

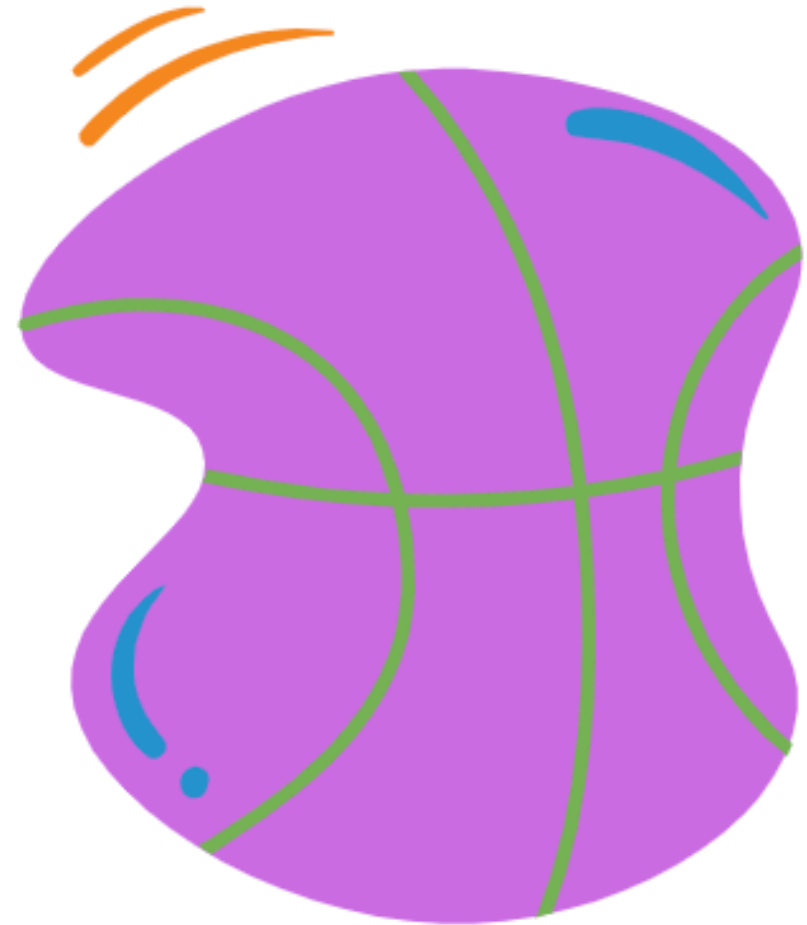
# From Middlesbrough to Marlow – a tale of 2 Jacks

Professor Amanda Kirby

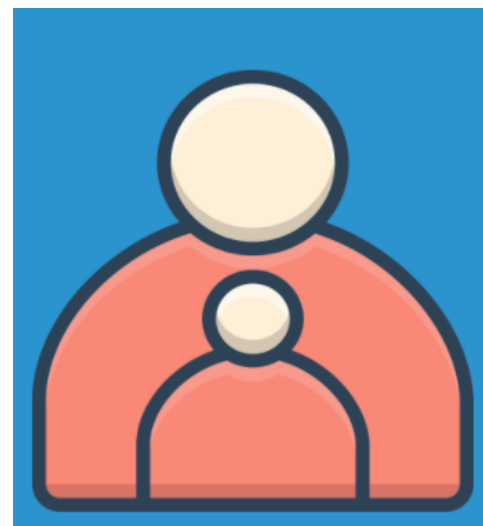
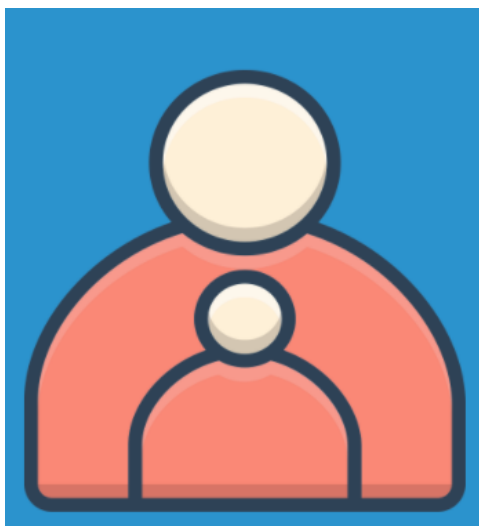
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Who am I ?







## People

- Concert Pianist
- DJ/Songwriter
- Scientist
- Anaesthetist
- Computer analyst
- Accountant
- Digital marketer
- Campaigner
- Unemployed
- Teacher

## Labels

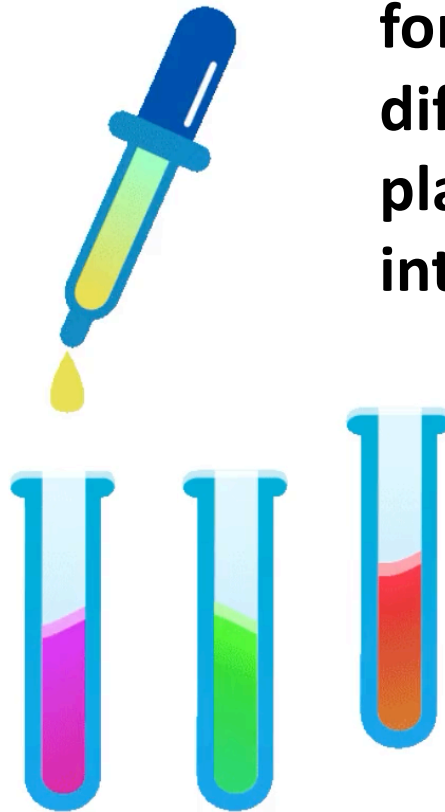
- Non-verbal
- Developmental Language Disorder
- DCD
- ADHD
- Dyslexia
- ASD
- Anxiety
- Depression
- Bipolar disorder
- Learning disabled

# The tale of a case of snakes and ladders

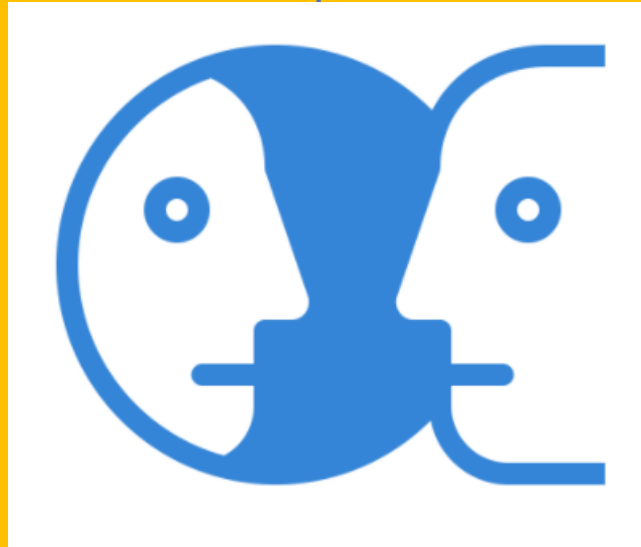


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**Intersecting and compounding forms of disadvantage, with differing barriers depending on place result in different interpretation.**



