Developmental Psychopathology

- Links study of typical development to study of developmental disorders

Abnormality is normal
- we all can act oddly

Disability is changeable
- disability level can change over time

Adulthood may be better or worse
e.g. may overcome disability or struggle more as adult level skills become more important

DSM:
Psychopathology may reside "..not in the individual, but in the adaptiveness of the relationship between the individual and context." *(Sameroff and McKenzie, 2003, p.613)*

ATTENTION DEFICIT HYPERACTIVITY DISORDER

(ADHD)

Dr Judith Marshall

Individual Differences across the Lifespan

Attention Deficit Hyperactivity Disorder

'A disorder of limitations in behavioural inhibition' (Kendall & Comer, 2010, p.77)

Three essential features: developmentally inappropriate levels of

- Inattention
- Impulsivity
- Hyperactivity

ADHD Classification

International Classification of Mental and Behavioural Disorders - 10th revision (**ICD-10**)

Attention-deficit hyperactivity disorder, unspecified type

Signs of developmentally inappropriate inattention, impulsivity, and hyperactivity.

At least some of the symptoms must be present before the age of 7 years.

Diagnostic and Statistical Manual of Mental Disorders - 5th Edition (**DSM-5**)

Attention-deficit hyperactivity disorder (ADHD)

"a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development"

http://www.adhd-institute.com/assessment-diagnosis/diagnosis/#sthash.tCbZmDnY.dpuf

Types of ADHD

How ADHD presents differs by individual.

1. **Predominantly hyperactive** and or impulsive - feels the need to move constantly. They may also struggle with making good choices as they become impatient as their impulse control can be affected. Although there may be some issues with inattention, this is not seen as a problem.

(Hemmings, 2018)

2. **Predominantly inattentive** - has difficulty paying attention.

The person is easily distracted but not usually impulsive or hyperactive.

This can often be missed as the person is not seen as disruptive and can even be seen as shy, whereas those in the first group are often seen as disruptive.

3. **Combined presentation.**

The most common type of ADHD, where the person experiences symptoms in both types 1 and 2.

(Hemmings, 2018)

Assessment: Screening tools include…

World Health Adult Self Report Scale (ASRS) – six items

Connors Adult ADHD Rating Scale

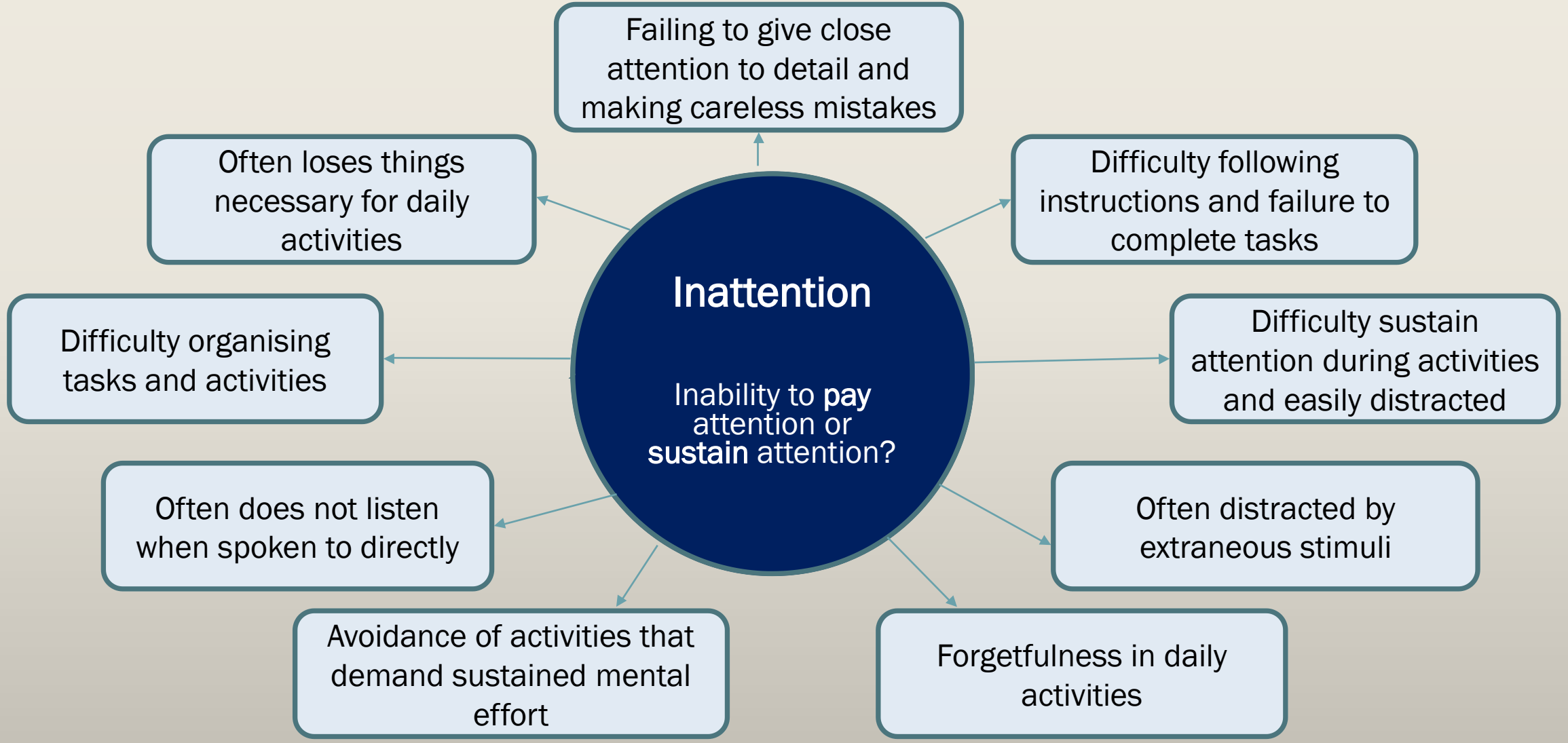
Diagnostic Interview for ADHD in Adults (DIVA)

DIVA 2.0 available online:
http://www.divacenter.eu/Content/VertalingPDFs/DIVA_2_EN_FORM%20-%20invulbaar.pdf

