

ADHD

It's all in your head (literally)

Biological perspectives and life
as a late diagnosed woman



What is ADHD?

Attention Deficit Hyperactivity Disorder

Inattention

- Missing details or making careless errors
- Trouble staying focused during tasks or conversations
- Seeming not to listen when spoken to directly
- Failing to finish schoolwork, chores, or work duties
- Trouble organizing tasks and schedules
- Avoiding tasks that need long mental effort
- Losing daily items like keys, glasses, or phones
- Getting distracted easily by outside noise or thoughts
- Forgetfulness in daily routines and appointments

Me thinking of something else completely while I'm being talked to



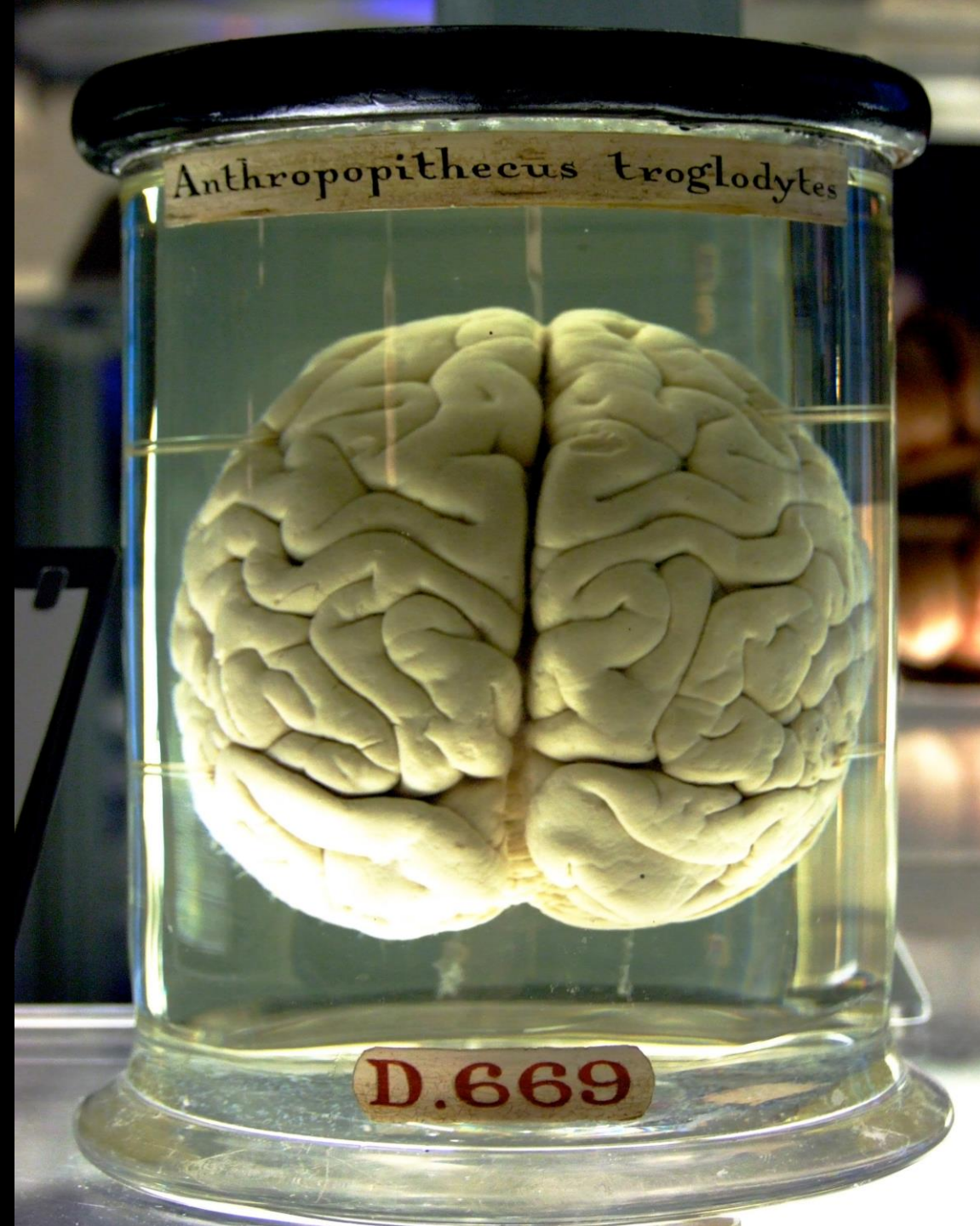
What is ADHD?

Attention Deficit Hyperactivity Disorder

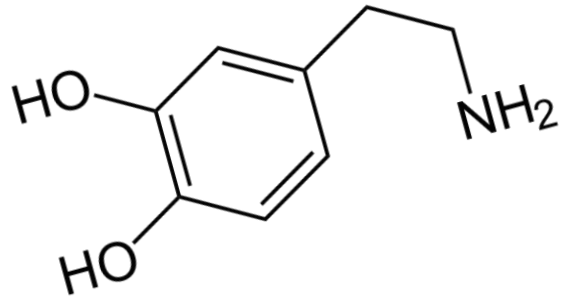
Hyperactivity/Impulsivity

- Fidgeting, tapping hands, or squirming in seats
- Leaving a seat when staying put is expected
- Running or climbing at odd times or feeling restless
- Trouble playing or joining quiet activities quietly
- Acting as if driven by a motor or always "on the go"
- Talking too much
- Blurting out answers before a question finishes
- Trouble waiting for things
- Interrupting or intruding on conversations or games



