

adolescent socio- emotional functioning



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**ROYAL
HOLLOWAY
UNIVERSITY
OF LONDON**

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Teenagers Are Great!



Entrepreneur



Inventor



Baking genius



Nobel laureate

But Adolescence Can Be Tough

Lifestyle > Health & Families > Features

Teenage mental-health crisis: Rates of depression have soared in past 25 years

How has society managed to produce a generation of teenagers in which mental-health problems are so prevalent?

Geraldine Bedell | @geraldinebedell | Saturday 27 February 2016 | 64 comments



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UK news
The Observer

A&Es hit by children's mental health crisis

News > Crime

Woodford stabbing: Teenager knifed to death 'in row over tracksuit'

Family of victim Charles Kutyauro, 16 plead: stop the 'destruction' caused by knife crime

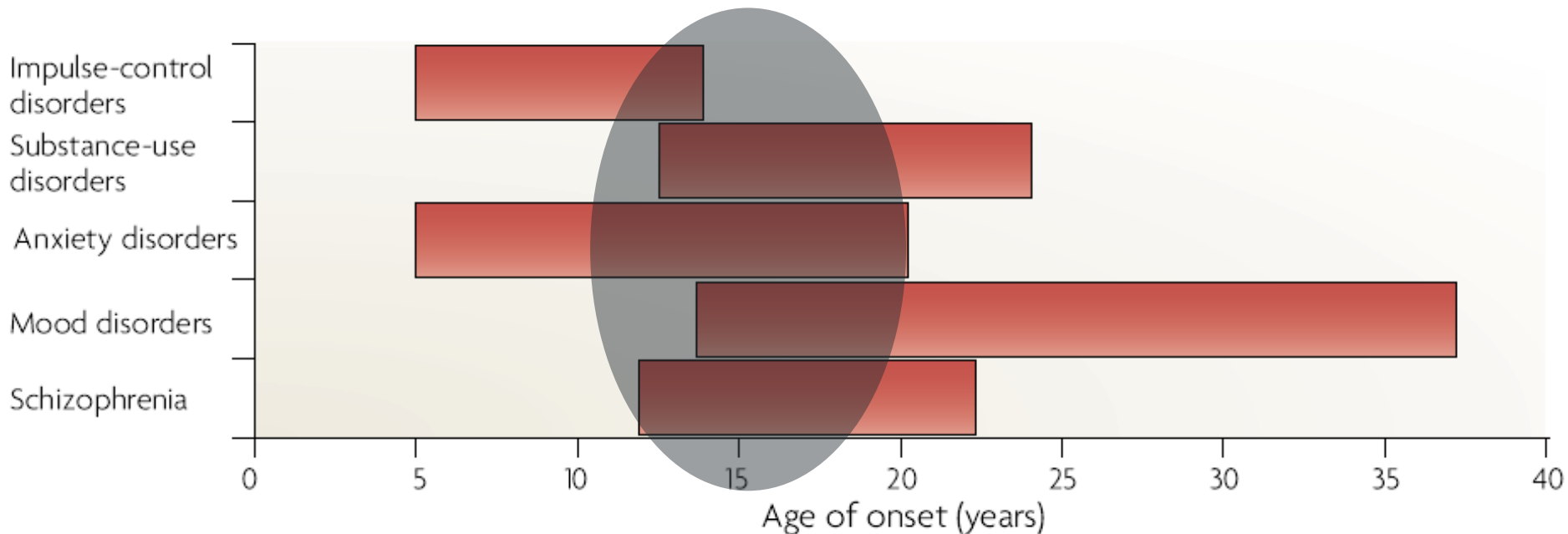
DAVID CHURCHILL, BEN MORGAN, JUSTIN DAVENPORT | Monday 11 January 2016