Jacob

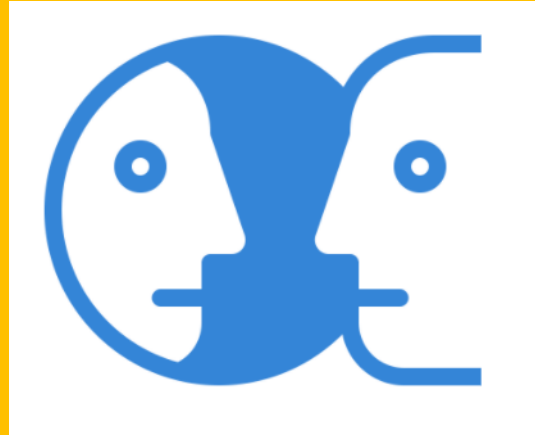


Jack

**Born same day  
in  
April  
2014**



Jacob



Jack

**Different**  
**places**  
**homes**  
**schools**  
**parents**  
**diagnoses**  
**life outcomes**

# Jacob

Delayed  
speech and  
language

Doesn't usually  
initiate conversations

Difficulties  
making friendships  
but wants to

Difficulties with  
learning spelling

# Jack

Avoids eye contact

Walked at 16  
months

Difficulties  
staying on task

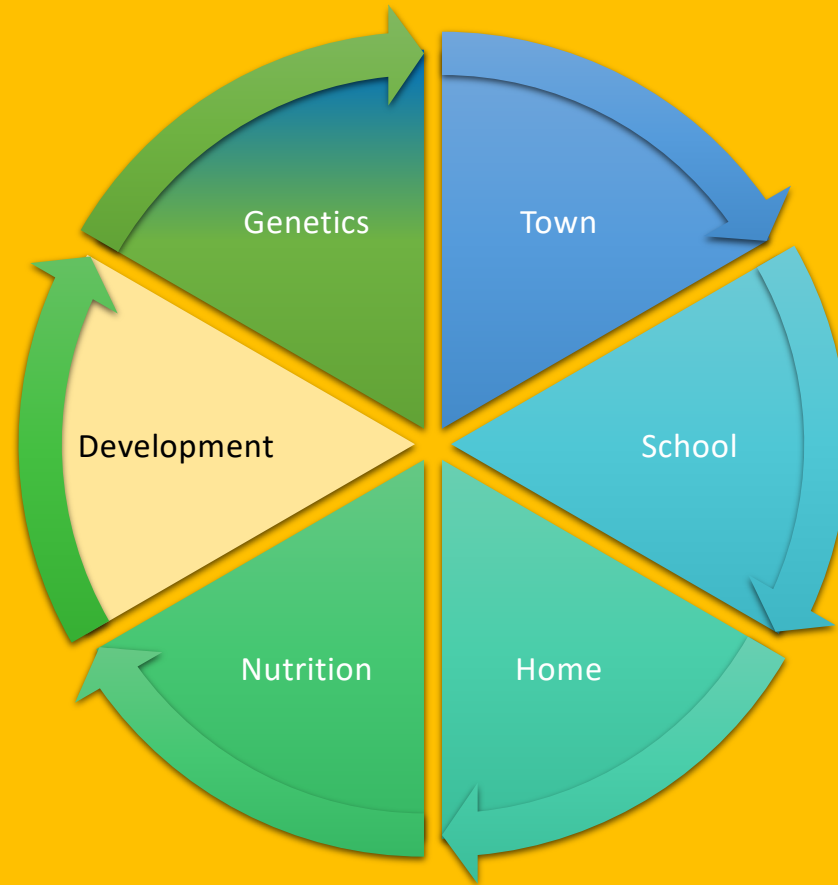
Gets very  
frustrated

Difficulties  
settling to sleep  
since a baby

Very fidgety

Poor fine motor skills  
e.g., handwriting,  
scissors, dressing

Specific food  
likes



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Jack

lives in

Middlesbrough

250  
miles

Jacob lives

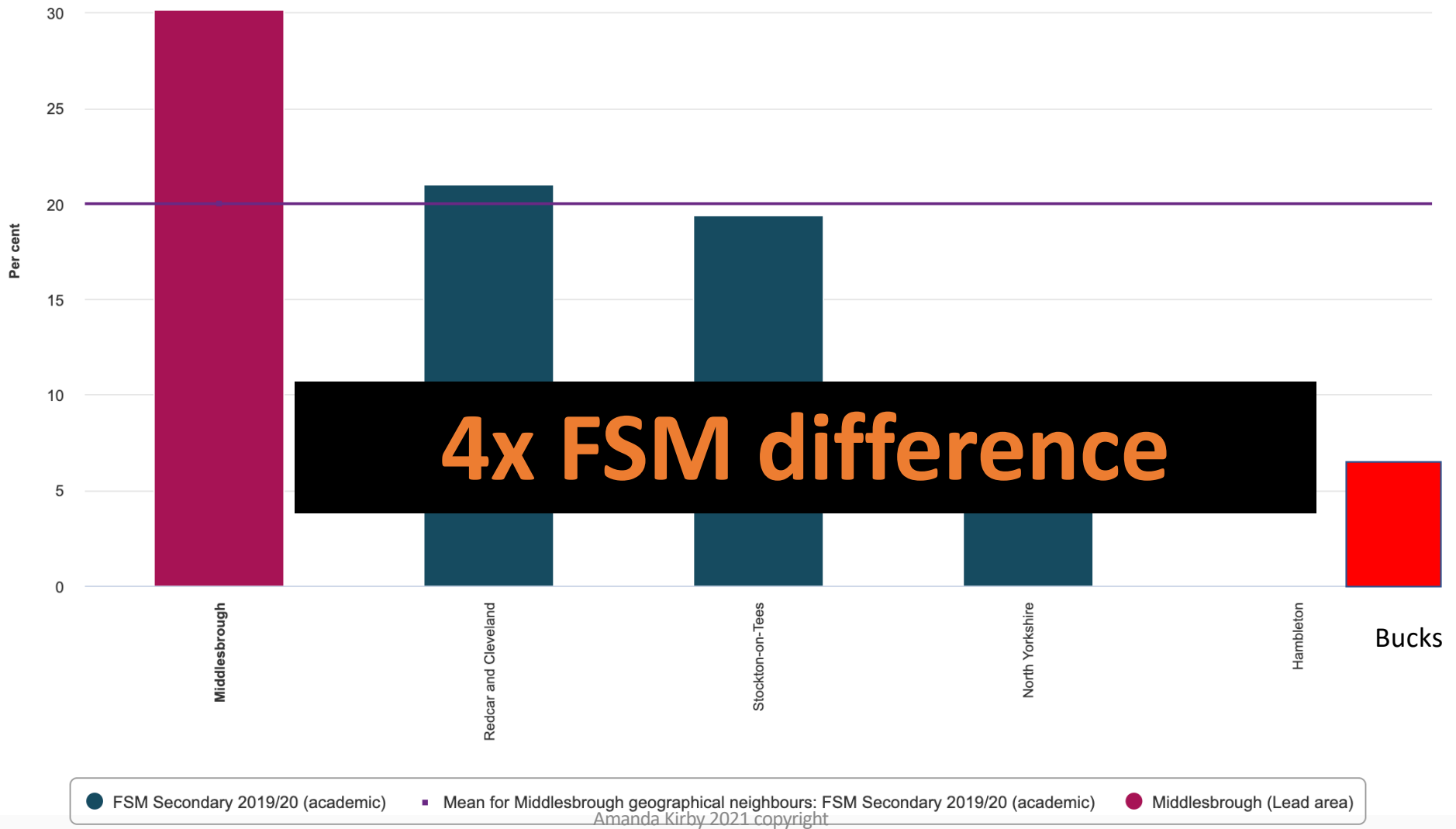
in Marlow

# Poverty

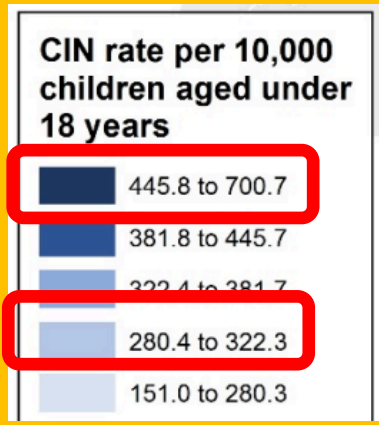
SES links to longer term outcomes and increased risks as children progress (Lee and Burkam,2002;Downey et al,2004)

- Parental resources
- Locality of the school and quality of teaching
- Disconnect between home and school

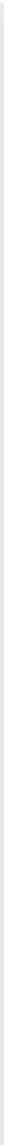
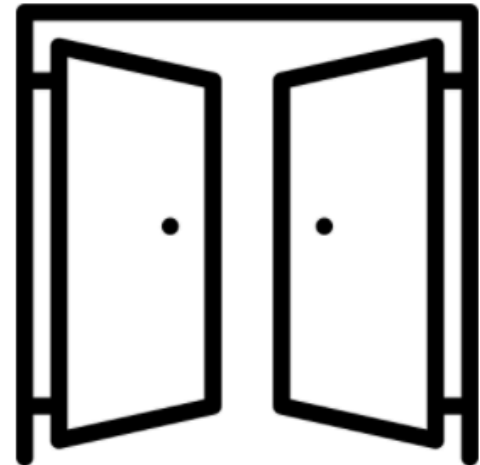
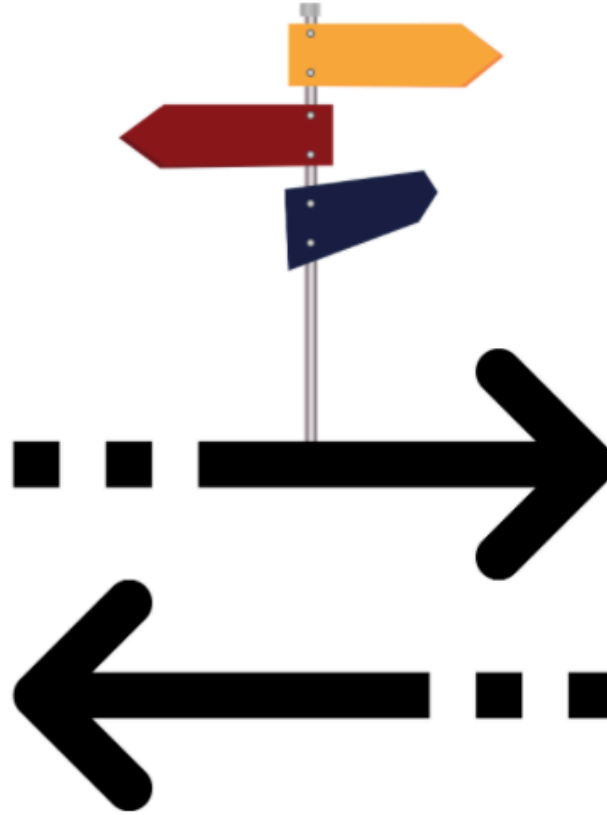
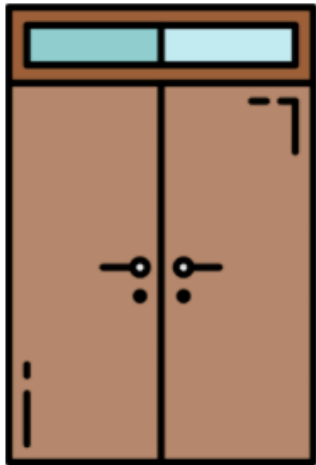
**Socioeconomic Disadvantage, School Attendance, and Early Cognitive Development: The Differential Effects of School Exposure .**  
Ready, Douglas D. Sociology of Education, 2010, Vol.83(4), p.271-286



## Where do Children in Need live?



**2-3 x  
Children in  
need**





Which professional lens do you look through?

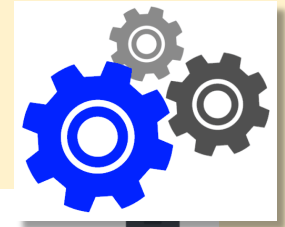




# Jacob

## Different Homes

# Jack



*In and out of care*



# Poverty Language gap = 30 million words

On average, children from lower-SES families show slower vocabulary growth relative to their higher-SES peers,<sup>1</sup> and these differences persist into the school years.<sup>2</sup>

**By 4 years<sup>3</sup>:**

- Children from professional families hear a total of **45 million words** on average

V

- Children living in poverty hear **13 million words** on average.