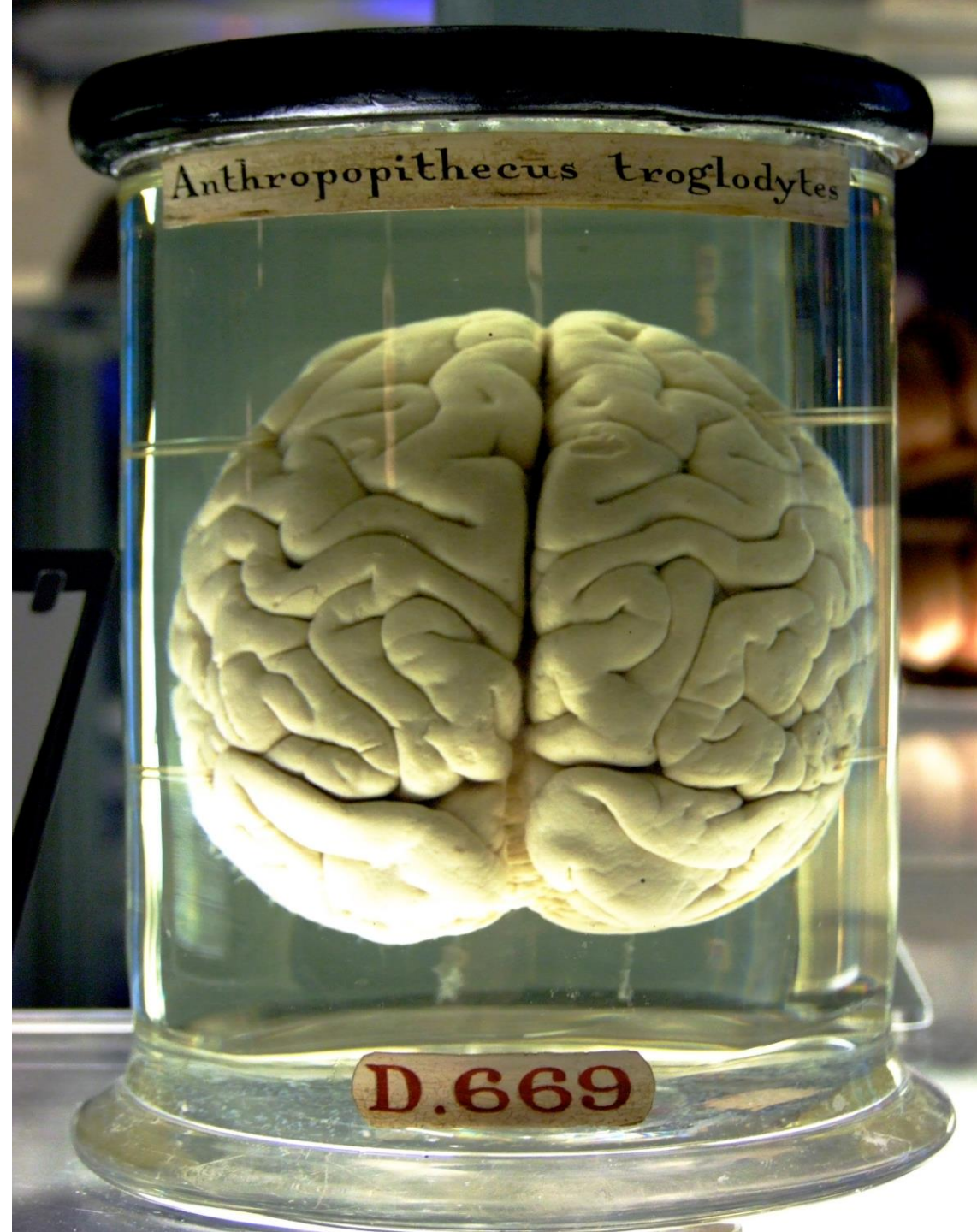


Dopamine!

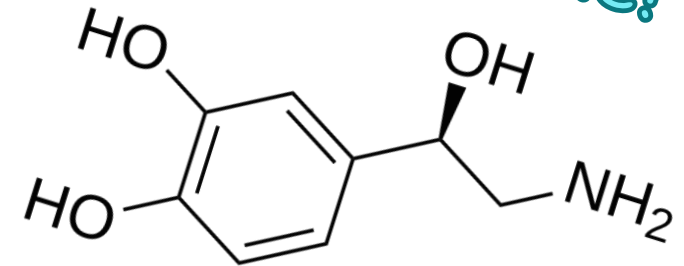


Neurotransmitter

used by neurons to
send signals to other
nerve cells



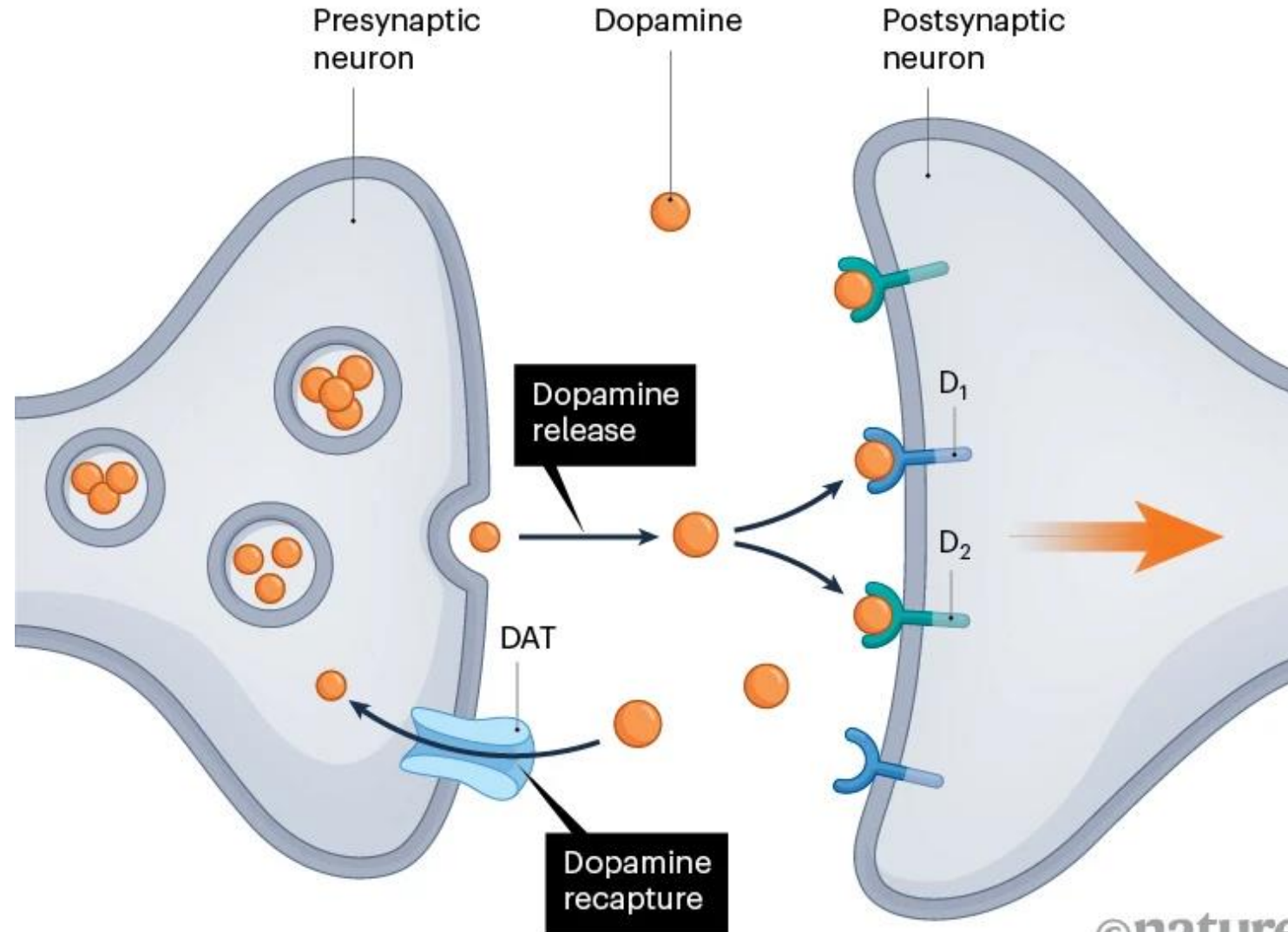
Norepinephrine!