over lack of out-of-hours

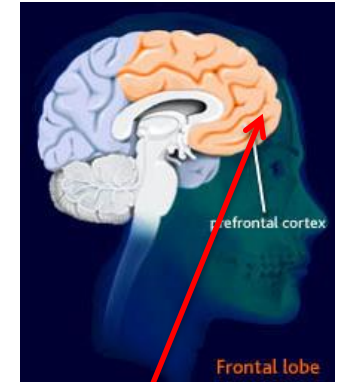
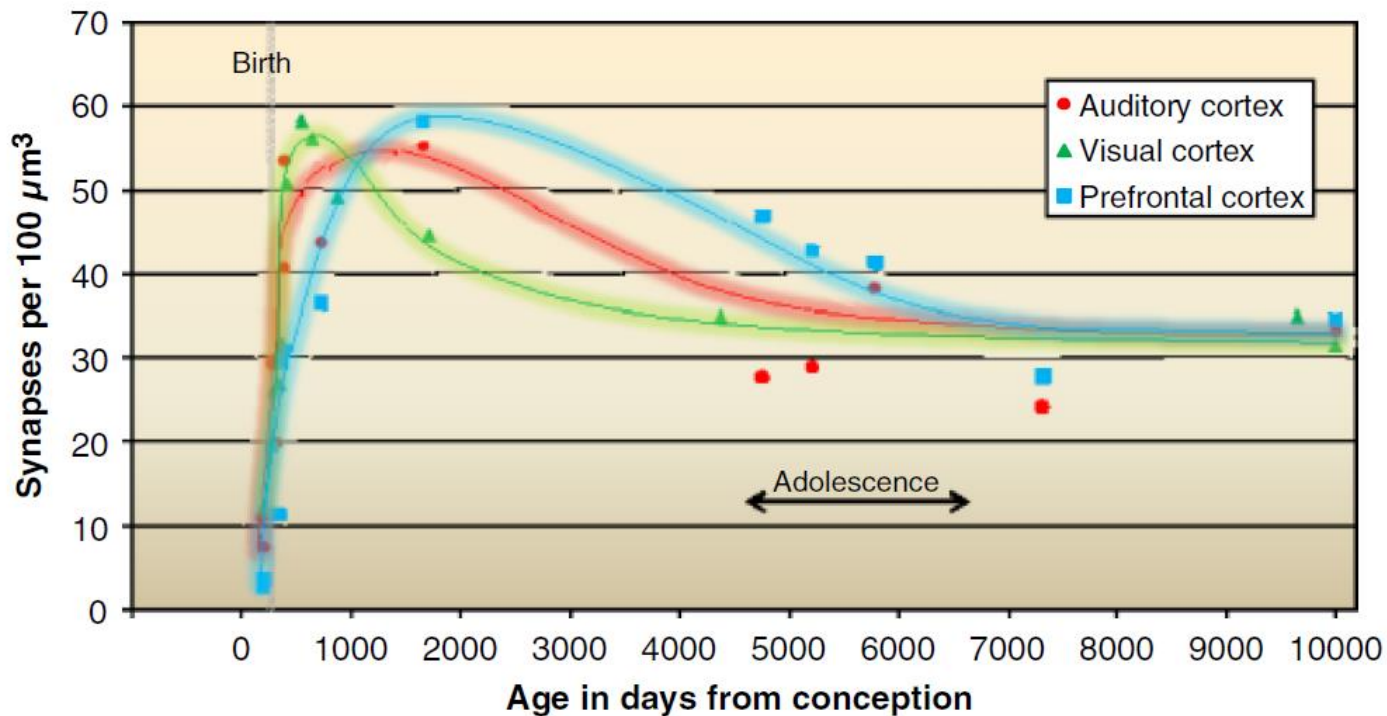
Are Teenagers Different?

- Adolescence is associated with 200% increased mortality
- ‘Health paradox’
- Also a key time for mental health problems



Half of all lifetime cases have their onset by age 14, and 3/4 by age 24

Could Brain Development Play a Role?