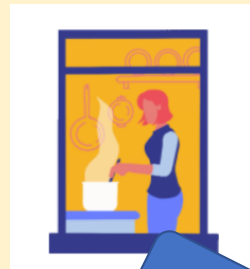
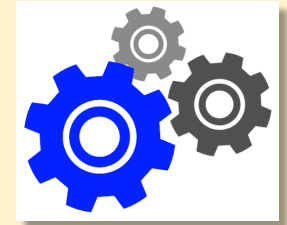
- 1. Arriaga RI, Fenson L, Cronan T, Pethick SJ. Scores on the MacArthur Communicative Development Inventory of children from low and middle-income families. *Appl Psycholinguist*. 1998;19:209–223. doi: 10.1017/S0142716400010043. [\[CrossRef\]](#) [\[Google Scholar\]](#)
- 2. Morgan PL, Farkas G, Hillemeier MM, Hammer CS, Maczuga S. 24-month-old children with larger oral vocabularies display greater academic and behavioral functioning at kindergarten entry. *Child Dev*. 2015;86:1351–1370. doi: 10.1111/cdev.12398. [\[PMC free article\]](#) [\[PubMed\]](#) [\[CrossRef\]](#) [\[Google Scholar\]](#)
- 3. Hart B, Risley TR. *Meaningful Differences in the Everyday Experience of Young American Children*. Baltimore, MD: Brookes; 1995. [\[Google Scholar\]](#)

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# Jacob

Different  
Parents

# Jack



Domestic violence



**£6000+ per  
month**

Asthma

Asthma

Depression

Asthma

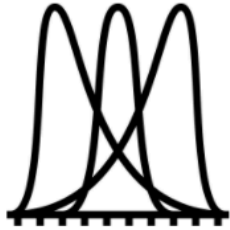
**£575 per  
month**

# The digital divide

22% of the UK's population lack basic digital skills since long before the Covid-19 outbreak.



Only 51% of households earning between £6,000-10,000 had home internet access compared with 99% of households with an income of over £40,001

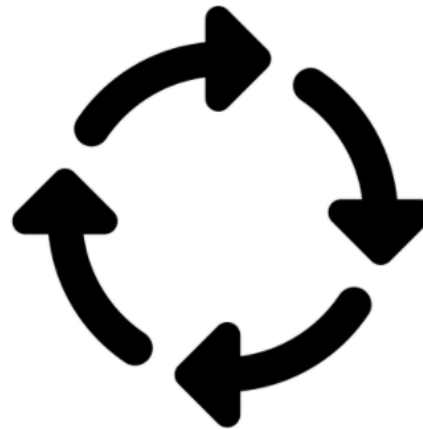


# Jack's Dad

1 in 3 in prison  
have ADHD traits

## Substance Misuse

Adults with self-reported ADHD were more likely to have been addicted to tobacco or smoking (64% vs. 36%,  $p \leq 0.001$ ) or reported recreational drug use (52% vs. 33%,  $p \leq 0.001$ )<sup>2</sup>



## Risk Taking Behaviours

Adults with ADHD were ~2X more likely to be arrested (37% vs. 18%,  $p \leq 0.001$ )<sup>2</sup>  
Men and women ( $\geq 15$  years of age) with ADHD were 32% (HR 0.68, 95% CI 0.63–0.73) and 41% (HR 0.59, 95% CI 0.50–0.70), respectively, less likely to receive a criminal conviction whilst receiving medication for ADHD than whilst not receiving medication<sup>8</sup>  
Adults with ADHD were up to 50% more likely to have serious accidents (males, OR 1.49, 95% CI 1.46–1.54; females, OR 1.44, 95% CI 1.41–1.48)<sup>9</sup>  
Men and women with ADHD were 38% (OR 0.62, 95% CI 0.56–0.67) and 42% (HR 0.58, 95% CI 0.53–0.62), respectively, less likely to have serious accidents whilst receiving medication for ADHD than whilst not receiving medication<sup>9</sup>  
Young adults (aged 19–25 years) with ADHD were more likely to become parents (38% vs. 4%,  $p < 0.001$ ) or receive treatment for a sexually transmitted disease (17% vs. 4%,  $p = 0.006$ )<sup>10</sup>

## Education

Adults with self-reported ADHD were significantly less likely to have graduated from high school (83% vs. 93%,  $p \leq 0.001$ )<sup>2</sup>  
Adults with self-reported ADHD were significantly less likely to obtain a college degree (19% vs. 26%,  $p < 0.01$ )<sup>2</sup>  
Adults with ADHD were less likely to attain a university-level education (23% vs. 59%,  $p < 0.001$ )<sup>3</sup>

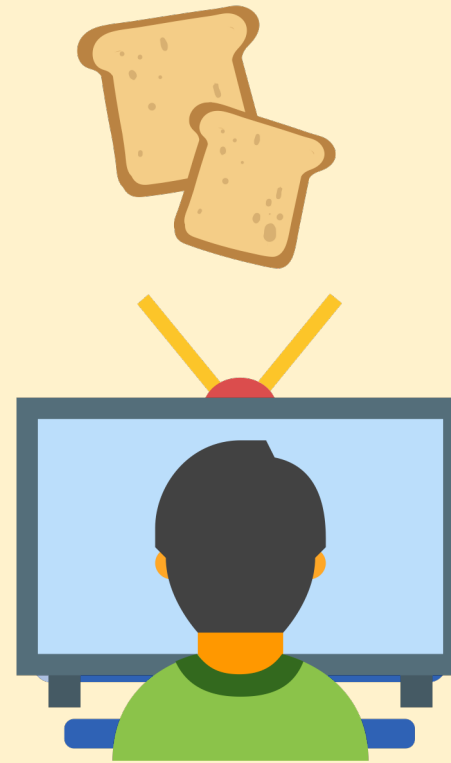
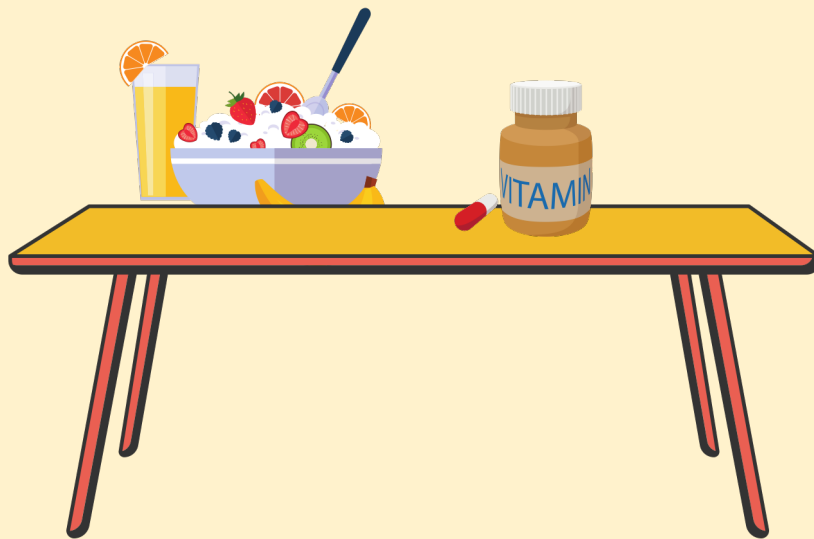
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Ref: Young and Cocallis, 2019, <https://pubmed.ncbi.nlm.nih.gov/31037396/>

