-challenging curriculum: "this is pointless"
- Dumbing down to fit in socially
- Learning disabilities (2e) may be hidden until the material gets challenging enough
- Delayed brain maturation around executive function



#### **Reversing Underachievement**

- Very difficult to reverse once entrenched
- Strategies that have the most hope:
  - "Figure out the individual cause"
  - Address any learning disabilities & medical issues
  - Build on student's strengths & passions
  - Motivate with the long term picture
    - Career exposure, mentors, internships
  - A dedicated, caring teacher that believes in me
  - NOT: pressure from a parent

Ideal: <u>PREVENT</u> underachievement by addressing needs before it becomes a problem



#### It might not be a lack of GRIT...

#### Is it Twice Exceptional (2e)?

**SMART** ≠ easy

## 2e Hides if School is Too Easy

- Twice Exceptional (2e): Gifted IQ plus a disability, learning difference, or neurodivergence
  - Kids can compensate more than you think
- Find the correct root cause(s)
  - ► ADHD, Autism, PDD-NOS, SCD, PDA, ODD...
  - Dyslexia, Dysgraphia, Dyscalculia, Dyspraxia
  - Auditory & Vision Processing Disorders
  - Sensory Processing Disorders
  - Primitive Reflex Integration
  - ► Anxiety, Depression, OCD, etc.
  - Medical: PANDAS/PANS, allergies, sleep apnea, chronic illness, autoimmune, etc.



## WHY DIAGNOSIS MATTERS

#### "Why do you need a label?

Because there is comfort in knowing you are a normal zebra, **not a strange horse.** 

Because you can't find community with other zebras if you don't know you belong.

And because it is impossible for a zebra to be happy or healthy spending its life feeling like a failed horse."

The important part is that the label is ACCURATE Find the correct root cause(s)

Image Credit: pngall.com; Quote Credit: Instagram #omgimautisticaf







## 2e is a Form of Neurodiversity

- Neurodiversity is not just about autism
- Brain with a different "operating system"
- Careful: Neurodiverse brains are not "worse" (or "better")

#### ► They are **DIFFERENT**

- Pattern of strengths and challenges
- Many common diagnoses are better understood as neurodiversity
  - ► ADHD strengths in quick response time, acting under pressure
  - Dyslexia strengths in visual/spatial, creativity, big picture, entrepreneurial
  - Autism strengths in spotting patterns, details, logic

 Every brain is unique - just like a fingerprint (Valizadeh et al., 2018)



#### High IQ is a form of Neurodiversity

Regional brain volume is **BIGGER** in some areas (left hemisphere, bilateral frontal cortex, phonological loop, working memory, sensory, anxiety, amygdala)

and SMALLER in others (lateral-parietal junction)

 DENSER connectivity between some areas (arcuate fasciculus, corpus callosum - "information highways")

and SPARSER connectivity in others

Brain maturation happens on a different timeline (4 years later!)

High IQ brains are physically different than neurotypical brains

gro-gifted.org

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# What Does 2e Look Like in the Classroom?

- explosive behavior
- distractible
- trouble finishing work
- anxiety
- perfectionism
- trouble getting started

Easy to misunderstand as

#### "lazy" "unmotivated" "doesn't care" "mis-identified as HiCap"



#### **Behavior is communication**

When a 2e student is having a hard time, you will see it in their behavior

 "Not won't, can't" "Kids do well when they can" – Ross Greene

"Shifting from addressing behaviors to trying to understand their origins and triggers means making a shift from managing our children to understanding them deeply." – Mona Delahooke

"It's never about lazy." – Austina De Bonte



## Polyvagal safety is essential

- Porges polyvagal theory
  - Autonomic nervous system is constantly evaluating the environment for safety
  - Co-regulation is essential

#### Create a neurodiversity-affirming classroom (& home)

- Relationship with teacher (& parents)
- Environmental safety in classroom (& home)
- Relational safety with classmates (& family)



**Dorsal Vagal** shutdown, overwhelm

Adapted from Deb Dana 2022; Porges 2011



Rewarding neurotypical learning styles teaches ALL kids that neurotypical brains are superior.