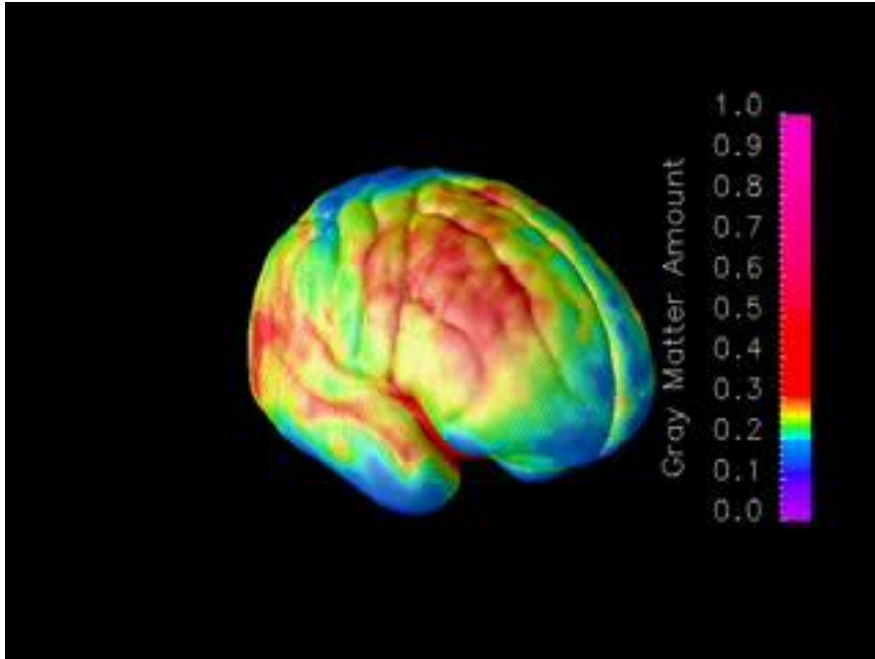
Prefrontal cortex

- Study of **synaptic density**: number of connections between neurons (brain cells)
- **Prefrontal cortex** took the longest to mature