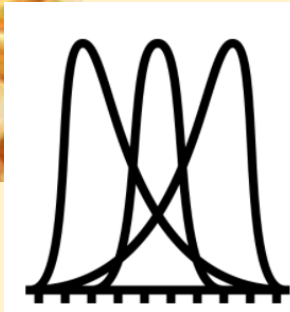
# Jacob

## Nutrition

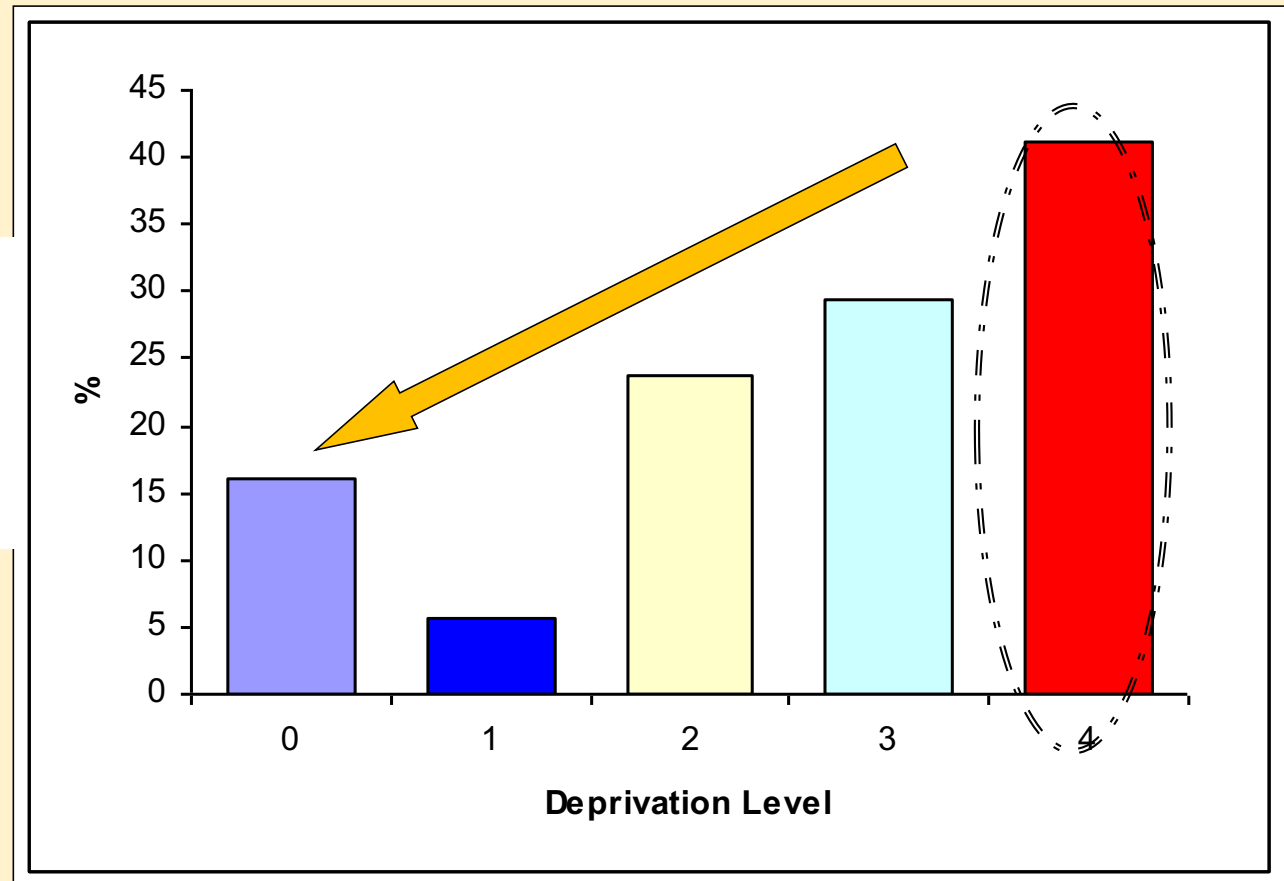
# Jack



# % children reporting eating chips in past 24 hours



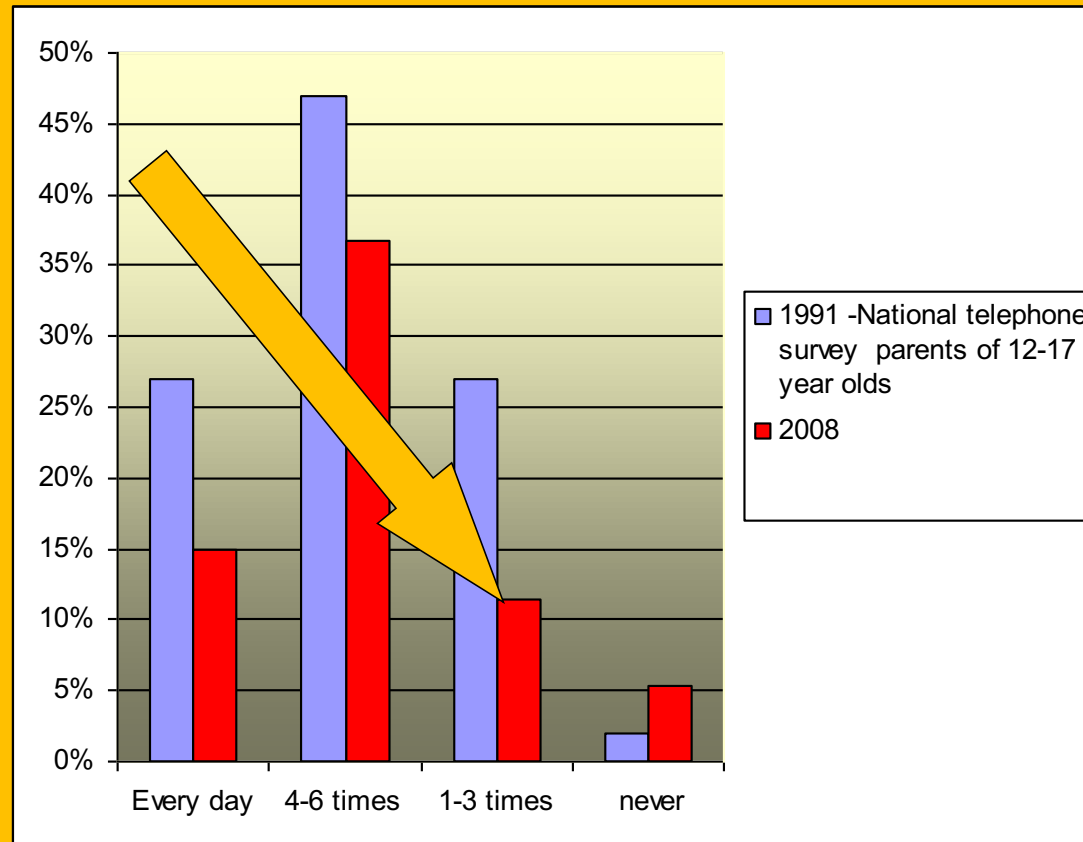
**“low-premium”  
fuel not good for  
brain development**



Amanda Kirby 2021 copyright 450 children in 17 schools in South East Wales, 2009



# Eating together



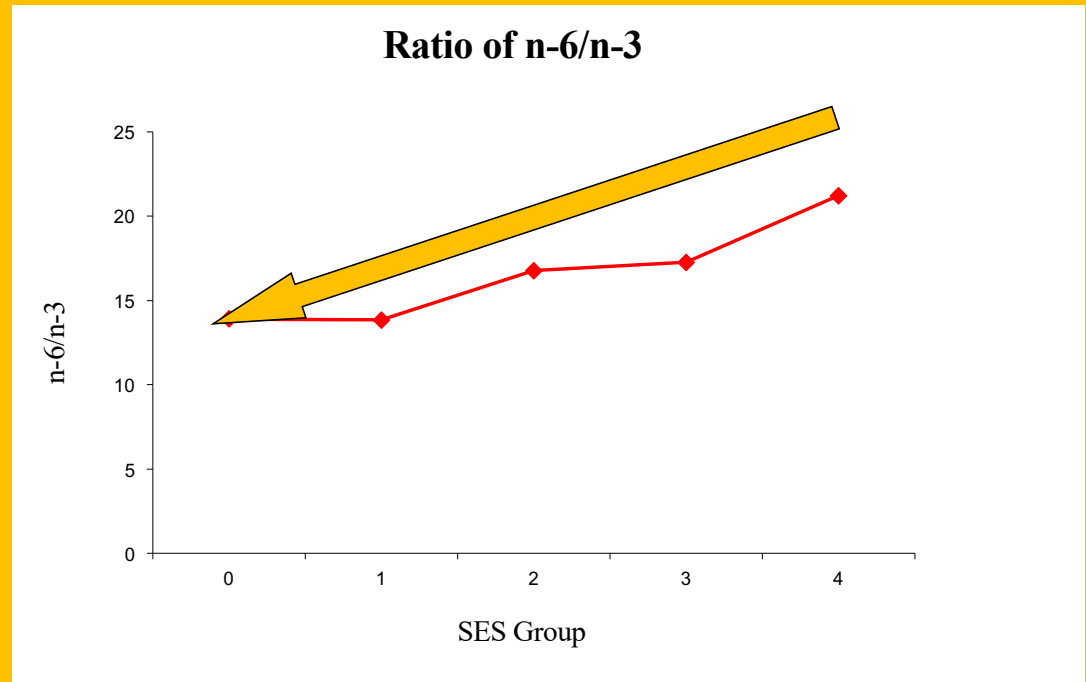
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## 60% of brain is made of fat

Higher deprivation associated with higher omega-6 fatty acid (C22:5n-6) levels and higher  $\omega$ -6:  $\omega$ -3 ratios (all  $p < 0.01$ ).

- Higher deprivation associated with lower ALA, EPA and total  $\omega$ -3 levels and lower EPA:AA ratio and DHA:AA (all  $p < 0.01$ ).

## How does EFA correlate with SES?

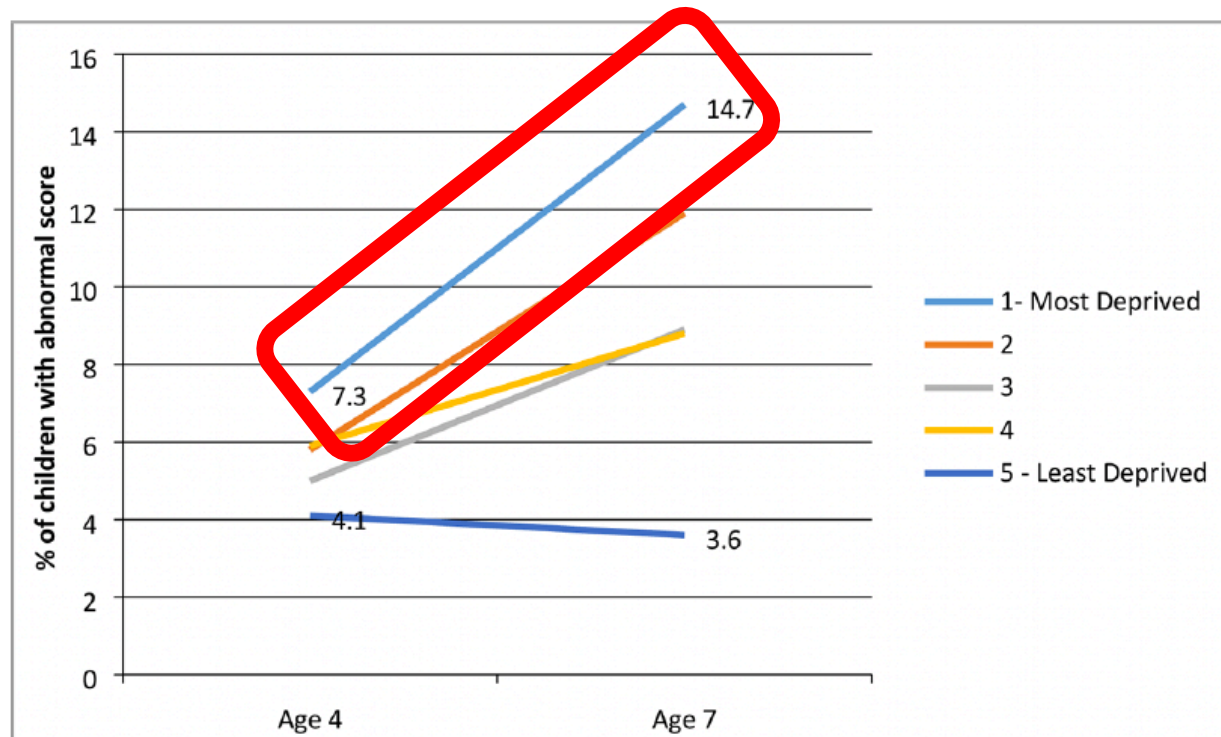


# Nutrition and brain development

- People with disabilities at increased risk of being malnourished (Kuper et al., 2014; Groce et al., 2013a:2013b).