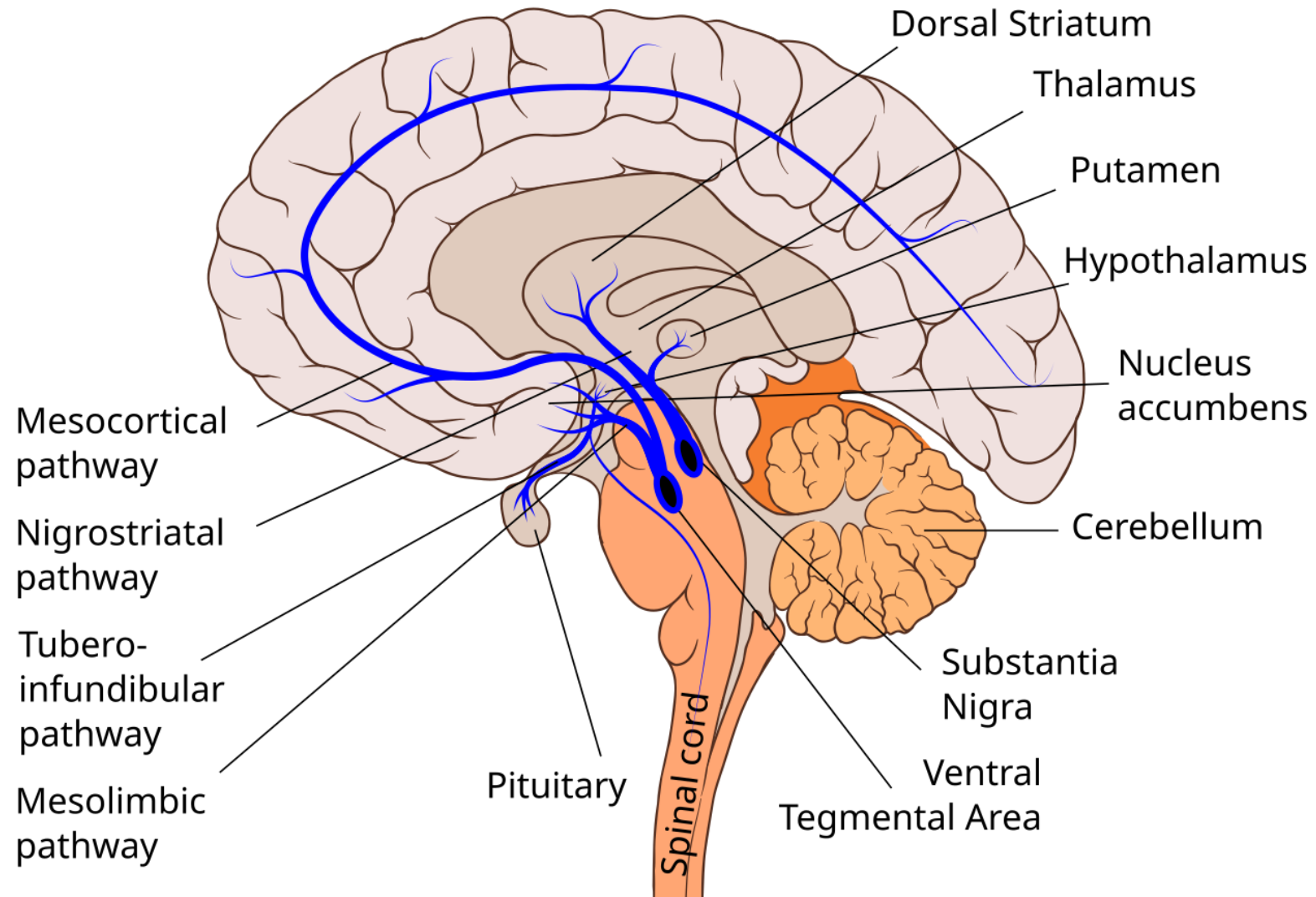


Hormone,
neurotransmitter,
neuromodulator

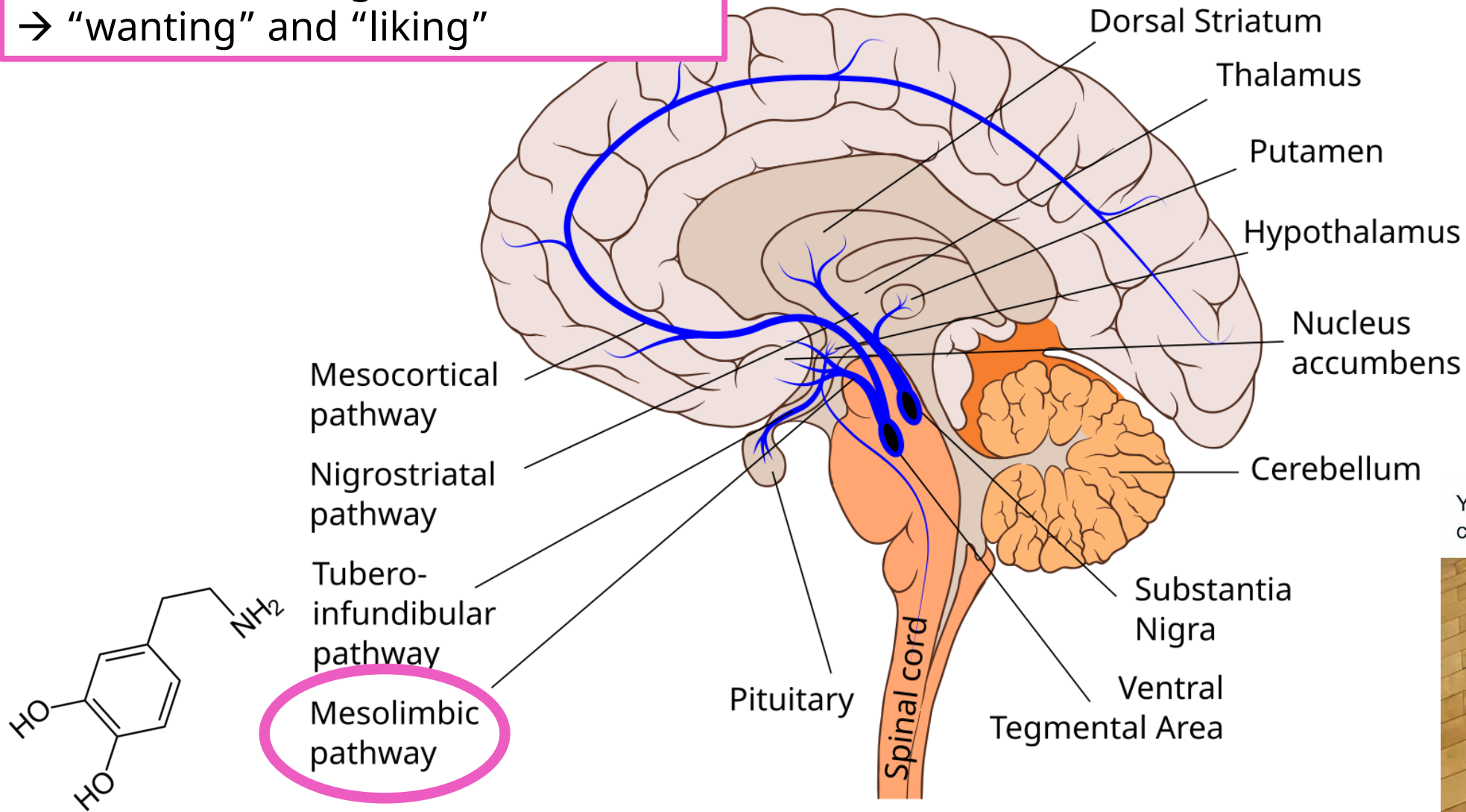
THE DOPAMINE-ADHD CONNECTION

Dopamine is stored in neurons until it is needed and released into the synapse. It then binds to dopamine receptors (D1 and D2) on the adjacent neuron, and a dopamine transporter (DAT) clears it away. Dopamine signals have long been a target for ADHD treatments, and researchers are now working out how they relate to the condition.





reward-related cognition, motivation
→ “wanting” and “liking”

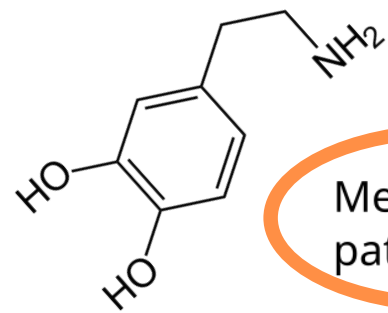


You've reached encouragement cat. Great job. Keep it up.



executive functions

→ attention, working memory,
inhibitory control, planning, etc...