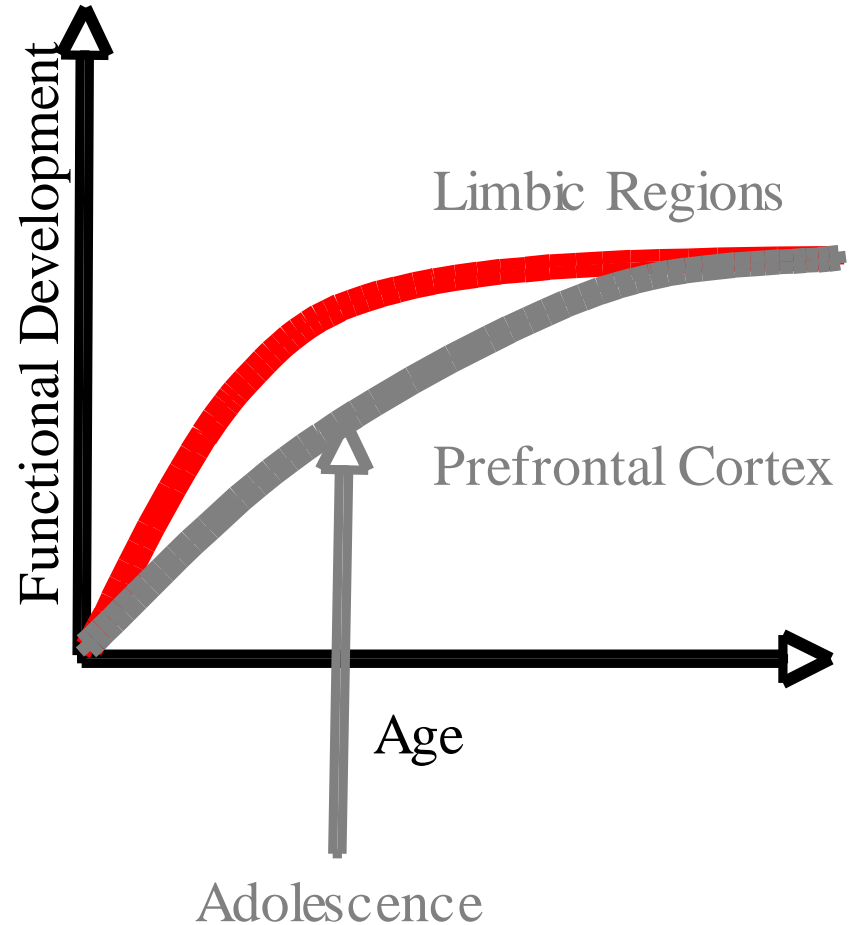
MRI: Studying the Living Brain



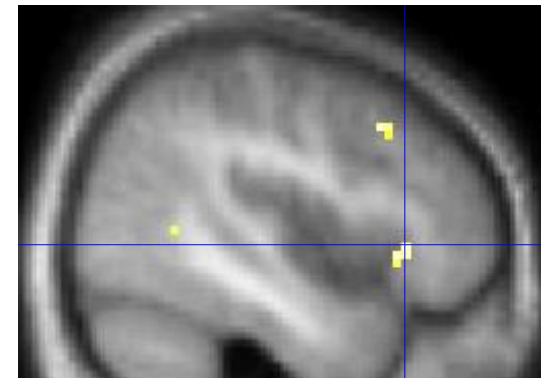
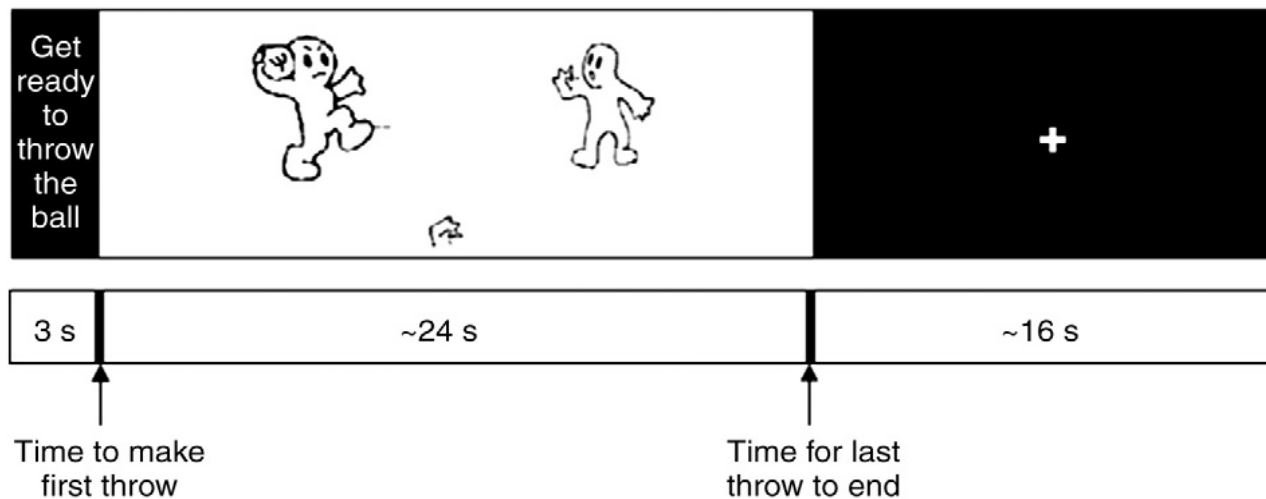
MRI: Brain Development in Adolescence



Thinning of grey matter between ages 4 and 21



These Data Stimulated Neuroscience Studies...



- Reduced ventrolateral prefrontal cortex response to social rejection in 19 adolescents aged 14-16 compared with 16 adult controls
- May reflect immaturity in brain regions underpinning emotion regulation

But What About Behaviour?

- Adolescents with more intense emotions, mood swings and poor emotional control report more depression and problem behaviour.
- But more research needed on how emotion regulation develops in adolescence, and its relation to mental health
- This will help us to know what to target and when in order to foster resilience



What do we mean by ‘Emotion Regulation’?

“The **monitoring, evaluation and modifying** of emotional reactions in order to accomplish **goals**” (Thompson, 1994)

Dual process framework distinguishes between:

Explicit ER: conscious strategies to downregulate emotional responses

Example: **reappraisal** (e.g. Gross, 1998) – changing one’s interpretation of an emotional event.

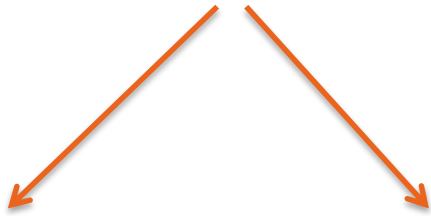
‘Why wasn’t I invited to the party? Maybe they don’t like me? **Or**, maybe they will invite me when I next see them’.

Implicit ER: automatic processes occurring largely outside conscious awareness

Example: Screening out grumpy faces as you walk down a busy street.