‘..improved nutrition to prevent prenatal disability or disability in childhood receives attention, the nutritional needs of children and adults with disabilities are scarcely addressed’ (p.180).

# Mental Health in childhood + Poverty



**Figure 1** Proportion of children in the 'abnormal' total difficulties group by age and level of area deprivation (base: 3078).

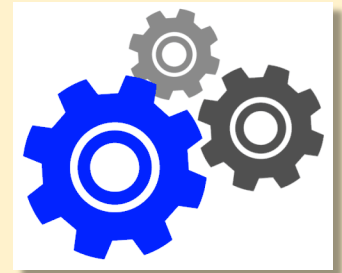
# Jacob



**\*\*Ofsted outstanding**

## Education

# Jack



**Middlesbrough school in special measures**

**50% on  
Free School Meals**

Three different teachers this year

**Home schooling**



What has  
two eyes,  
wings and a beak?

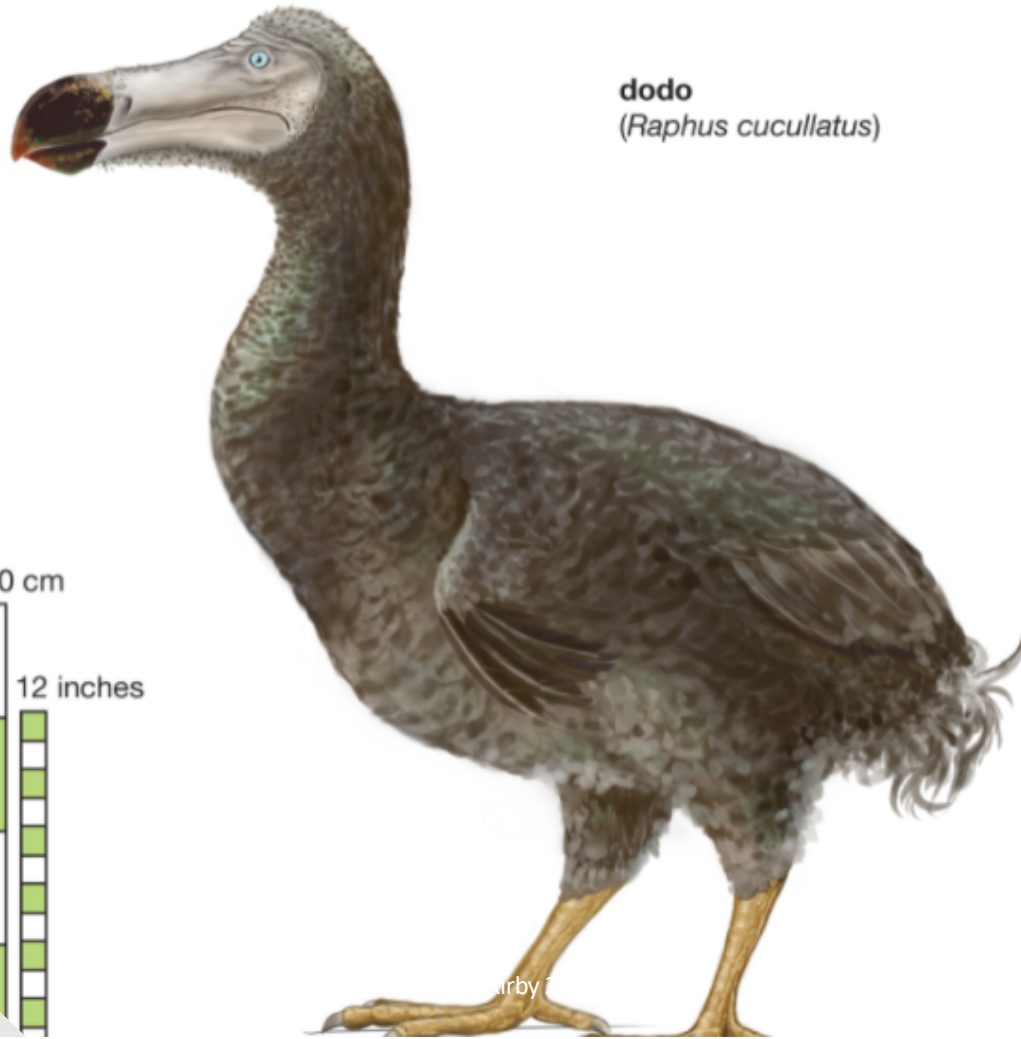


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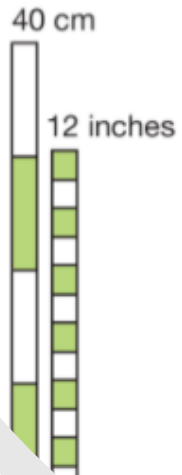


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**dodo**  
(*Raphus cucullatus*)



urby T

# Jacob

Neurodiversity

Doesn't initiate  
conversation

Difficulties  
making friendships  
but wants to

Difficulties with  
learning spelling

Delayed  
speech and  
language

Special  
Educational  
Needs

Poor sleep

Different  
terms

# Jack

SEMH

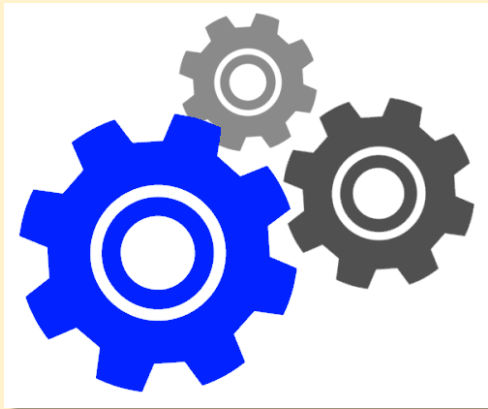
Avoids eye contact

Difficulties  
maintaining focus

Poor fine motor skills  
e.g. handwriting,  
scissors, dressing

fidgety

Jack



**Been excluded twice  
and been in and out of  
care**

Labeled

**SEMH**

Head injury at 2 years and knocked  
unconscious

Asthmatic

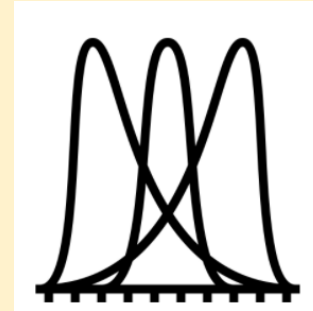
Those excluded by age  
8 years, nearly 1 in 5  
had ADHD

Those excluded 3 out  
of 4 behind in reading  
in secondary school

Those excluded by age  
8 years, nearly 1 in 4  
had language  
development in  
bottom

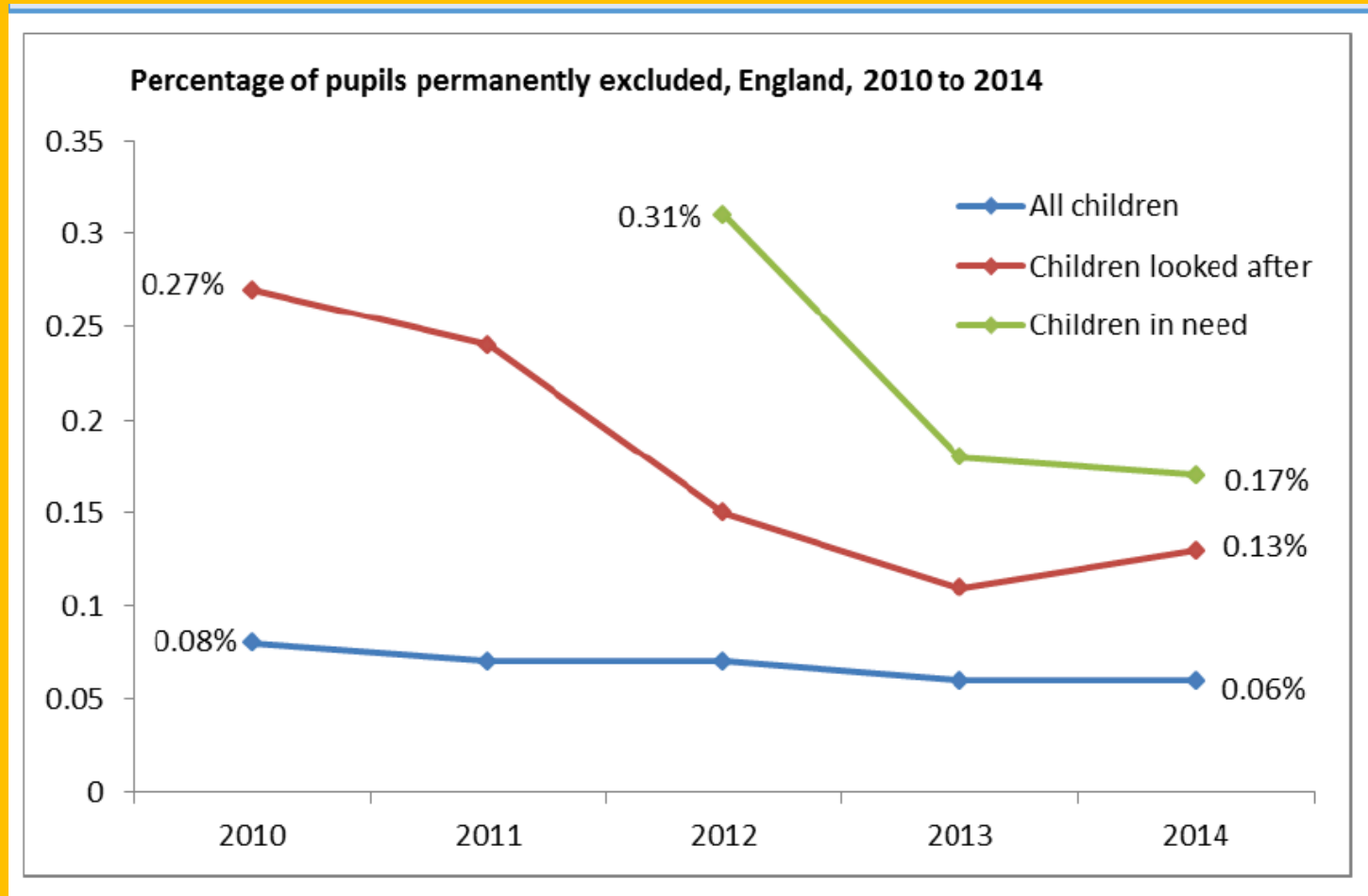
1 in 5 children with  
ASD have been  
excluded