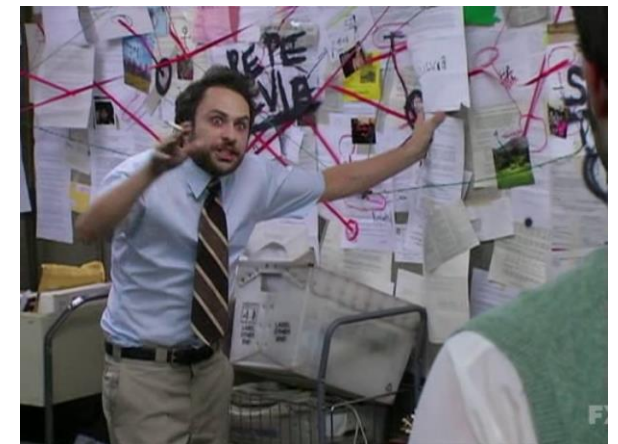
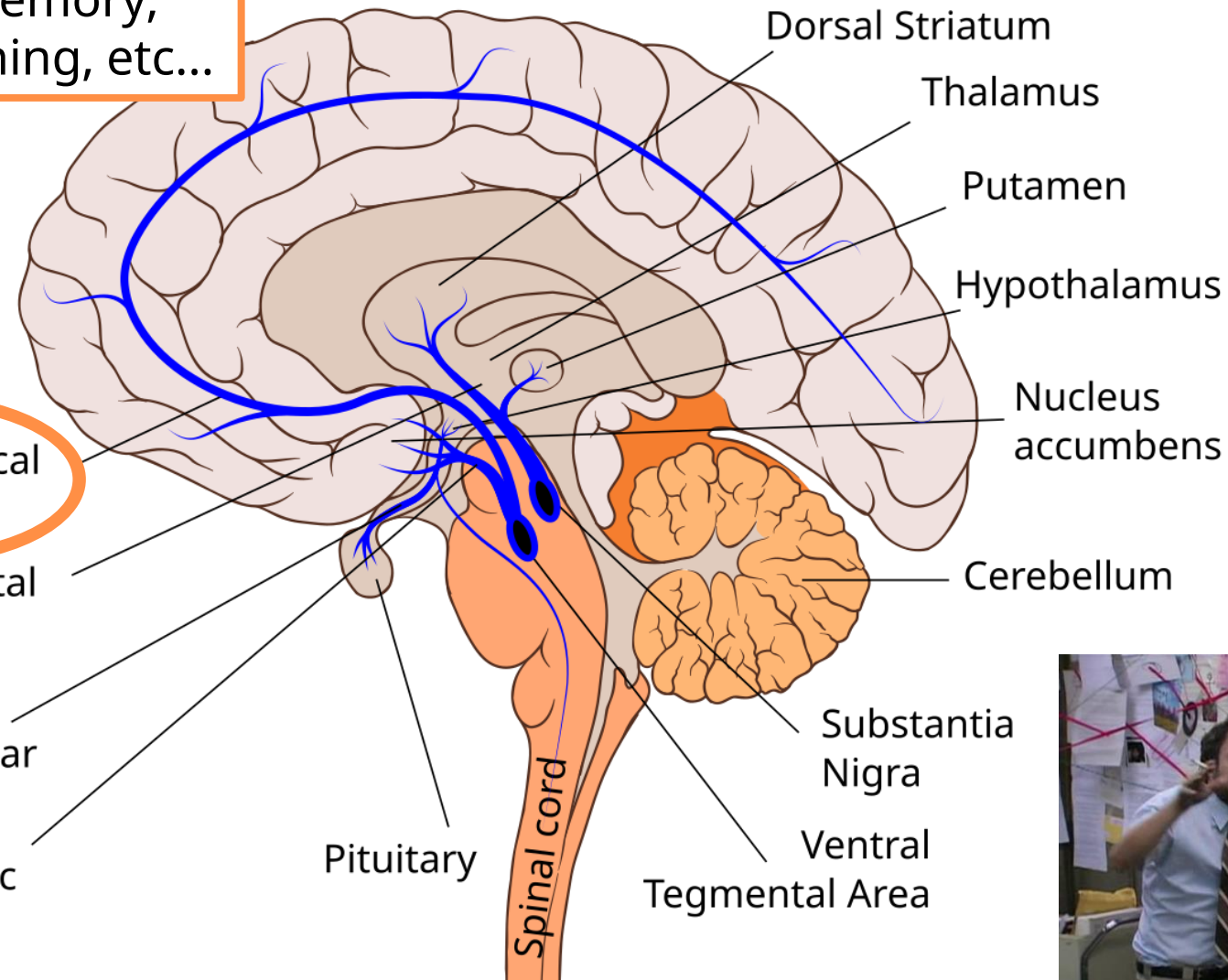


Mesocortical
pathway

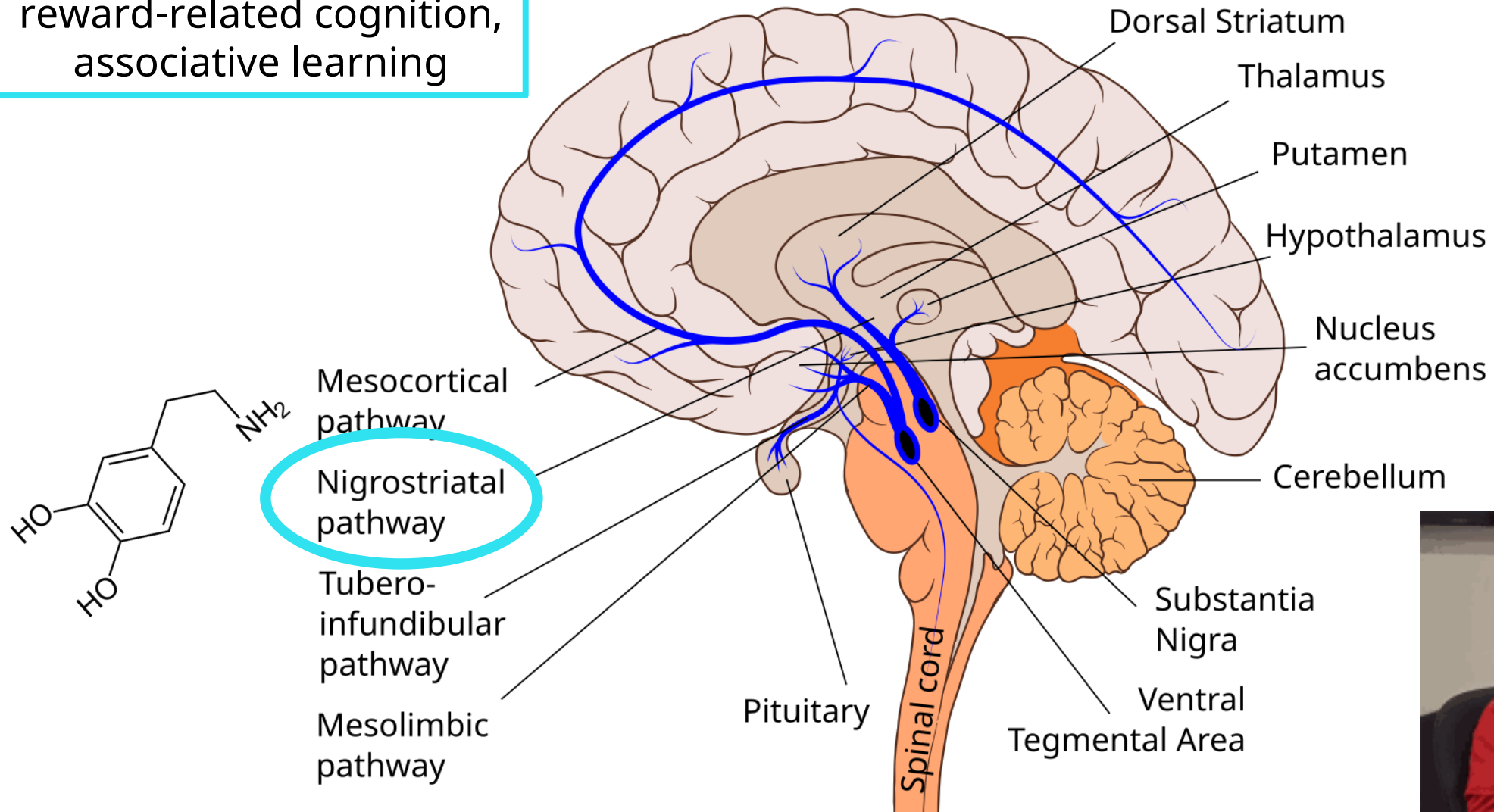
Nigrostriatal
pathway

Tubero-
infundibular
pathway

Mesolimbic
pathway



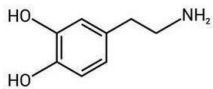
motor function,
reward-related cognition,
associative learning



“Your brain is supposed to release a motivating chemical called dopamine.”