CERDIA Task Design

Implicit Emotion Regulation



Emotional capture
(Hodsoll et al. 2011)



Pain interference
(Lockwood et al. 2013)

Explicit Emotion Regulation



Reappraise

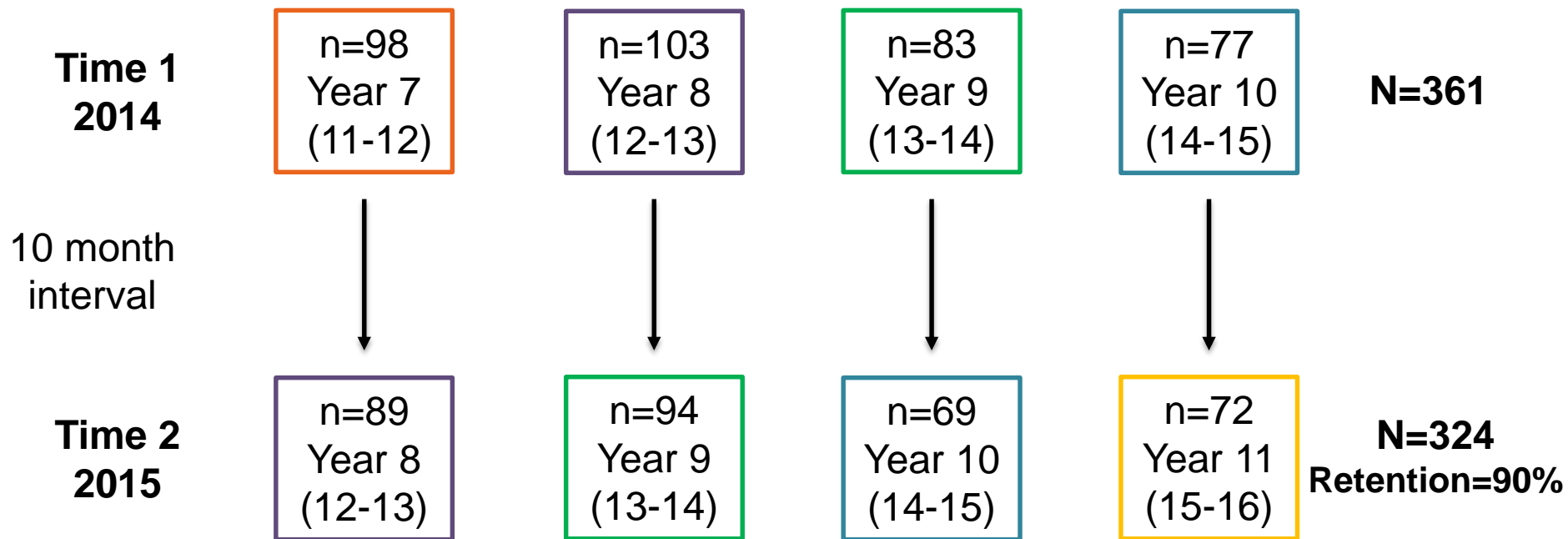


Use of reappraisal strategies
(based on Ochsner/McRae)

Questionnaires (self and teacher report)

- Demographics
- ER strategy use
- Aggression
- Anxiety
- Depression
- Behaviour
- Non verbal IQ