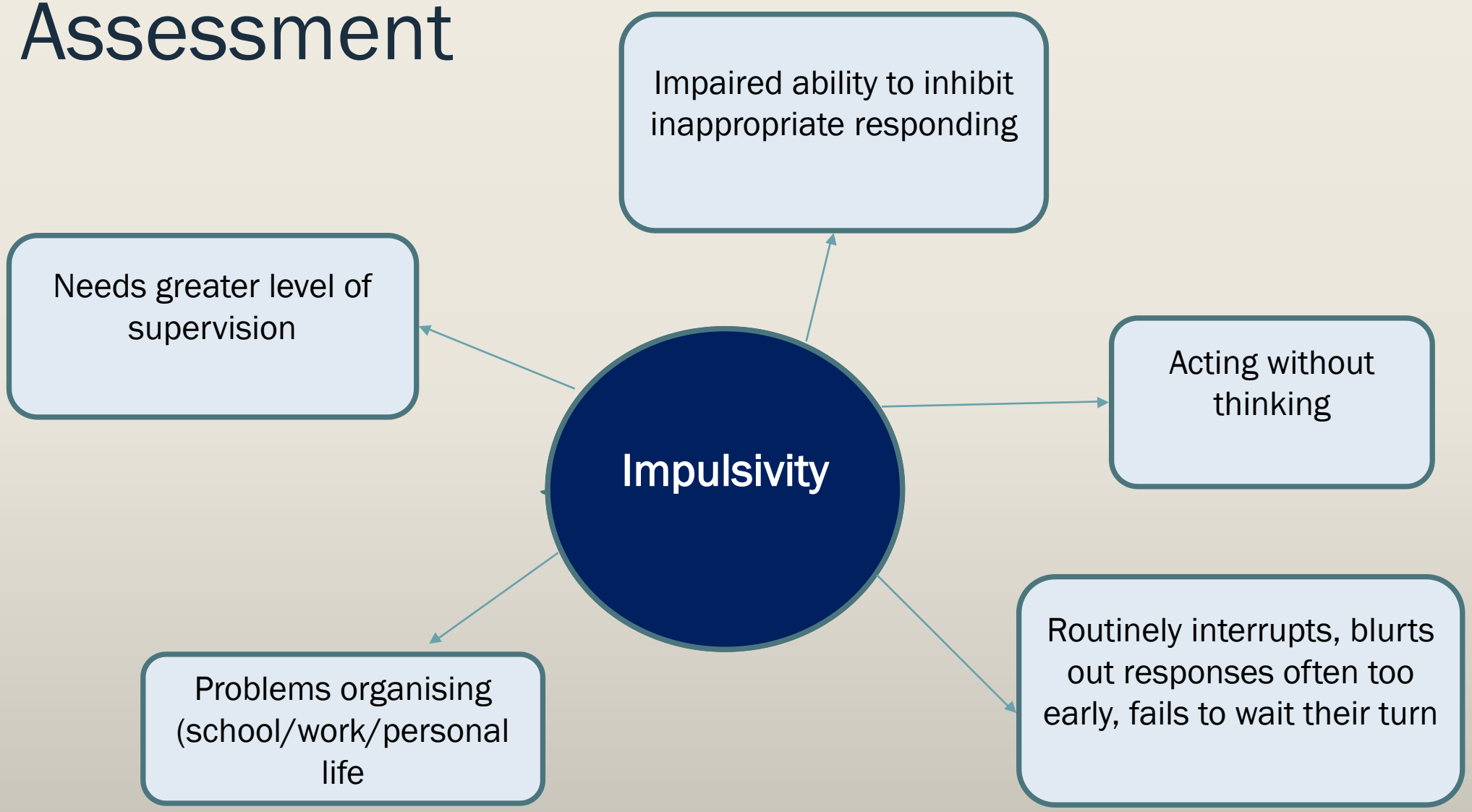
- DIVA-5
- Young DIVA-5
- DIVA-5 ID

Assessment

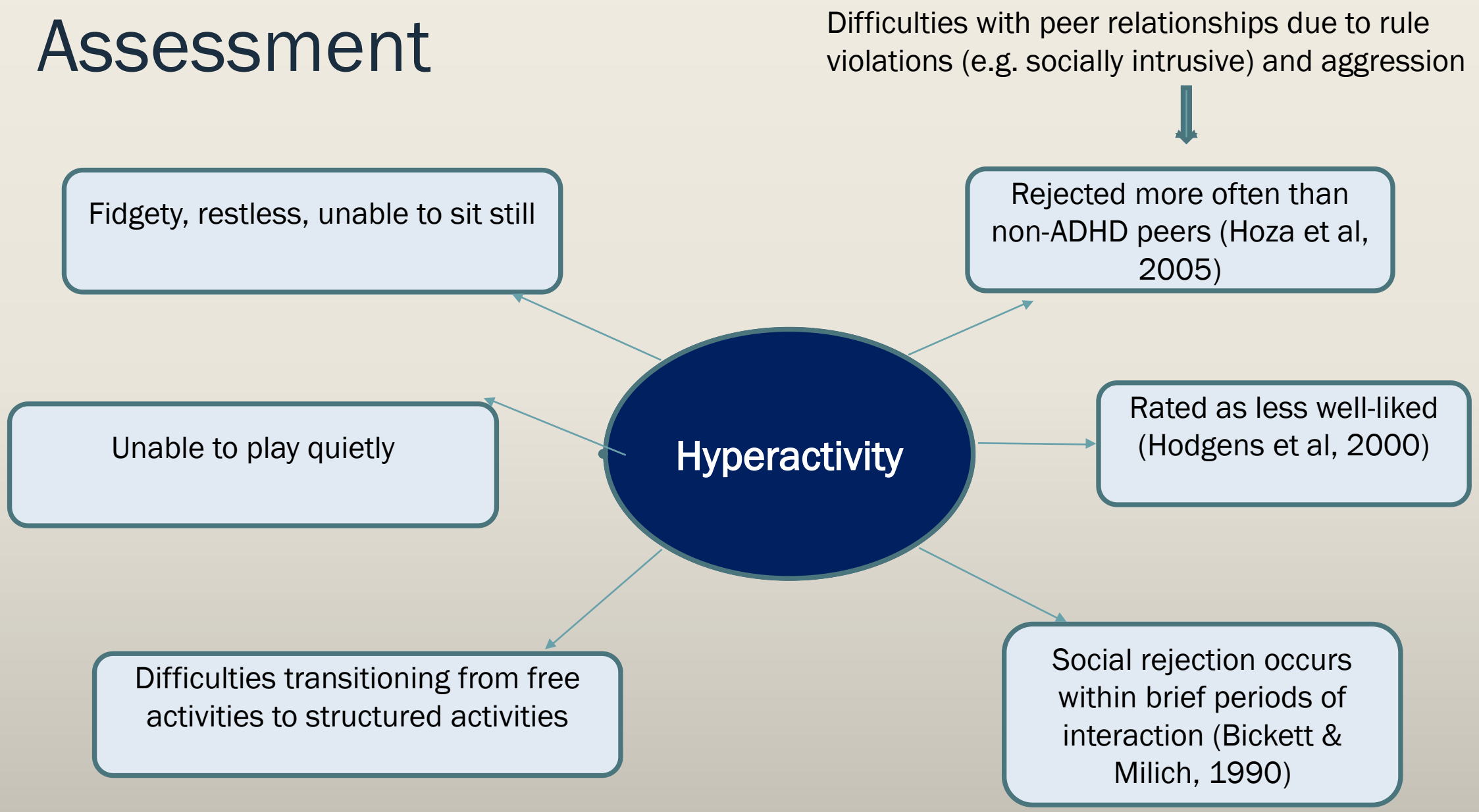
Difficulties/differences need to be seen across social contexts before diagnosis



Assessment


Impulsivity
Impaired ability to inhibit inappropriate responding
Needs greater level of supervision
Acting without thinking
Problems organising (school/work/personal life
Routinely interrupts, blurts out responses often too early, fails to wait their turn

Assessment


Difficulties with peer relationships due to rule violations (e.g. socially intrusive) and aggression
Fidgety, restless, unable to sit still
Rejected more often than non-ADHD peers (Hoza et al, 2005)
Unable to play quietly
Hyperactivity
Rated as less well-liked (Hodgens et al, 2000)
Difficulties transitioning from free activities to structured activities
Social rejection occurs within brief periods of interaction (Bickett & Milich, 1990)

Assessment

- Poor academic achievement (Barry et al, 2002)
- Often lower IQ scores (Frazier et al, 2004)
- Linked most strongly to inattention

- Less compliance, more opposition to parents
- More commands, reprimands, punishment

Comorbidity

- Poor motor co-ordination
- Difficulty learning
- Anxiety
- Depression
- Conduct disorders

Distinction between ADHD with/without co-occurring conduct disorder

Diagnosis: DSM V

Inattention: six or more symptoms (which have been present for at least six months)

… that are inconsistent with developmental level and that negatively impact directly on social and academic/occupational activities.