ADHD people after they complete a task:

pspspsps



Dopamine

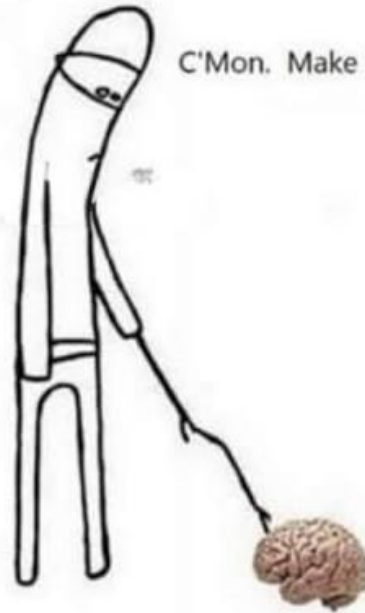
ADHD = lack of dopamine?

nope!

instead:
quicker clearing of dopamine

Life of an ADHDer

C'Mon. Make Dopamine



...and what about genetics?



- studies show 77-88% heritability rate
add.org
- candidate genes identified (including some involving neurotransmitters)

Demontis et al. (2025), *Nature*

~ 7 million (11.7%) U.S. children aged 3-17 years have ADHD diagnosis

- higher prevalence in boys (13%) than girls (7%)
- Differences in diagnosis rates among ethnicities
- Many have co-occurring conditions often increase severity of ADHD

Centers for Disease Control and Prevention (CDC)

~ 2.8% of adults worldwide estimated to have ADHD

Increase in adult diagnosis rates

BUT: still thought to be underdiagnosed

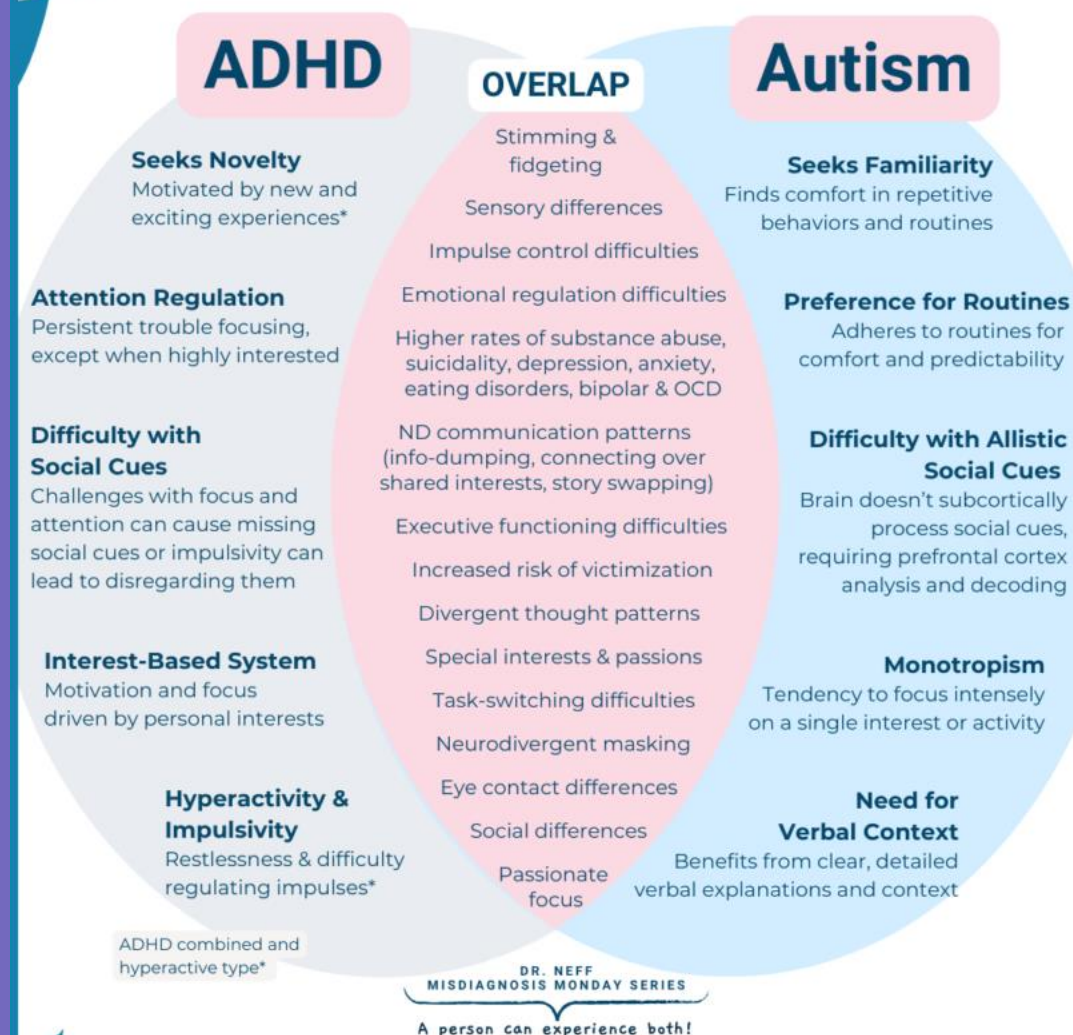
Adult ADHD linked to bipolar disorder, depression, anxiety, substance abuse

ADDitude



Misdiagnosis Monday

ADHD vs Autism



This diagram represents common patterns but may not reflect everyone's individual experiences. There's significant diversity among Autistic and ADHD people. For more information and a full write-up, visit neurodivergentinsights.com/misdiagnosis-monday