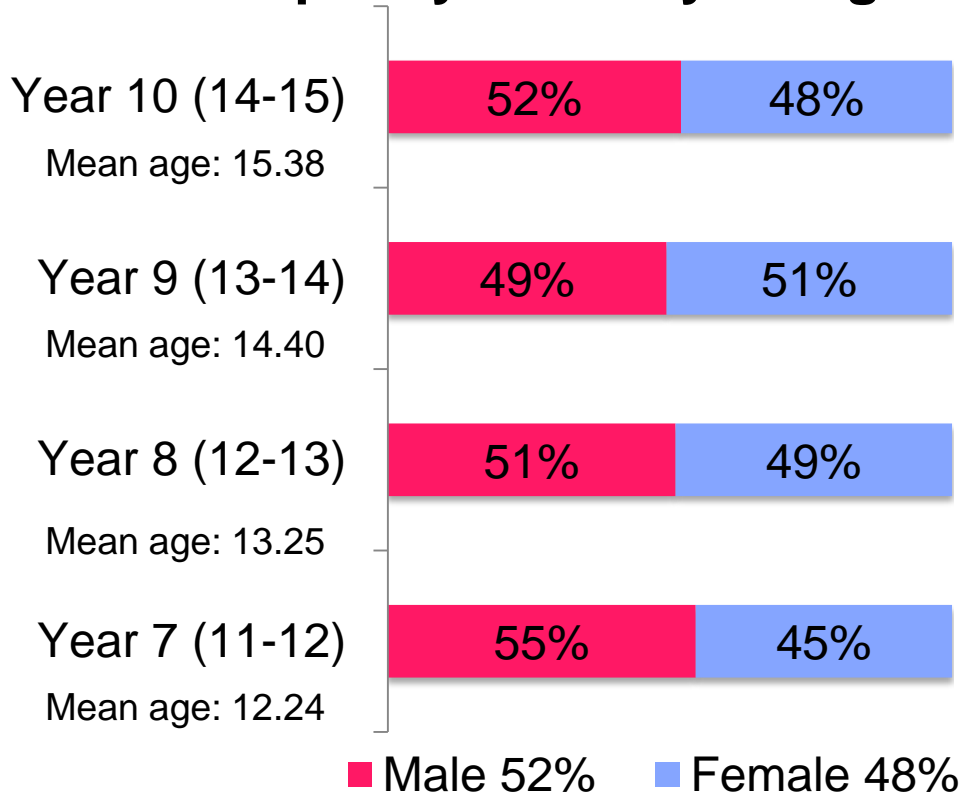
CERDIA Participant Design



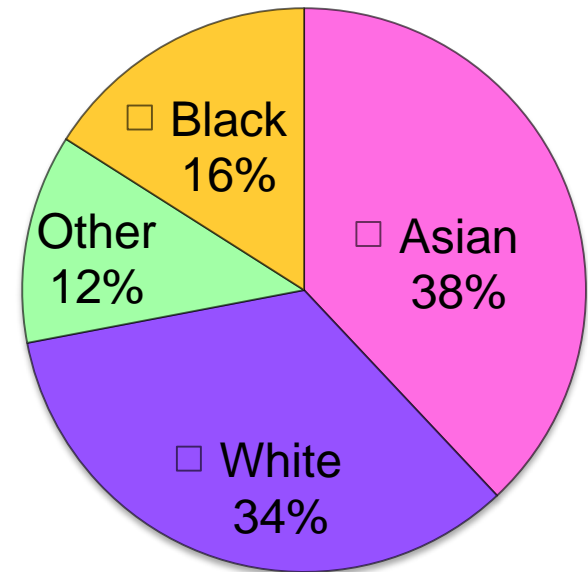
- Classroom-based online testing (*Delosis Psyttools*)
- 100 adults also tested in small group settings
- Testing now complete

Demographics: Time 1

Gender split by school year/age



Ethnicity



Overall participant mean age: 13.69

Reappraisal Task

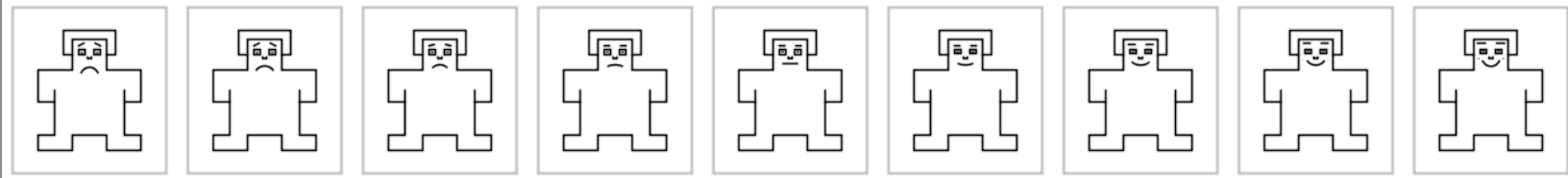
Neutral



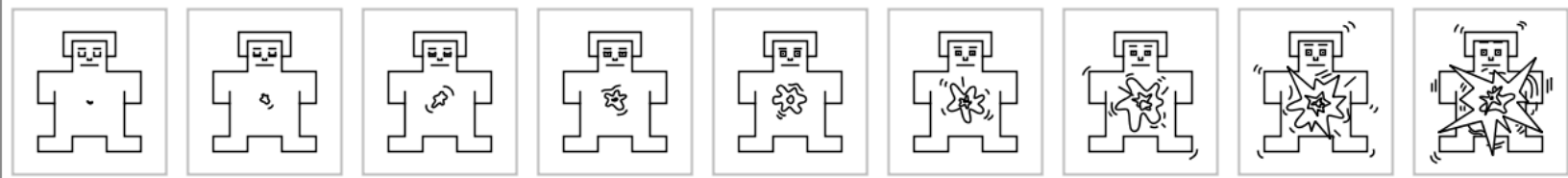
Look Negative



Reappraise



Distress



Arousal

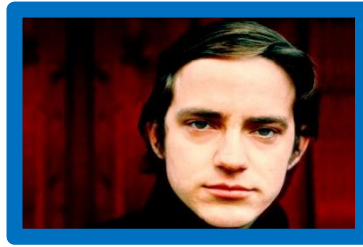
Manipulation Check: 'What did you think of to change how you were feeling?'