20x national average



# Other Jacks

LAC children  
are more than  
**2x**  
likely to be  
excluded

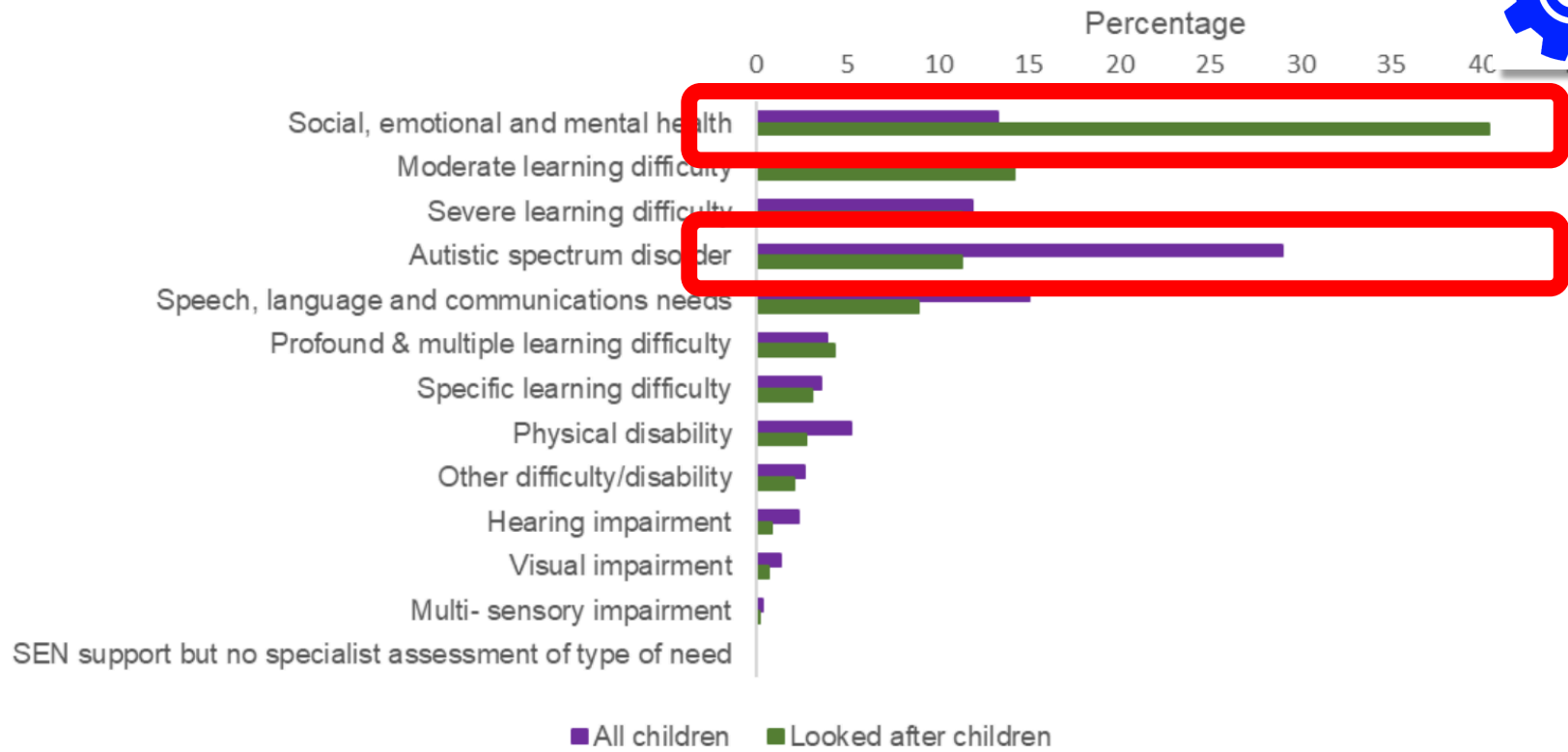
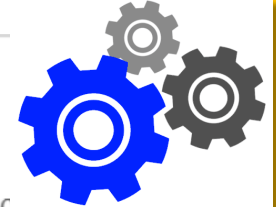




SEN-LAC = **Neurodiversity**

SEN+LAC(+FSM) = **SEMH**

### Primary type of SEN for all and looked after children with EHC plan



## Exclusion + SEN



**89% of students** Education Other Than At School  
(EOTAS) have a **SEN** (Wales,2017)

**SEN=10X** rate of exclusions



## Free School Meals + 'Behaviour'

- Pupils with **Special Educational Needs (SEN)** 2x more likely to be eligible for FSM than those without (28% v 13%).
- Pupils with **Social, Emotional and Mental Health (SEMH)** 3x as primary type of need
- **34% of pupils with SEN support and 43% of pupils with an EHC plan** are eligible for free school meals, v 13% of pupils without.



What does  
*Special* Educational  
Needs  
really mean for  
Jack and Jacob?

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PUPILS ELIGIBLE FOR A FREE SCHOOL MEAL AS AT 17th JANUARY 2019

**'Children deserve better': Dozens of school exclusions still a big problem in Middlesbrough**

46 kids were permanently excluded from schools in the town in 2019/20 - and that's without the lockdown being taken into account

By [Stuart Arnold](#) Local Democracy Reporter  
19:00, 11 NOV 2020

7 COMMENTS

NEWS

		Number of pupils (Headcount)	Number of pupils eligible for a free meal (Headcount)	Percentage eligible for a free meal
Nursery		80	80	19.51
Primary Sector		4,714	4,714	8.57
Secondary		862	862	6.16
Special		408	375	26.63
<b>Pupil Referral Units</b>		<b>88</b>	<b>37</b>	<b>42.05</b>
Primary Sector Academies		17,180	3,572	9.45
Secondary Academies	40	45,796	3,154	6.89
Special Academies	10	1,013	289	28.53
Free Schools	6	1,457	166	11.39
<b>Total Maintained</b>	<b>231</b>	<b>70,925</b>	<b>6,068</b>	<b>8.56</b>
<b>Total including Academies and Free Schools</b>	<b>392</b>	<b>156,971</b>	<b>13,249</b>	<b>8.44</b>

---

## **Childhood head injury linked to higher risk of poor adult mental health and life chances**

**Long-term effects of childhood brain injuries revealed in study of more than a million people**

*Date:* August 24, 2016

*Source:* University of Oxford

*Summary:* Childhood brain injuries, including concussions, are associated with an increased risk of subsequent mental illness, poor school attainment and premature death, according to a new study.



In 52 children in a PRU

50% reported having had a head injury!