Neurodivergent
insights
Dr. Neff

Kids



Physical hyperactivity

Forgetfulness

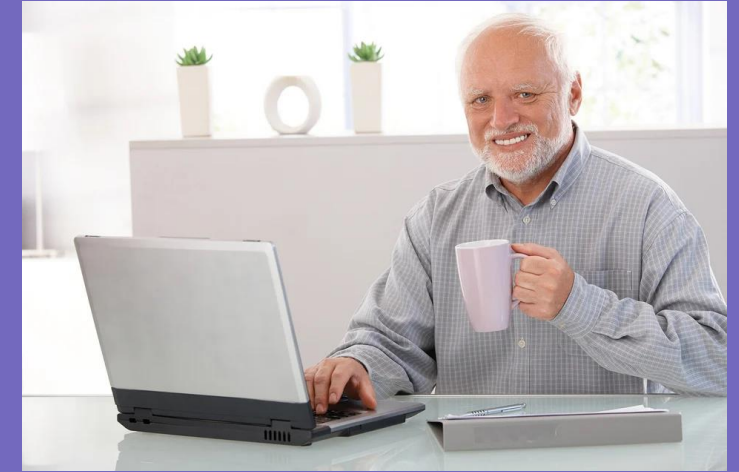
Difficulty staying on task

Impulsivity, restlessness

Disorganization



Adults



Mental hyperactivity

Boys/Men



Hyperactivity

Impulsive behaviors, risk taking

Disruptive actions

Aggression

Higher rates of substance abuse

→ often externally presented

Girls/Women



Inattention, daydreaming

Repetitive (body-focused) behaviors

Fatigue, insomnia

Internal emotional distress

Co-occurrence with eating disorders

Often diagnosed later

→ often internalized

Boys/Men



Girls/Women



Why?

Biology

- Dopamine interacts directly with estrogen & can increase symptoms

Social conditioning

- Expectations for girls/women to meet social rules (polite, quiet, organized...)
- Internalization of stress in women

Diagnostic bias: outward vs. internal symptoms, early research focused on boys

From school...

External prompts
("Homework is due tomorrow")

Fixed schedule

Shorter deadlines

Parents involved in routine/
symptom management

Clearly defined
assignments

...to university

Importance of executive functioning
remember → plan → prioritize → initiate →
sustain → monitor → finish

Time management

Loss of external structure/prompts

Adulting (and remembering to do it)

Long-term deadlines

Expectation of
self-advocacy



Support at the university level

Help with physical environment

- Navigating campus
- Showing important places (library, student services, etc.)

Make the “invisible rules” visible

- How to navigate common ADHD pitfalls
 - What happens if I’m late to lecture? How do I hand in assignments, and what happens if I forget to turn one in?

Break down processes

- Instead of: “Just go to student services, they’ll help you with this problem”, try: “Student services can help you with this. For that, they’ll need x, y, and z from you. They’re located over here on campus. Let’s look up their opening times together.”

Offer body doubling/co-working

Pro tips:
Noise-canceling headphones/earplugs!
Consistent sleep schedule
Study techniques (ex. Pomodoro)
Visual reminders (time, assignments, deadlines, etc.)
Study buddies

Support at the university level

Be patient with communication

- Unanswered messages, interrupting, forgetting to reply, struggling to formulate response...
→ assume difficulty with communication before bad intent

Check in proactively

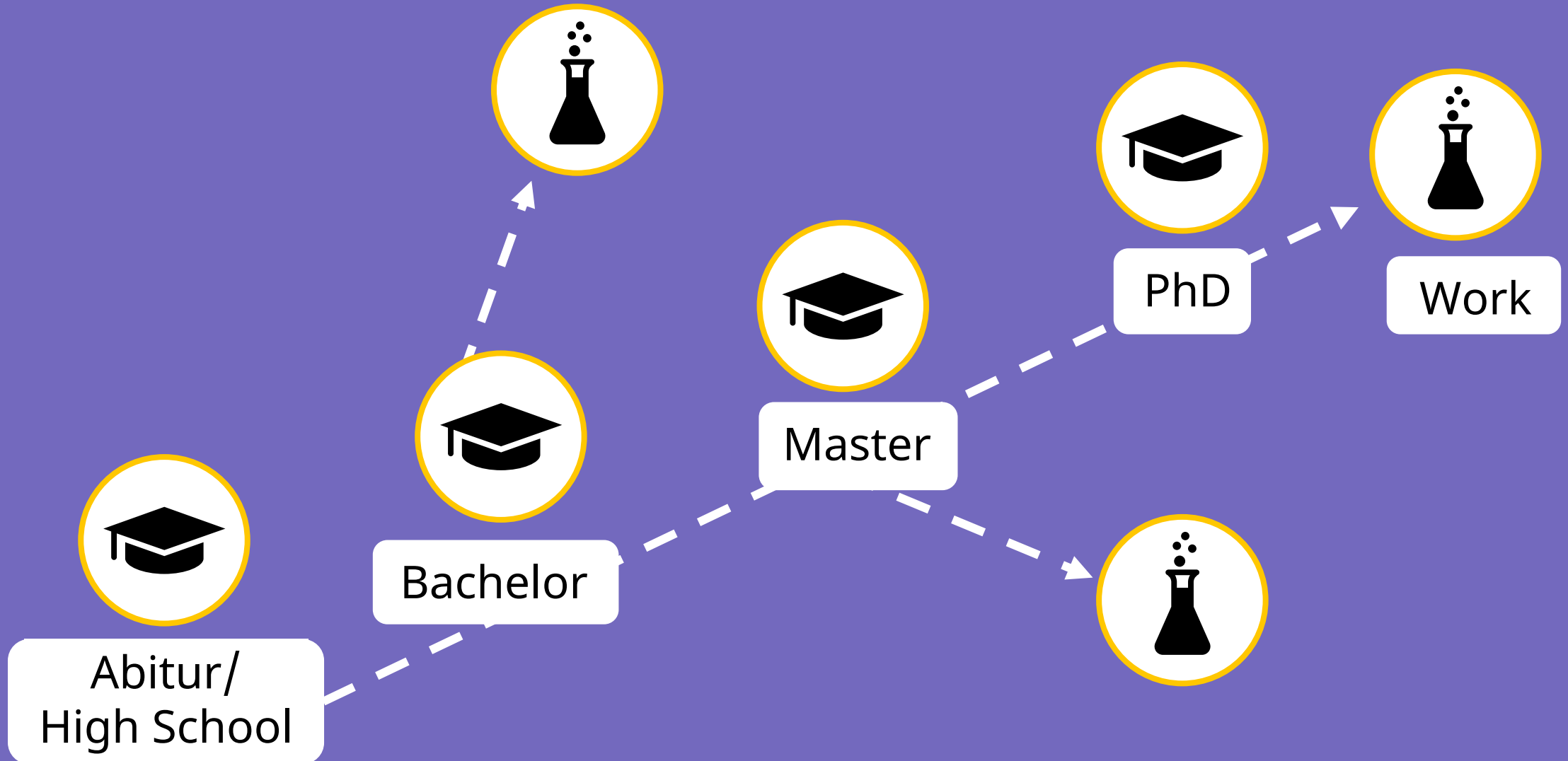
- Instead of: “Let me know if you need anything”,
try: “I’ll check in with you next week. How are things going?”