The individual may:

… overlook details; have difficulties remaining focused on conversations; seem like their mind is elsewhere; fail to finish tasks; fail to meet deadlines; have problems completing forms; lose items such as keys or phones; be easily distracted and often forgetful in daily activities such as keeping appointment and paying bills.

Diagnosis: DSM V

Hyperactivity and impulsivity – at least six symptoms:

… often fidgets; restless; often ‘on the go’; talking excessively; unable to wait turns in a conversation; intrusion into or taking over what others are doing.

For older adolescents and adults (age 17 and above) at least five symptoms

Diagnosis: DSM-V

Motor symptoms of hyperactivity become less obvious in adolescence and adulthood.

But difficulties persist with restlessness, inattention, poor planning and impulsivity.

DSM-V stipulation:

Symptoms are excessive and maladaptive for **developmental level**.

Important issue to consider when making a diagnosis in a person with mild Intellectual Disabilities compared to a person with severe ID.

DSM-V: Current severity of ADHD

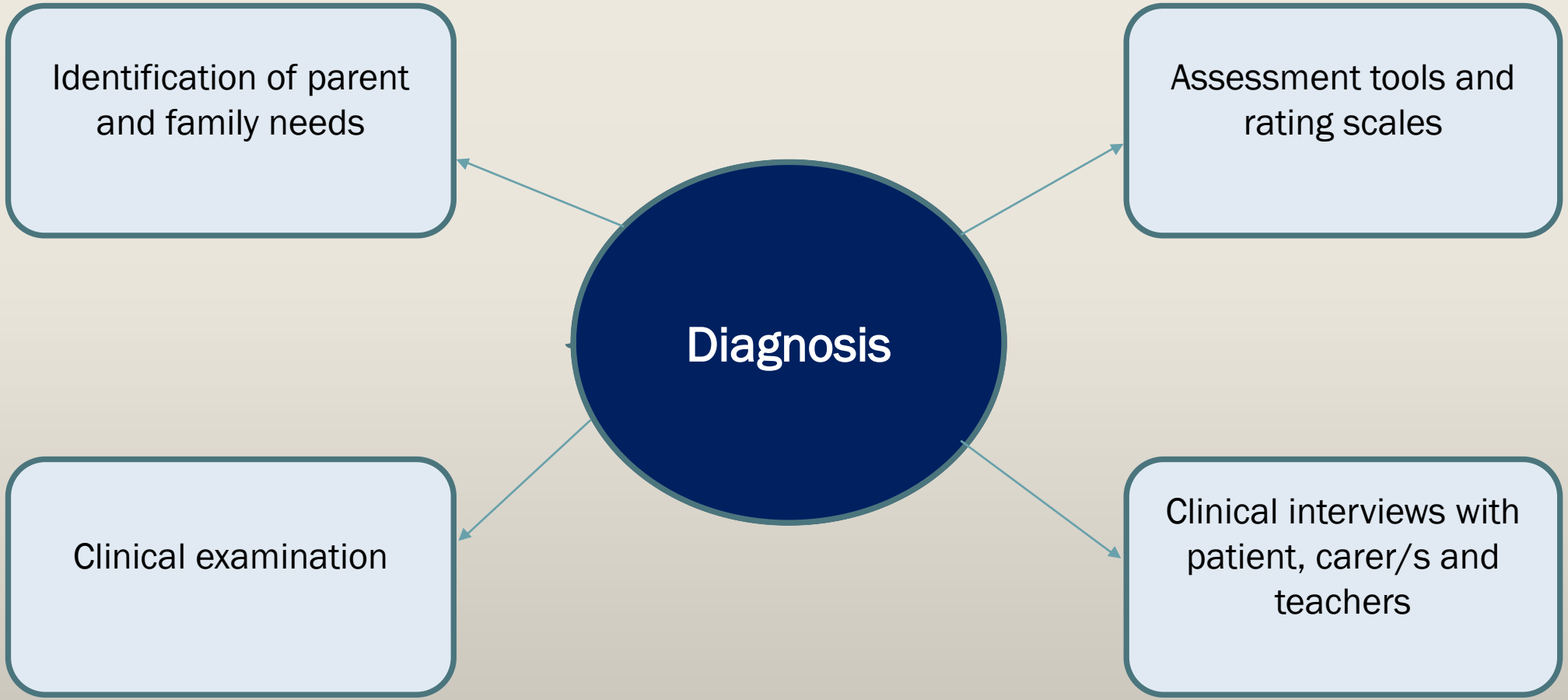
Mild – few if any symptoms in excess of those required to make the diagnosis are present, and symptoms result in no more than minor impairments in social or occupational functioning.

Moderate – symptoms or functional impairment between ‘mild’ and ‘severe’ are present.

Severe – many symptoms in excess of those required to make the diagnosis, or several symptoms that are particularly severe are present, or the symptoms result in marked impairment in social or occupational functioning.

DSM-V: ADHD can be diagnosed with known genetic syndromes such as fragile X syndrome, velo-cardiofacial syndrome and Down’s syndrome.

Currently, no single available diagnostic tool



http://.www.adhd-institute.com/assessment-diagnosis/rating-scales/

Which children have ADHD?

5 - 8% young people Polanczyk et al, 2007)

3% pre-schoolers **(Eggers & Angold, 2006)**

Typical male – female ratio between 4:1 and 8:1

Girls:

Fewer behaviour and conduct problems (aggression) than boys

- More social withdrawal, anxiety, depression
- Higher rates of internalisation
- Disruptions in social and emotional functioning, and achievement across the lifespan

Worldwide prevalence of ADHD is estimated at between 5.29% and 7.1% (Willcutt, 2012) .

Which children have ADHD?

- Urban/Rural and Wealthy/Poor
- Some evidence for socioeconomic differences: lower S-E status - greater frequency

  Mothers – poorer nutrition and less access to prenatal care while pregnant

  Higher incidence of complications that might impact upon the developing brain

  Challenges of low S-E might result in family instability and parental psychological disorders

  (Biederman et al, 2002)

- Predisposition of teachers and others to expect ADHD among lower S-E children

Is ADHD a real disorder?

- Wright (2005) argues that it's a fad disorder
- Argues that symptoms are elevated into descriptions of symptoms and then into disorders
- Once described – serious over-diagnosis and medication results
- Control?

- But don't children benefit too?
  - *Labels can be positive or negative*
  - *Diagnosis can lead to appropriate medication*

Comorbidity

Difficulties with diagnosis:

ADHD is often linked to

one or more other diagnoses.