Emotional Reactivity

Look Negative



Neutral

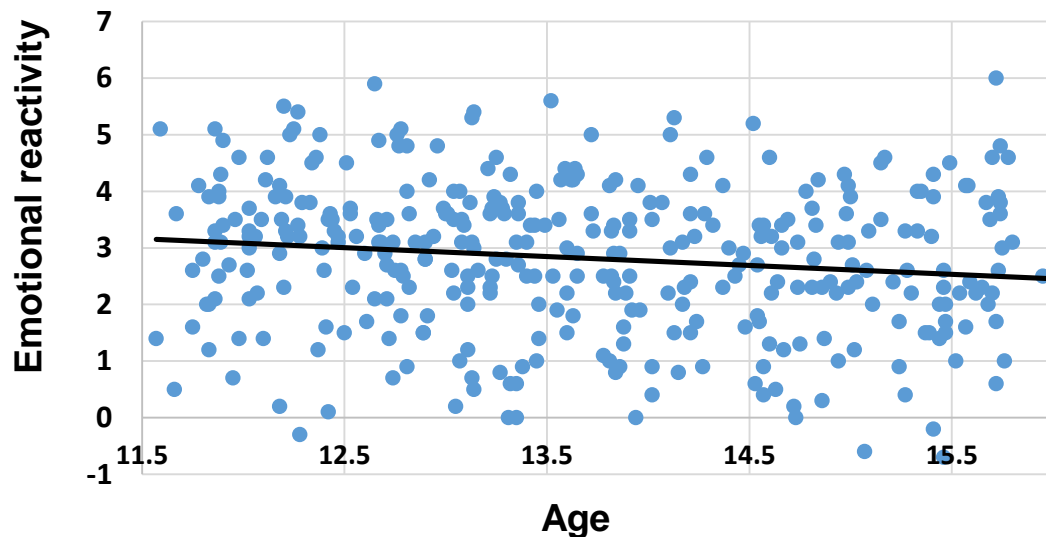


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Emotional Reactivity



Decrease in emotional reactivity with age in adolescence



- Reactivity also decreased from Time 1 to Time 2.
- More **anxious** adolescents showed greater reactivity
- More **proactively aggressive** adolescents showed reduced reactivity

Emotion Regulation (reappraisal)

Look Negative



Reappraise



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Emotion Regulation
(reappraisal success)

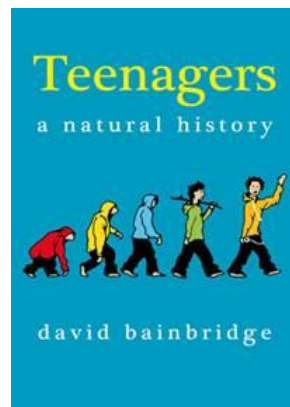
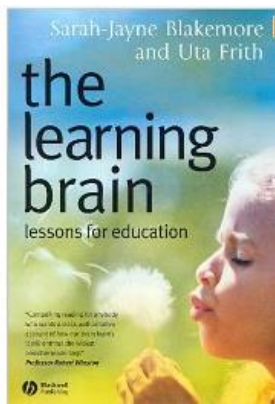
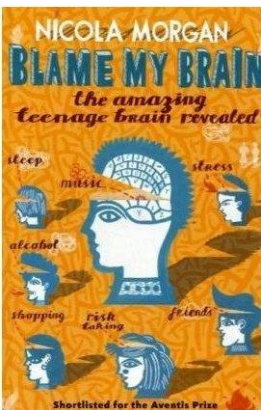


- No age differences within adolescence
- But adults were better at reappraisal than adolescents: development between adolescence and adulthood
- Those who were better at the task also reported using reappraisal more in everyday life.

Conclusions



- The teenage brain is a work in progress
- To understand links between brain and behaviour, we need to understand behaviour in more detail
- Data from our CERDIA study are helping to do this: reactivity and regulation both continue to develop but at different times
- The teenage years come with vulnerabilities, but also with amazing opportunities to develop new skills, friends and interests.



A huge thanks to the staff and pupils at participating schools!