# Jacob

is neurodivergent

He also has a diagnosis of  
DLD, ASD, DCD

and

SLT intervention

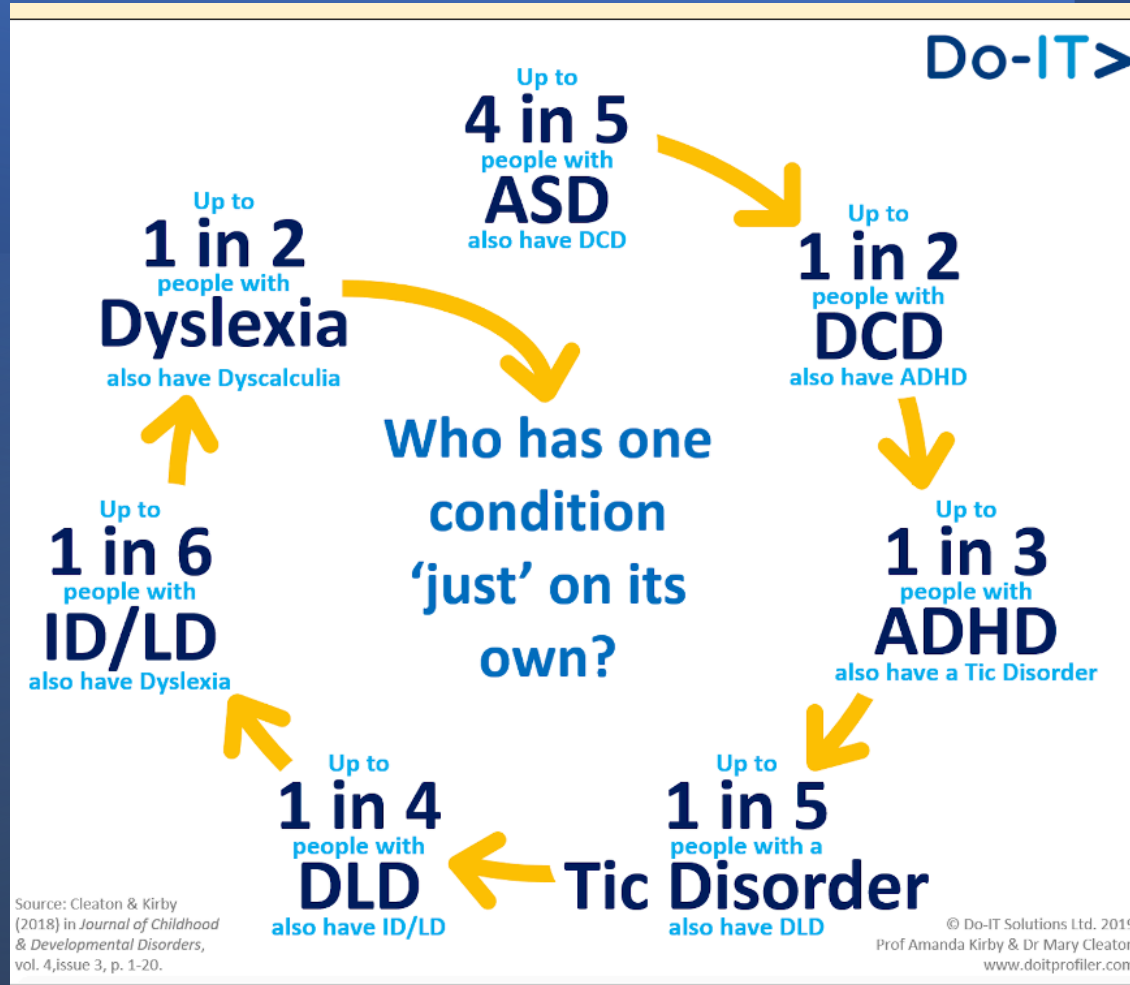
OT intervention

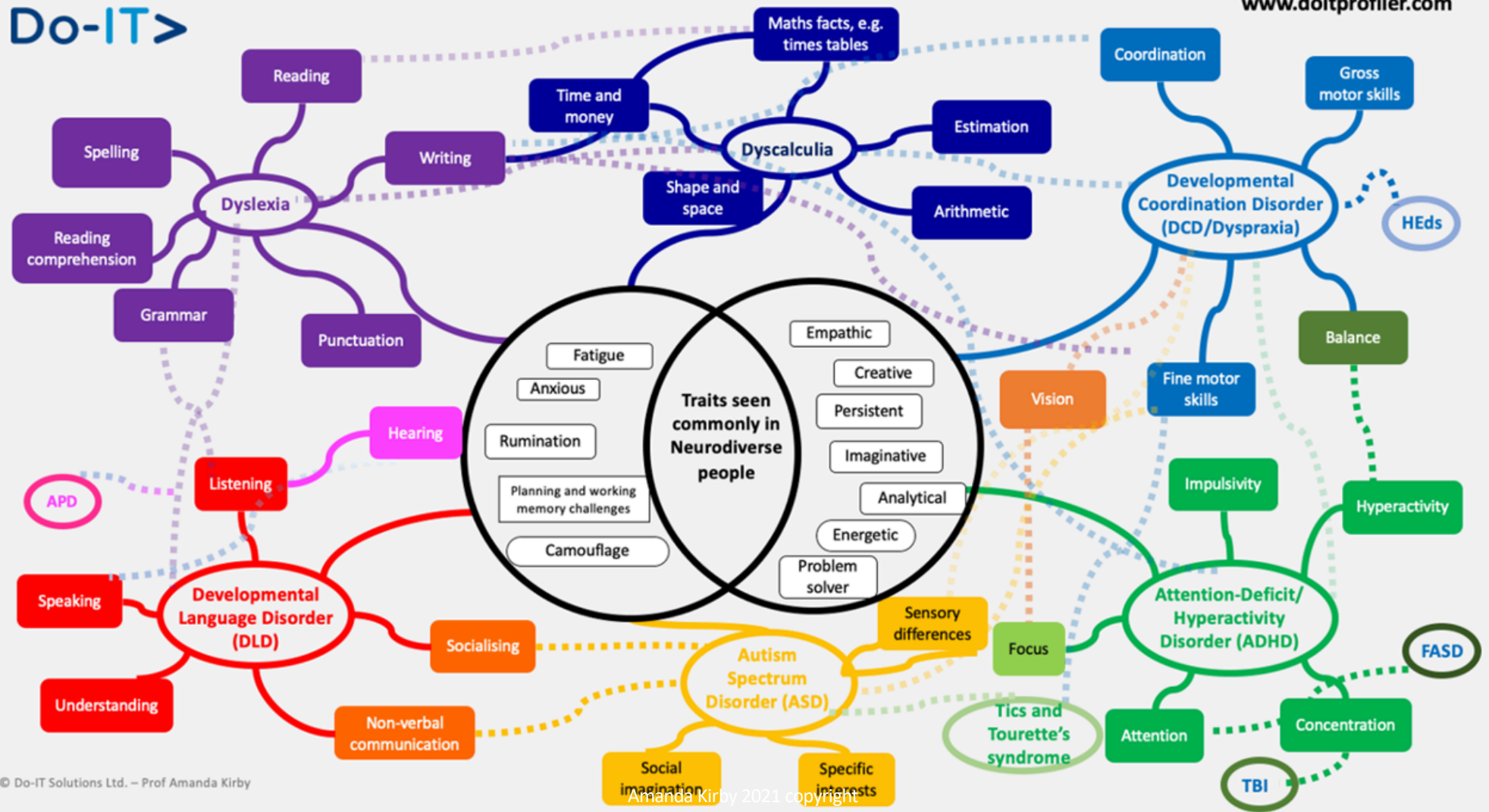
TA and 25 hours of support  
each week

He is 2<sup>nd</sup> in the school for Maths  
He can design cities in Minecraft  
He builds complex Lego robots  
He swims and plays football in the  
garden

And has an EHCP









Jack's  
future?

11-year-old pupils  
eligible for FSM are  
around **2x** likely NOT to  
achieve basic standards  
in literacy and  
numeracy as other 11-  
year-old pupils.

# SEN and employment outcomes.... more than 3 x difference

Table 5: Numbers and percentages of pupils who were in sustained employment or on out-of-work benefits 11 years after completing KS4, by SEN status

KS4 cohort	Combined	
SEN Status	SEN	No SEN
Number in sustained employment 11 years after completing KS4	100,967	702,806
Percentage in sustained employment 11 years after completing KS4	58%	78%
Number on out-of-work benefits 11 years after completing KS4	44,747	63,777
Percentage on out-of-work benefits 11 years after completing KS4	26%	7%



Jacob's future?

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- The World Health Organisation's positive construct of health is aligned with the **proactive promotion of positive experiences in childhood** because they are optimal to childhood development and adult flourishing
- **'Supportive parenting, a secure home life and a positive learning environment** in school are the key factors in building and protecting mental wellbeing, or mental capital, in childhood and adolescence'

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BUT



Literate  
Can communicate  
Digital skills  
Higher SES

Missing Middle

Challenges

Reach services

No services

Left behind

*Don't know what  
I don't know*

Parental concerns



*I know I need something*

Waiting lists

Get services

EHCP

*I know how to get  
what I need and  
have the means to do so*



# Education, Health and Care Plans

In Middlesbrough, the majority of children with special educational needs and disabilities have their needs met in the child's local mainstream school, sometimes with the help of our specialist services. In some cases, children attend specialist bases in mainstream schools or special schools depending upon the needs of the individual child.

The Council's provision for SEND is under ongoing review in order to ensure that we can monitor changing needs and aim to provide local provision for local children and young people.

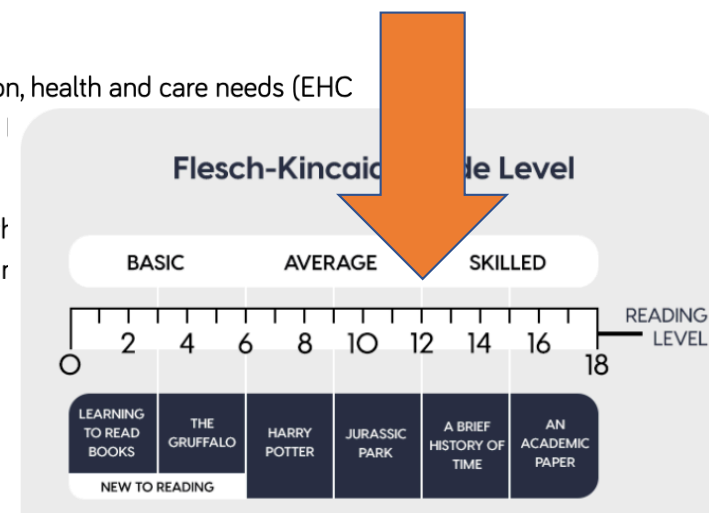
## Education, Health and Care Plans

With effect from 1st September 2014, any new statutory assessment of SEN covers a child's education, health and care needs (EHC assessment). In all cases, children must be identified as having a special educational need to have an EHC assessment coordinated by the Local Authority's Special Educational Needs 0-25 Assessment Team.