Einstein
Da Vinci
Edison
Faraday

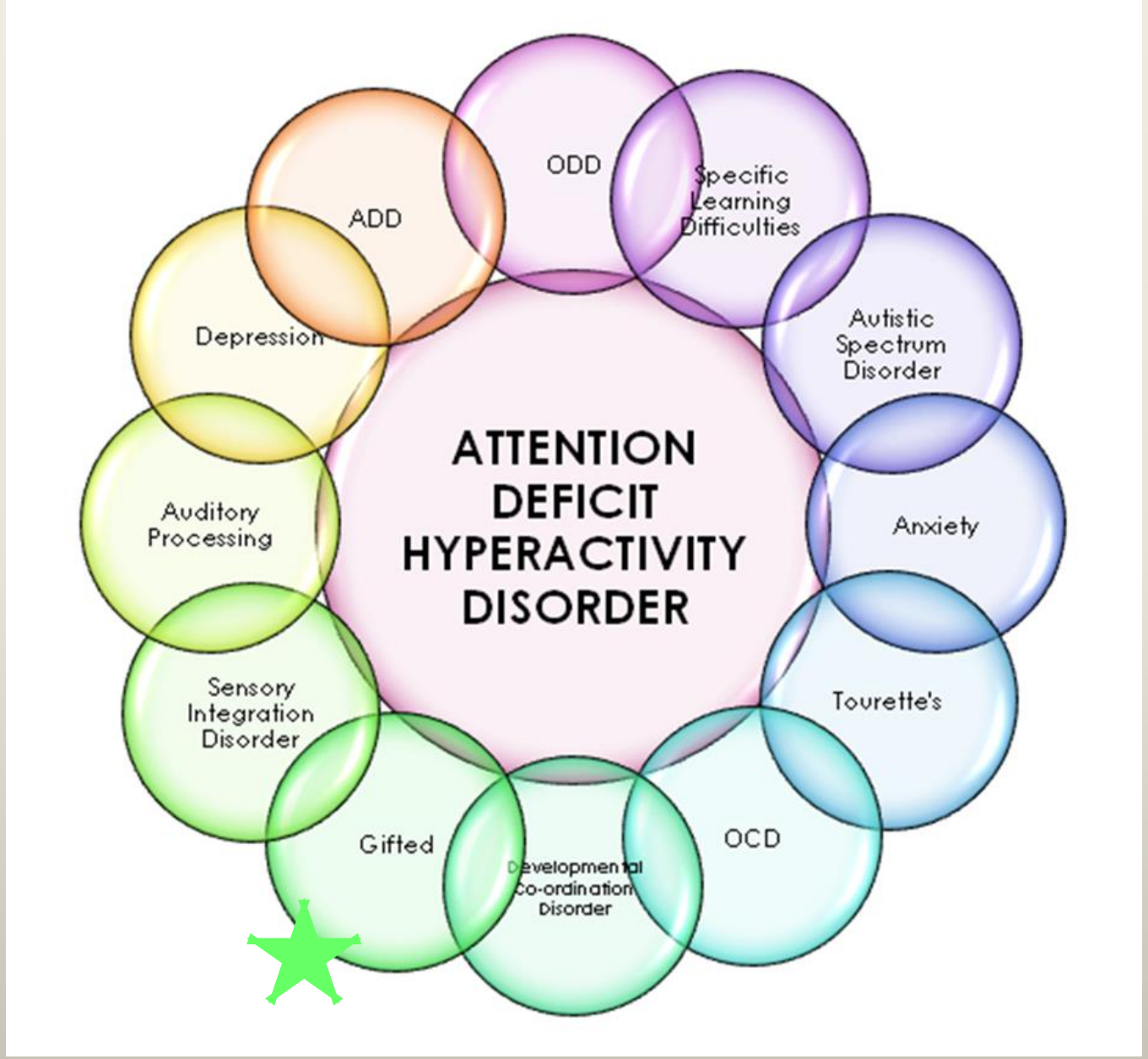
Also:

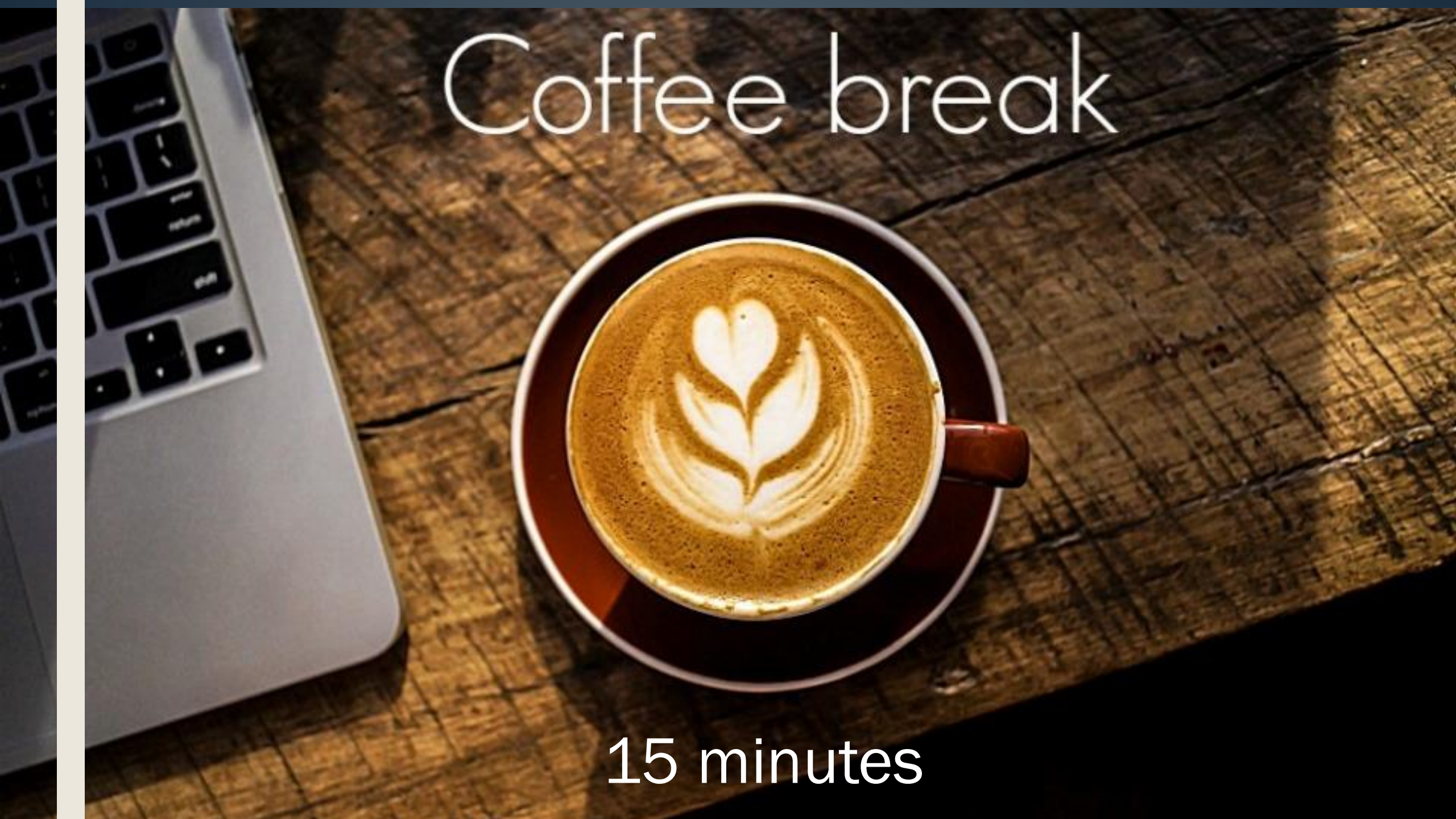
Justin Beiber
Justin Timberlake
Ryan Gosling
Michelle Rodrigues

Simone Biles
Michael Phelps
Louis Smith
Payne Stewart

"I read so slow. If I have a script I'm going to read it five times slower than any other actor, but I'll be able to tell you everything in it. It kills me that there are standardized tests geared towards just one kind of child."