This is harmful to neurodivergent kids.



Creating a neurodiversity affirming classroom & home environment

SMART = easy

Infographic by #neurowild on Instagram & Facebook

# Universal Design for Learning (UDL)

- Make all learning accessible to all students
- Provide accommodations & supports to ALL students – just like a pencil
  - ► Keyboarding, audiobooks, dictation, spellcheck, ...
  - Snaptype app (to type in ANY worksheet)
- 2e students think accommodations are "cheating" if they are the only ones allowed to use them
- Many other students will also benefit



# How to Build Up Grit & Growth Mindset



#### The Central Concept



**SMART** ≠ easy

#### Build Up Grit & Growth Mindset

- Provide experiences with <u>genuine</u> challenge
  - Advanced school programs
  - Musical instruments, foreign language
  - Sports teams, individual sports
    - ► Martial arts, swimming, fencing, tennis...
  - Independent study projects, contests, olympiads

SMART≠ easy

- Let kids struggle and fail (within reason)
- Discuss perfectionism openly
- Insist on persevering through challenge
  - Not just academics extracurriculars, spe



"The brain is like a muscle. It needs a workout to get stronger."

Posters & Lesson Plans byrdseed.com
# Teach kids explicitly about neuroplasticity (brain growth)

#### ideas.classdojo.com



#### MANY videos on YouTube



### **Be Careful What You Praise**

The straight A report card?
The amazing looking project?



### Grit is not...

- Do it because I said so
- Gritting your teeth through it
- Tolerating boredom or an inappropriate school environment

### Rather, grit is...

- Tolerance for short term pain in service of long term goals
- Persistence & perseverance
- Working through confusion
- Trying again after failure



# REMINDER: Adults don't have to be great at everything



Adult careers will focus on STRENGTHS

"Niche" environments that support or eliminate weaknesses (Armstrong, 2012)





#### **Colleges are looking for "spiky" applicants!**



# Gifted Child Syndrom



Jess Zeidi

@izeidz ·

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What Causes This?

- Lack of challenge to develop grit
- Unsupported 2e
- Social isolation
- "We expect great things from you"

The problem is NOT the label. It's what you DO about the label.

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# **Prevent Gifted Child Syndrome**

#### DO

- Regular challenges to build grit
- Normalize making mistakes and asking for help
- Reward effort, not results
- Be on the lookout for subtle 2e
- Provide accommodations universally (it's not cheating!)

#### DON'T

- Create a pressure cooker with a high volume of work
- Set unrealistic expectations
- Expect success in everything
- "We expect great things from you"
- "You're so smart, you should be able to do this"



### Now What?



### "Equity" does not mean giving the same education to every kid

- Different kids are in different places
- Every kid should learn something new at school every day
  - Vygostky's Zone of Proximal Development
  - Not too easy, not too hard
- Not <u>MORE</u> work, <u>DIFFERENT</u> work
  - Not just more classwork on top of the "regular" stuff
  - Make sure the kid doesn't feel punished for being smart by giving them <u>more</u> work

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- Piles of homework is NOT the goal
- Not a pressure cooker, just the right level to <u>build grit</u>

### Bottom line...

Mismatch with the environment

# Smart is NOT Easy Emotionally – Socially – Academically **Grit** – Executive Function



### Why do we serve smart kids?

- They are a special needs population
- Without intervention they are at risk
- Nurturing the WHOLE CHILD
- GOAL: Functioning citizens in our community

#### ► NOT:

- To create eminent leaders (Einstein, Steve Jobs, ...)
- To send more kids to Harvard, Stanford, MIT...
- To nurture child prodigies
- To increase our international math ranking
- ► To improve the US economy



### Thank You! Questions?

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Slides: http://tinyurl.com/gritmindset2023