**Quick Exit** The new pathway for children and young people who require an assessment of their Education, Health and Care needs or not an Education Health & Care Plan is necessary to meet needs. The majority of children and young people

### Readability

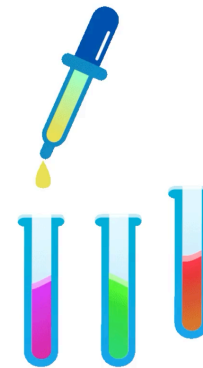
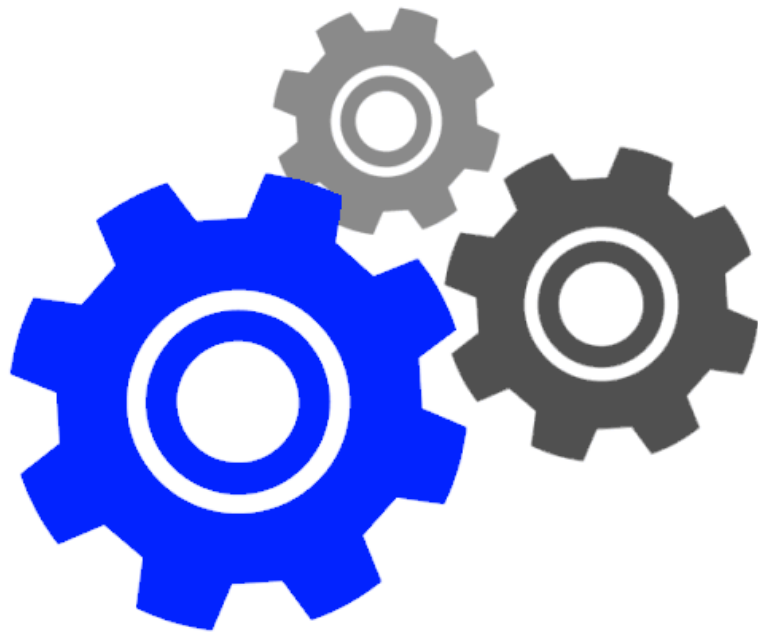
Flesch Reading Ease	45.1
Flesch-Kincaid Grade Level	12.4
Passive Sentences	45%

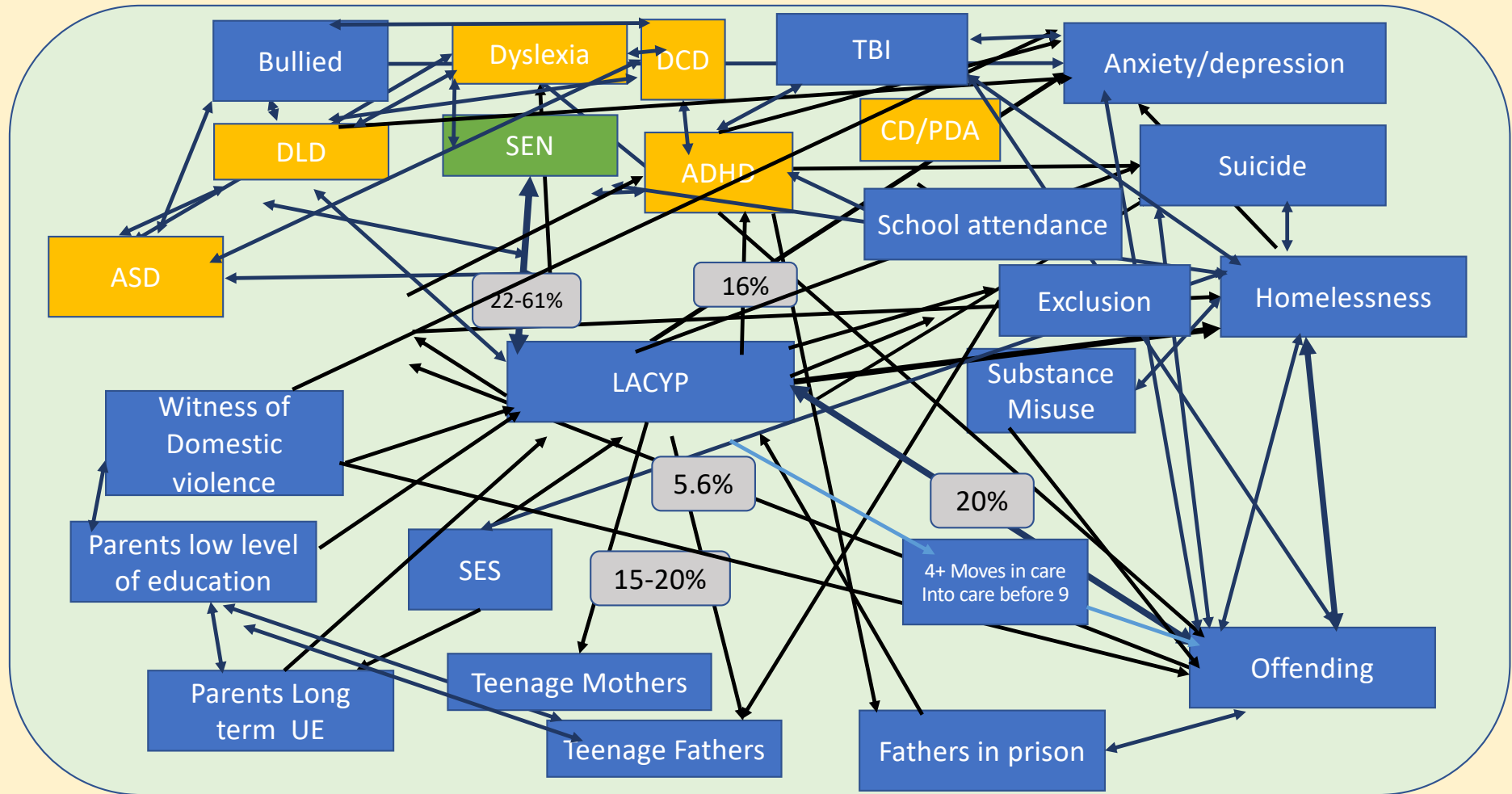




Intersecting and compounding forms of discrimination and disadvantage create different outcomes

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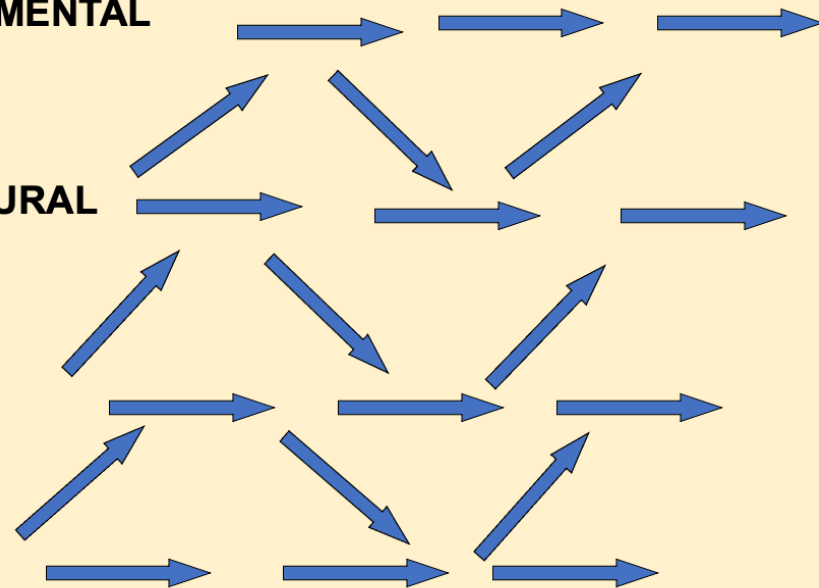
# Meshes of Influence

**ENVIRONMENTAL**

**BEHAVIOURAL**

**NEURAL**

**GENETIC**

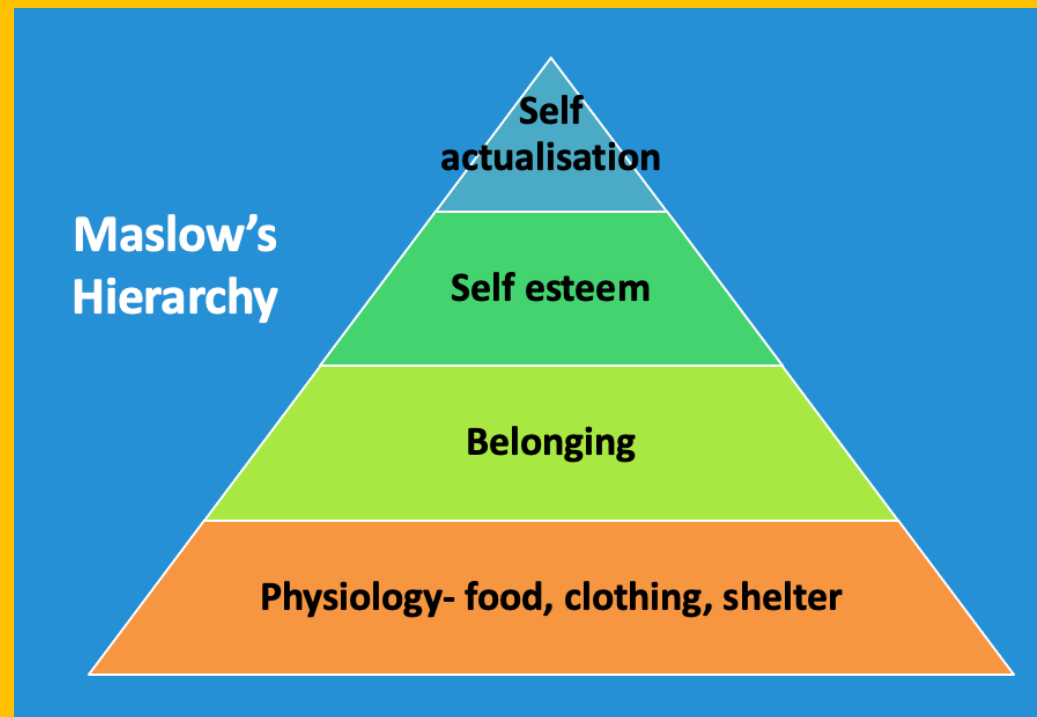


Ref: Turvey, 2006

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# A Whole-Child Approach

1. See **nutrition, nurture and wellbeing** are at the heart of all we do
2. Consider the children who are **'learners of concern'** as a trigger
3. **Train teachers/GPs and those in the community** to understand how things intersect/co-occur so we don't make assumptions
4. **Formulations** rather than labelling – considering cumulative adversity
5. **Accessibility** in all we do- common language/terms



**“Only the educated are free.”**

Epictetus, 50 AD