(Channing Tatum)




Coffee break
15 minutes

Aetiology

- Causes still largely unknown.
- What we do know…

The occurrence of ADHD is closely tied with biological factors
Size and density of various brain structures
The way chemical reactions take place within the brain

Interplay between multiple genetic and environmental risk factors
(Grizenko et al. 2012; Gizer, Ficks, & Waldman, 2009; Larsson, et al. 2013).

Risk factors that affect the neurobiological basis of the disorder (Cortese, et al. 2012)

How ADHD Affects The Brain

Prefrontal Cortex:
Responsible for organization, cognitive flexibility, self-control, & maintaining attention.

Basal Ganglia:
Helps regulate communication within the brain. Responsible for motor control, facilitating movement, and inhibiting competing movements.

Reticular Activating System:
Major relay system among the many pathways that enter & leave the brain that is responsible for arousal & consciousness.
A deficiency in this region can cause inattention, impulsivity, or hyperactivity.

Limbic System:
Responsible for regulating emotions.
A deficiency in this region might result in restlessness, inattention, or emotional volatility.

Chemical Imbalance

Neurons communicate with one another using neurotransmitters – Dopamine, Serotonin, Norepinephrine

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ADHD: Dopamine and Serotonin deficiency – genetic cause

Production of D and S requires vitamins B6 and B9 (Folate)

When eaten they are in an inactivated form

We need to activate them

MTHFR gene (Methylenetetrahydrofolate)
Genetic defect: mutated gene
Cannot produce MTHFR enzyme

Defect does not allow activation

Cerebral blood flow studies

- *Decreased blood flow to the prefrontal regions and to pathways connecting these to the limbic system, the caudate and the cerebellum (e.g. Yeh et al, 2012)*
- *Degree of blood flow to the right frontal region – correlated with behavioural severity of the disorder*
- *More posterior regions like the cerebellum – related to degree of motor impairment (Gustafsson et al, 2000)*

Genetic Heritability

Twin studies: heritability estimated to be 76% in the population

(Farone , Perlis, Doyle, et al. 2005).

Swedish twin registry
(n=21,000 child twin pairs, and n=37,714 adult twin pairs)

Genetic contribution to ADHD was
88% across child/adolescent twins
72% in adult twins

(Larsson H, Chang Z, D'Onofrio BM, et al. 2013)

Genetic Heritability

Adoption studies in children and adolescents:

Rates of ADHD are significantly higher between biological relatives (parent-child or sibling) compared with adoptive relatives

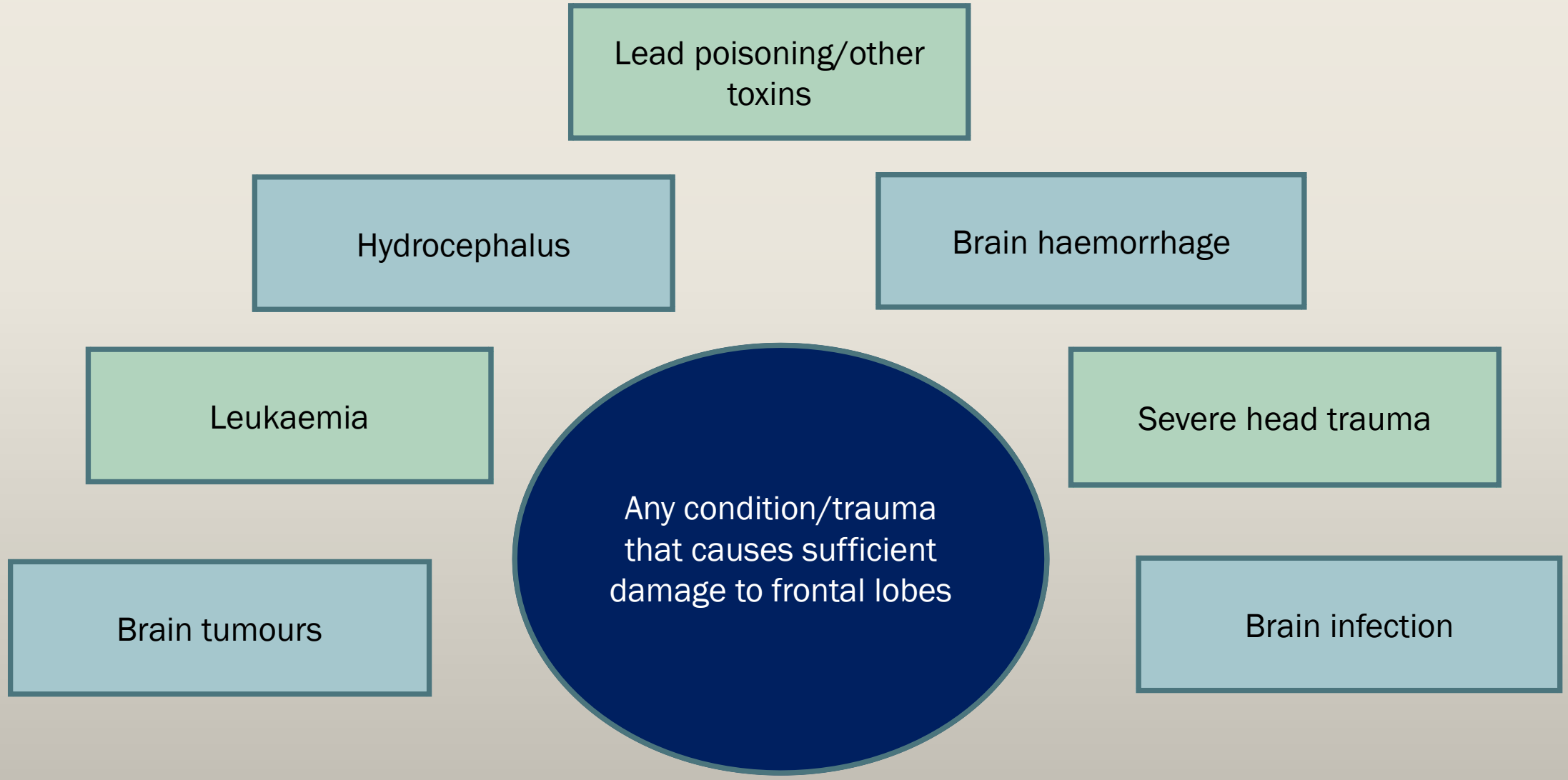
(Sprich, Biederman, Crawford, et al. 2000)

Also - results from a genome-wide association study of pooled DNA from adults with ADHD

Suggested that a genetic component was likely to contribute to the persistence of ADHD from childhood into adulthood

(Lesch , Timmesfeld, Renner, et al. 2008)