Help find support before they’re in crisis mode

Ask what works for them

Reminders good or overwhelming?
Body doubling to study or complete solitude?
One size does not fit all!

how most think the academic journey looks like...



what do I want to
do with my life?!



Bachelor Biology, German Studies
Macalester College, USA



Lab technician
Immunology und Gene Therapy
MDC Berlin

Lab technician
Microbiology/Infection Prevention
Robert Koch-Institute



Lab technician
Neuroimmunology
Charité Berlin



Master Molecular Biosciences
& Productive Biosystems
TU Dresden

PhD student in
microbiology



(and now I'm old lol)

...and how it sometimes looks 😊

More information

ADDitude magazine

<https://www.additudemag.com>

→ advice, information, support resources (English)

Centers for Disease Control and Prevention (CDC)

<https://www.cdc.gov/adhd/php/across-the-lifetime-toolkit/index.html>

→ information, statistics (English)

The ADxS.org project

<https://www.adxs.org/en>

→ science behind ADHD (German/English)

GesundBund.de

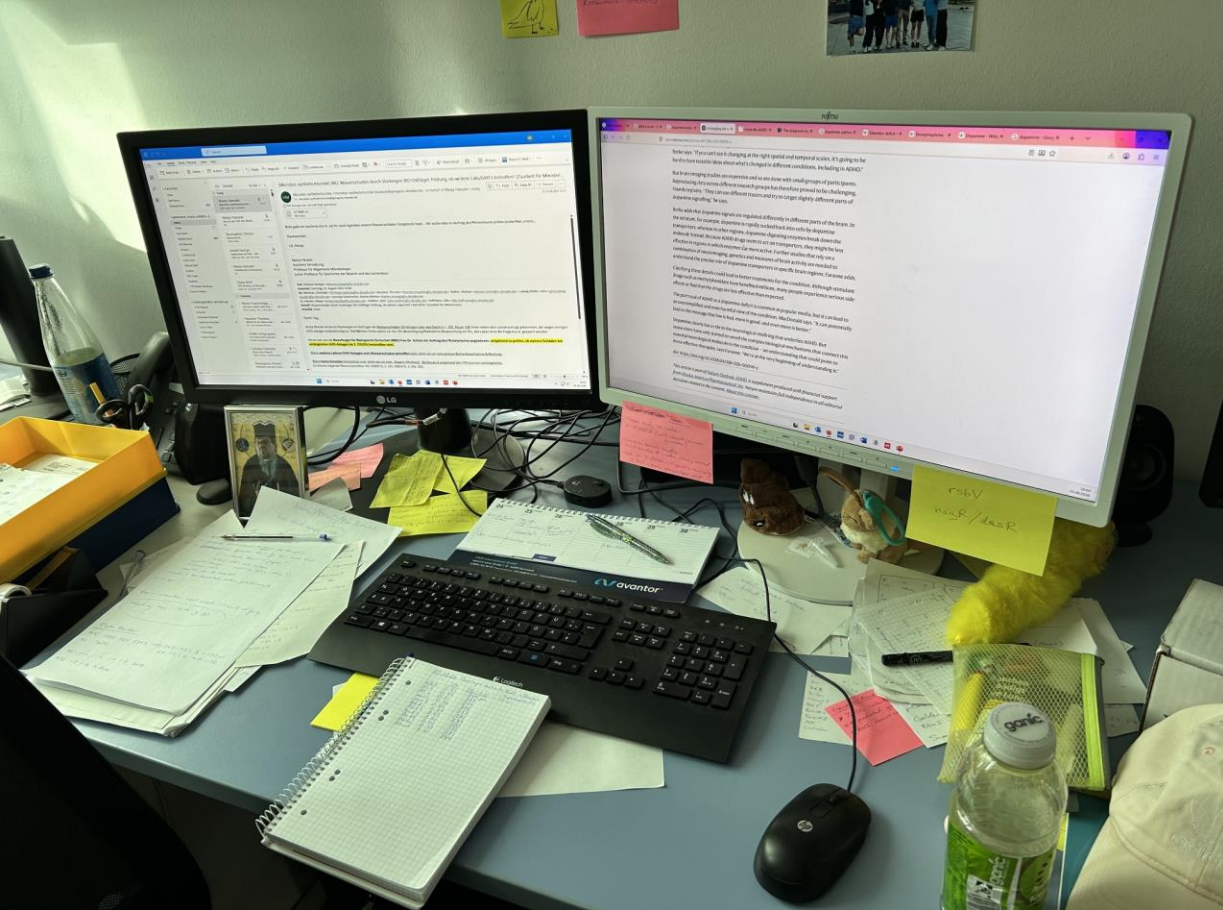
<https://gesund.bund.de/en/adhs#at-a-glance>

→ information, further resources (German/English)

ADHS Deutschland e.V.

<https://adhs-deutschland.de>

→ information, support resources, self-help groups, co-occurring conditions (German)



what if this chaos in us is beautiful...
and we don't have to sort it out.

- butterflies rising

