

# Invisible Diversity

Fernanda Psihas  
FERMILAB

Are hidden disabilities hiding potential great physicists?

Explore the light bulbs to check your own bias and learn about how ADHD works.

## Does ADHD enhance or suppress your science skills?

Attention-deficit hyperactivity disorder (ADHD) is a neuro-developmental disorder diagnosed on the basis of **persistent and impairing** levels of overactivity, inattention, and impulsivity. ADHD affects up to 8.7% of children and can be persistent through adulthood [2].

ADHD affects executive function tasks in the brain: **ADHD brains function and develop differently than neurotypical brains.**

Differences in cognition affect individuals in different ways. Research on neurodiversity in the workforce is on the rise.

### Multi-tasking

ADHD causes difficulties regulating attention, but it may enhance a web-thinking approach connecting multiple tasks [8]

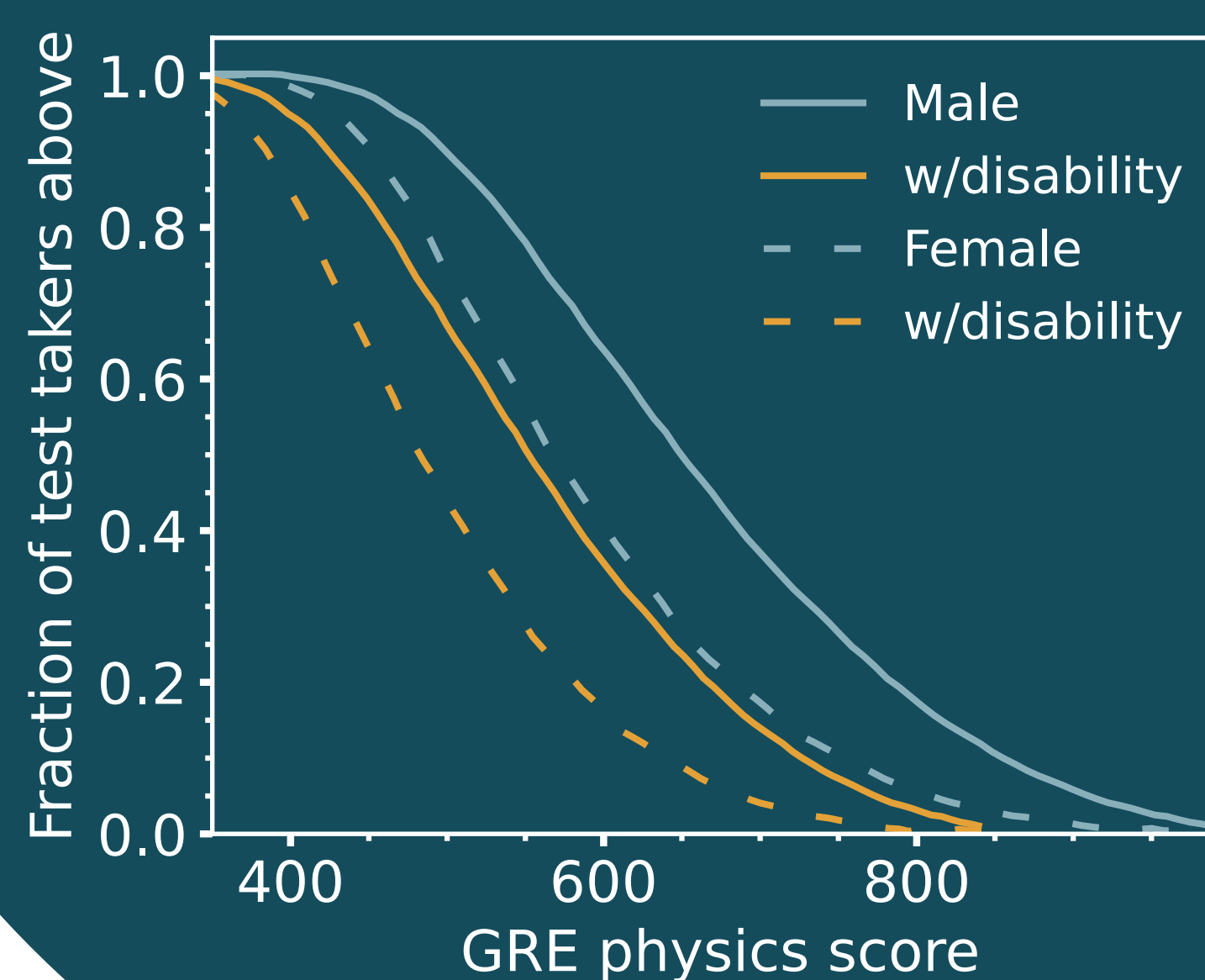
### Resilience

*"Having ADHD means failing a lot and trying a lot harder at life. Failing a lot allows you to develop resilience."* Jessica McCabe, ADHD educator.

Coaching and cognitive behavioral therapy strategies can especially help develop resilience in people with ADHD [7]

## Effect of requiring the GRE

ADHDers consistently under-perform on standardized tests. On average, testing accommodations do not correct this issue for students with ADHD [6].



Physics GREs are **biased vs minorities** and **bad predictors** of academic success.

Conservative assumption of the effect of **disabilities** in standardized test **performance**.

### Gender Differences

Women with ADHD can often display more inattentive than impulsive symptoms, which leaves women undiagnosed more often. 3 boys are diagnosed per 1 girl (source NIH)

### High IQ

There is no correlation between intelligence and ADHD, but people with high intelligence can go undiagnosed more easily.

Lower relative scores in the working-memory portion of IQ can be an indicator of ADHD.

### Entrepreneurship

ADHD symptoms catalyze entrepreneurial behavior through the multi-dimensional traits of impulsivity [3]

### Focus & Attention

ADHD does not cause a "deficit of attention", but a difficulty regulating attention.

### Hyper-Focus

Hyper-focus is a spontaneous, sustained, intense concentration on a single interest or project for an extended period of time typical of ADHD [8]

### TEST-TAKING

Students with ADHD significantly under-perform on standardized tests.

Accommodations do not fix the problem [6]

### Risk-Taking

Impulsivity and hyperactivity allow the ADHD brain to take risks and follow new ideas. Adults with ADHD are 300% more likely to start their own business [3]

### Creativity

Adults with ADHD show higher levels of original creative thinking and of real-world creative achievement, compared to neurotypical adults [1,5]

## Autism spectrum

Creative thinking

Honesty

Reliability

Exceptional memory

Consistent routine

Attention to detail

Loyalty

Perfectionism

Multi-tasking

Working memory

Spatial orientation

Big-picture thinking

Creativity

Pattern recognition

Logical Reasoning

Web-thinking

**It's not just ADHD!**  
All neuro-diversity brings skills that can make top scientists!

Dyslexia

### Idea generation

Thanks to disinhibition and divergent thinking, idea generation is more frequent and more original in ADHD adults. [4]

### Divergent thinking

Divergent thinking —generating creative ideas by exploring many possible solutions— is more natural to Adults with ADHD [5]

### Performance in a crisis

ADHD brains are constantly under-stimulated. The additional stimulation provided by our response to urgency enables ADHD brains to outperform neurotypical brains on urgent tasks and in "crisis-mode" [8]

Especially in the sciences, **diversity in cognition is an advantage.**

A neurodiverse field is best suited to find new ways to **understand the nature of our universe.**

References:



[1]



[2]



[3]



[4]



[5]



[6]



[7]



[8]