Non-genetic causes



Environmental factors

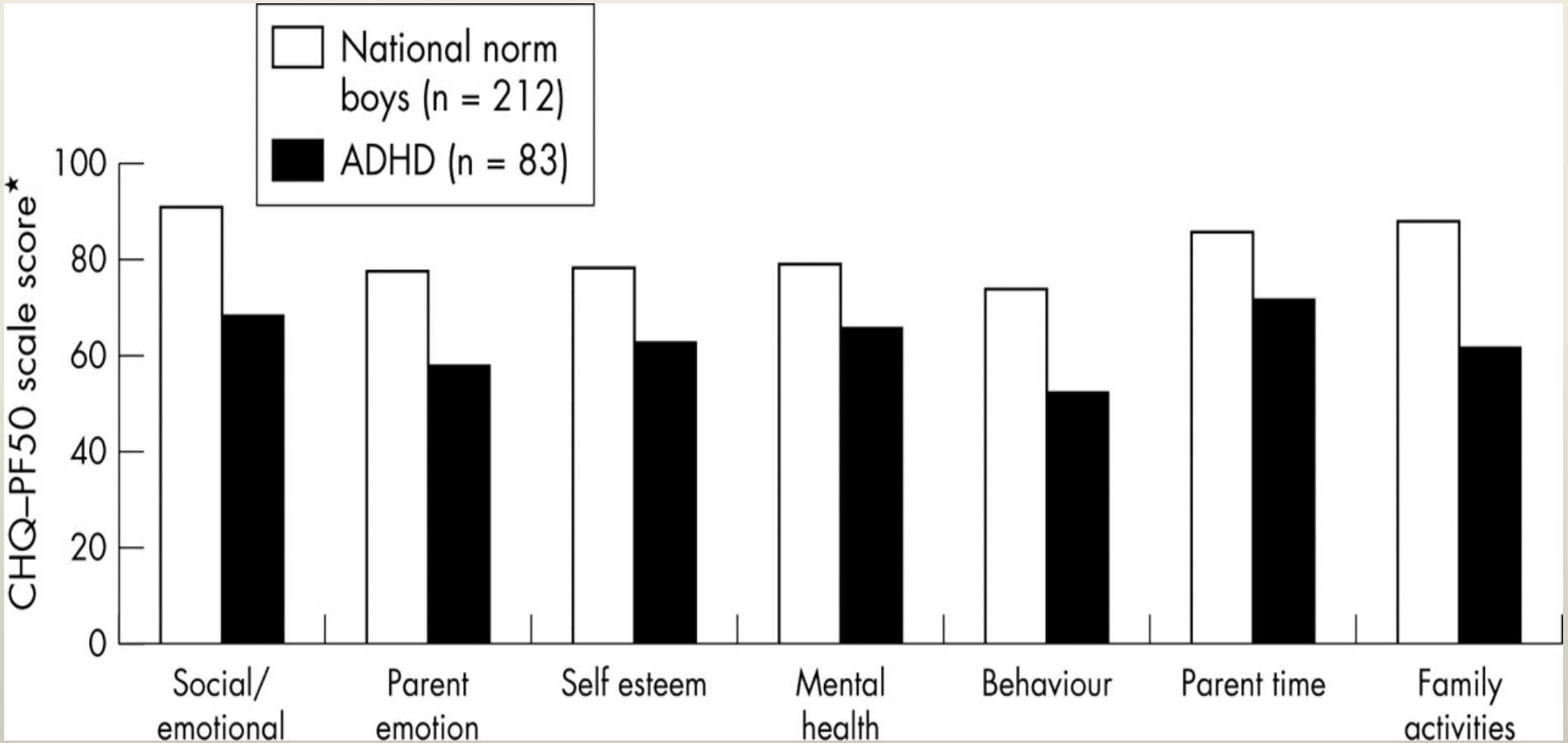
Some interact with a genetic susceptibility to ADHD…

- Alcohol consumption during pregnancy
- Birth complications and/or low birth weight
- Smoking during pregnancy

Social & environmental factors…

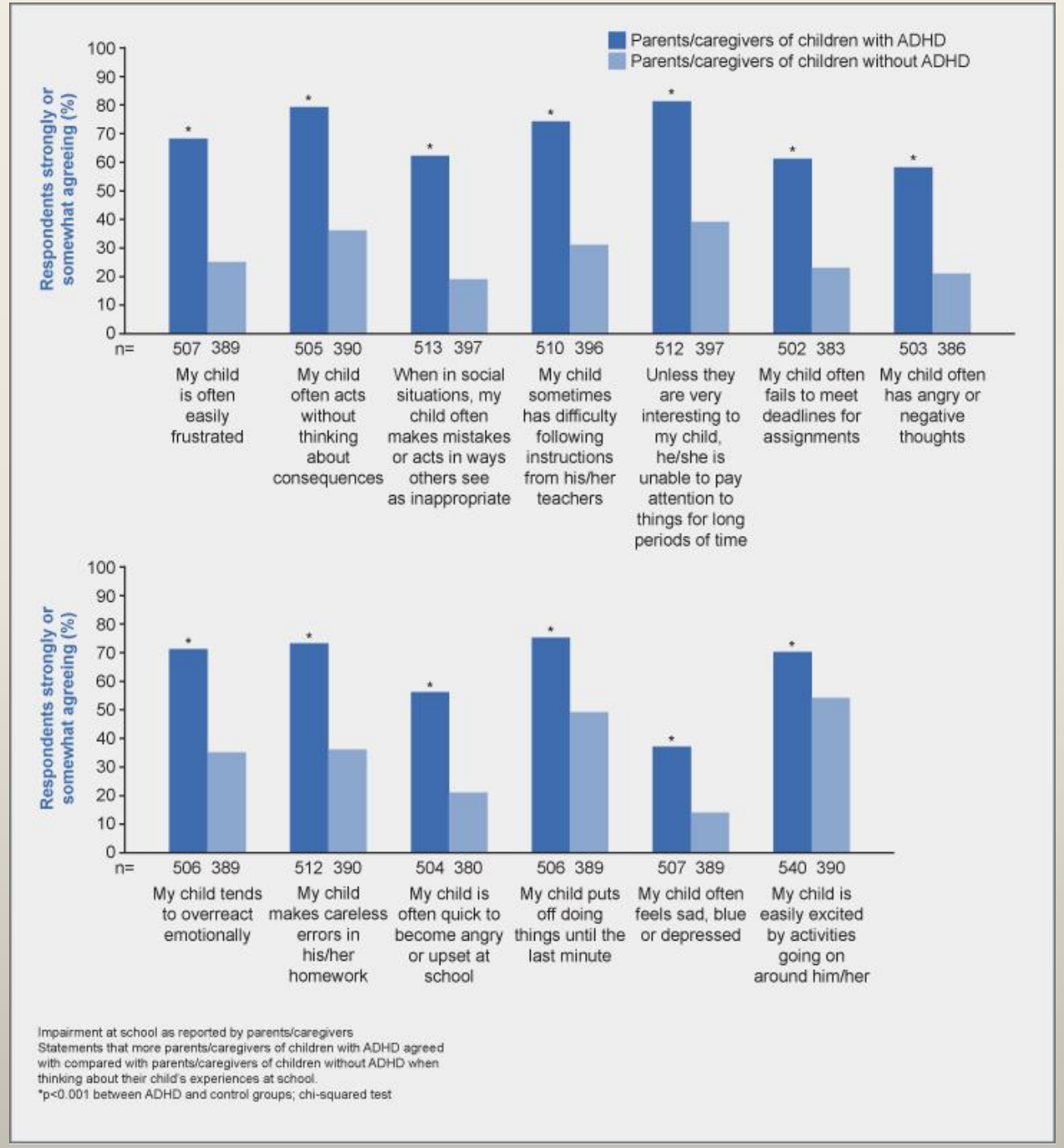
- Extreme neglect, abuse, social deprivation
- Diet e.g. food additives (can exacerbate ADHD)

Impacts (Primary School Age)



*Higher scores indicative of greater functioning. CHQ, Child Health Questionnaire.13

https://adc.bmj.com/content/90/suppl_1/i2



School Age

Impairment at school:

Statements that more parents/caregivers of children with ADHD agreed with compared with parents of children without ADHD in the European Lifetime Impairment Survey.

(Caci H et al., 2014

https://adhd-institute.com/burden-of-adhd/impact-of-adhd/social-impact/

Do ADHD children become ADHD adolescents?

Longitudinal research – Barkley at al (1991)

- 100 ADHD / 60 non-ADHD children
- 8 years after initial ADHD diagnosis
- Behaviour problems, family conflicts, mother-child interactions observed at both ages

Rated by mothers

- More numerous and intense family conflicts than non-ADHD

Rated by adolescents

- Adolescent groups did not differ in their ratings

Observations

- Mothers of ADHD children/adolescents - more controlling and negative behaviours
- BUT – different observational contexts due to age

Persistence into adolescence?

Clinic referred children: 50%-80% may continue ADHD into adolescence
School screening: Lower likelihood of persistence

(Barkley, 2006a, 2006b)

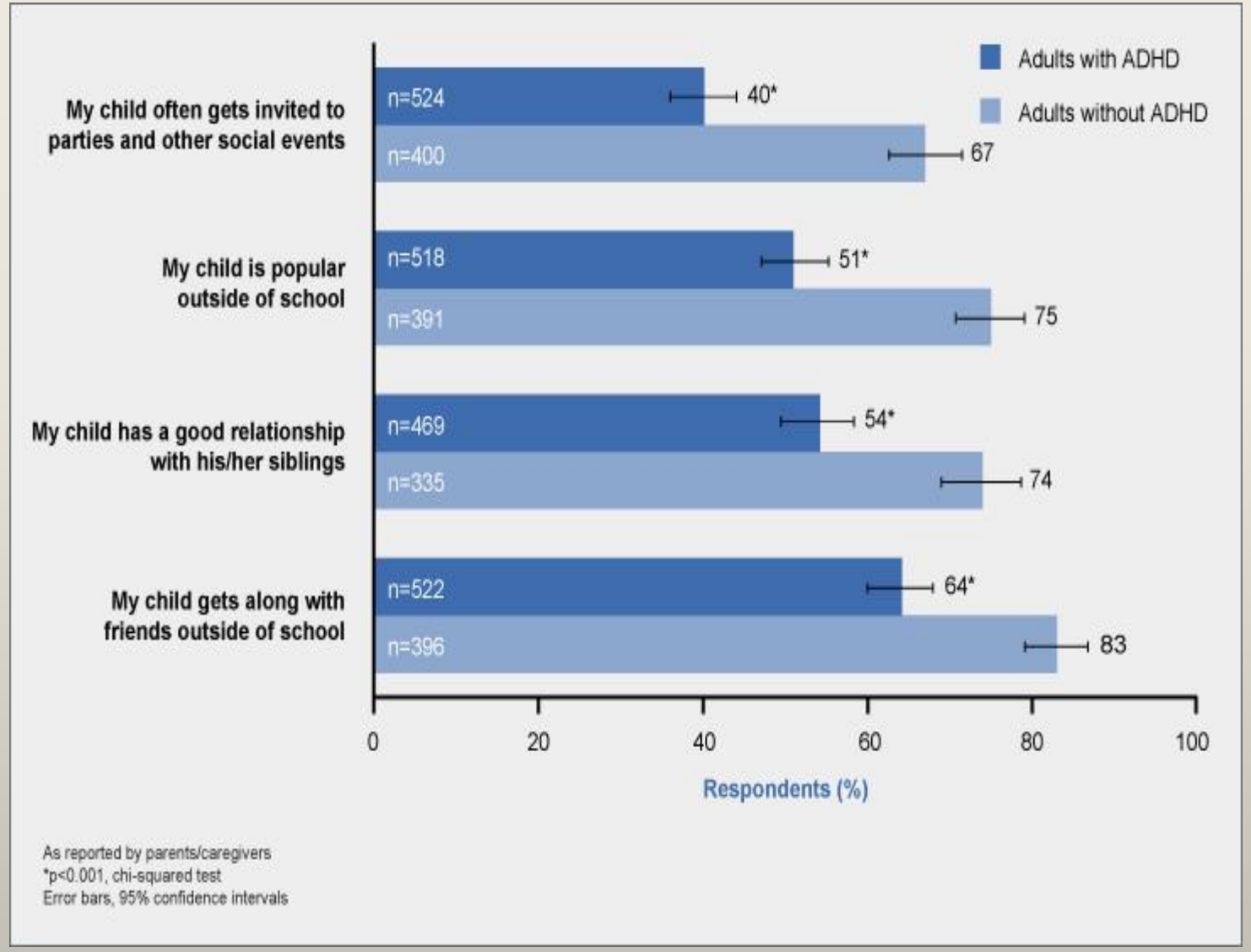
Likelihood of persistence increased by presence of other features at time of identification: e.g. oppositionality, conduct problems, poor family relations

Parental Reporting

Impairment of relationships with peers and siblings at home in children/adolescents with ADHD compared with controls.

(Caci H et al., 2014)

https://adhd-institute.com/burden-of-adhd/impact-of-adhd/social-impact/



Persistence into adulthood?

- Approximately 50% persist into adulthood

(Lara et al., 2009)

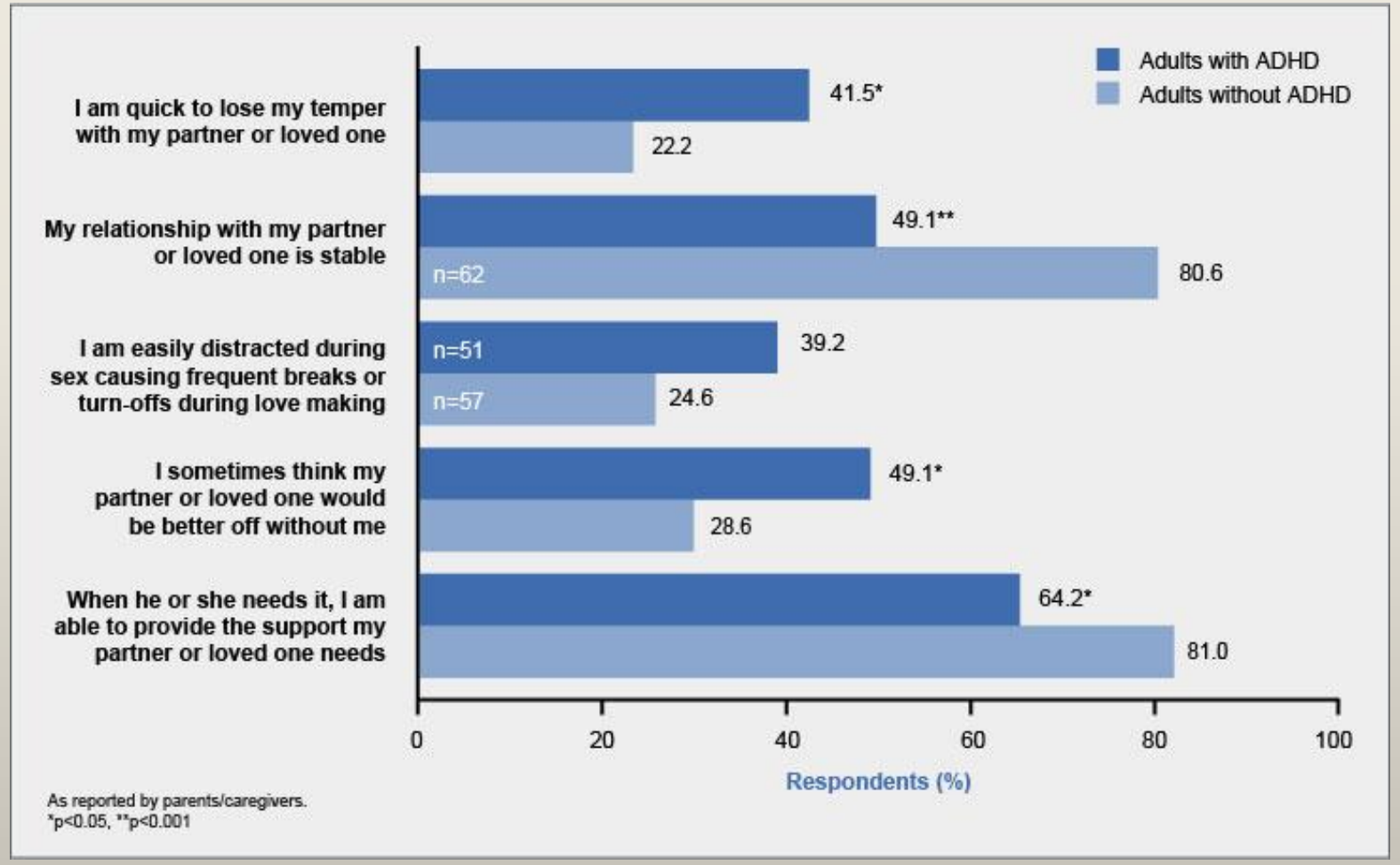
- Linked to: decreased quality of life, poorer work performance, less positive mood, higher rates of injury

(Kessler et al., 2009)

- Consistent across gender
- Consistent across Inattentive ADHD and Impulsive/Hyperactive ADHD
- Combined type more likely to persist into adulthood

(Kessler et al., 2005a)

Adults

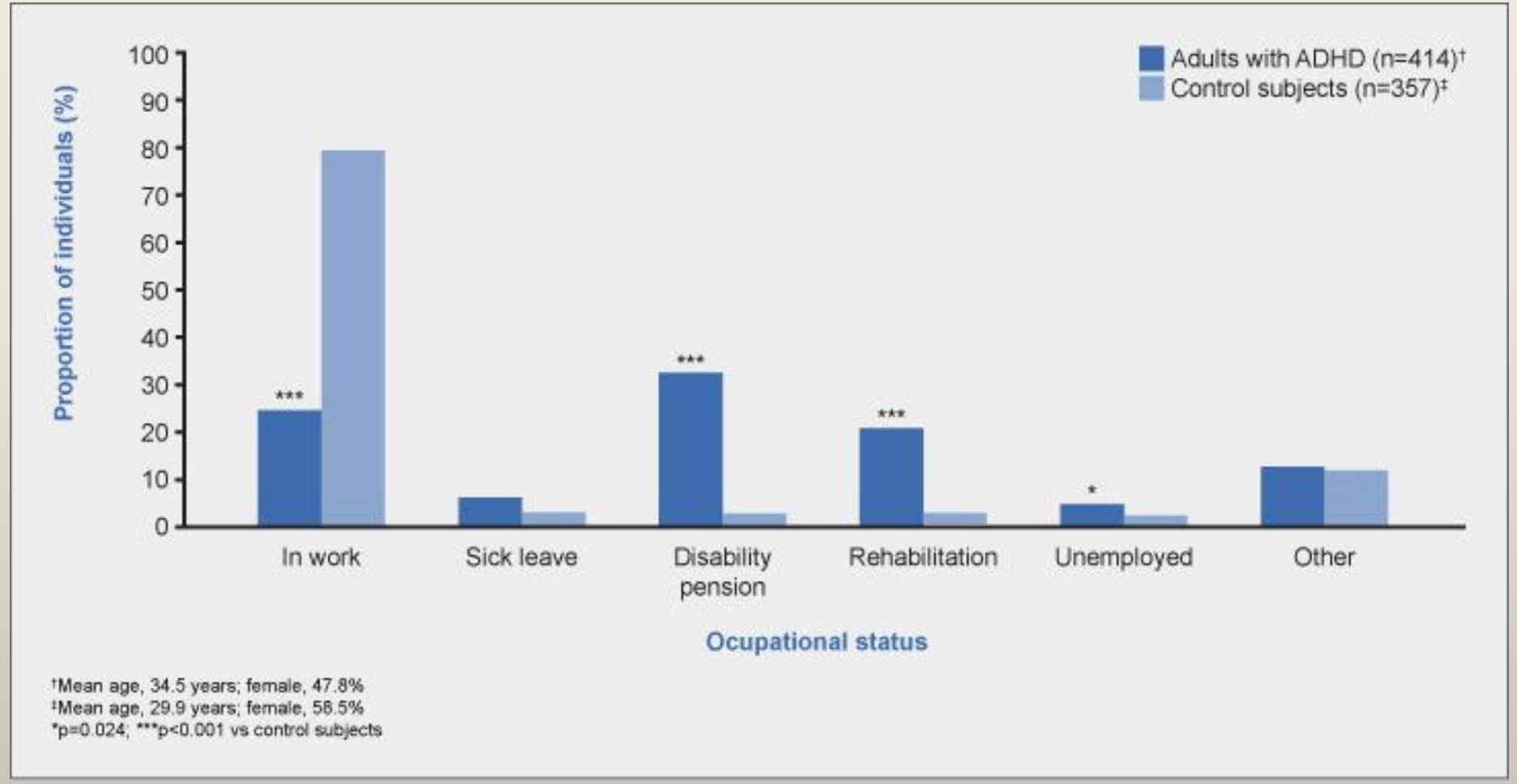


Partner relationship difficulties associated with adult ADHD:

UK results from the European Lifetime Impairment Survey.

(Pitts M et al., 2015)

Adults



https://adhd-institute.com/burden-of-adhd/impact-of-adhd/social-impact/

(Halmøy A et al, 2009)

https://www.nhs.uk/conditions/attention-deficit-hyperactivity-disorder-adhd/treatment/ (accessed August, 2019)

Treatment

Pharmacological:

- Methylphenidate (e.g. Ritalin)
- Dexamphetamine
- Lisdexamphetamine
- Atomoxetine
- Guanfacine

Not a cure – alleviates symptoms
Allows for improved interactions, learning etc.

Side effects:

- Social withdrawal
- Decreased appetite/weight loss
- Sleep problems
- Rebound effect as medication wears off
- Tics
- Stomach aches
- Mood swings
- Dizziness
- Increase in blood pressure or heart rate
- Bizarre behaviour
- Growth delay in children

Alleviation:

- Changing dose/time of medication
- Change e.g. different stimulant or from stimulant to non-stimulent

Treatment

Non-Pharmacological

- **CBT** – usually adults
- **Lifestyle and diet** - omega 3 and omega 6 fatty acids can reduce symptoms (but little strong evidence)
- **Behavioural interventions** – generally children
- **Psychoeducation** – individuals, parents, carers
- **Social Skills training** – all ages
- **Parent education programmes**

Labelling: positive or negative?

“My doctor diagnosed me with ADHD in my early teens. What was really helpful to me was learning that this was a real medical condition – I had ADHD.”

(Adam Levine)

Questions?