

# Grey cells and prison cells: Meeting the neurodevelopmental and cognitive needs of vulnerable young people

**Welcome**  
**#greycells**

# What we know about the needs of young people in Polmont

**Dr Gill Robinson, Professional Advisor for  
the Young People's Strategy, Scottish  
Prison Service**

## Neurodevelopmental and cognitive needs of vulnerable young people

### WHAT WE KNOW ABOUT THE NEEDS OF YOUNG PEOPLE IN POLMONT

Gill Robinson, Scottish Prison Service



# UNLOCKING POTENTIAL TRANSFORMING LIVES

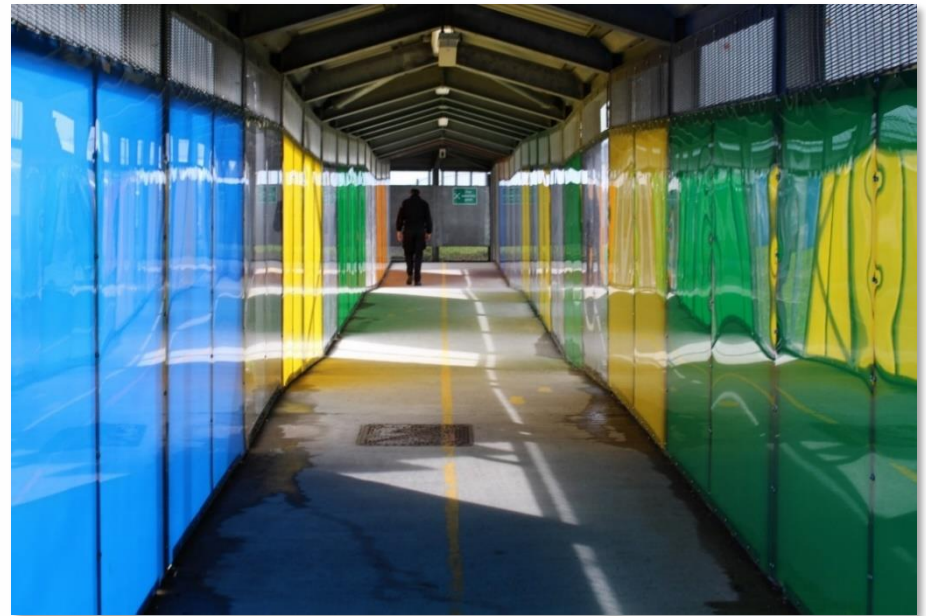
## Context:

There were **324** children and young people aged 16 to 21 in SPS custody on 13 February 2018

8 young women (one under 18)

40 young men aged 16 and 17

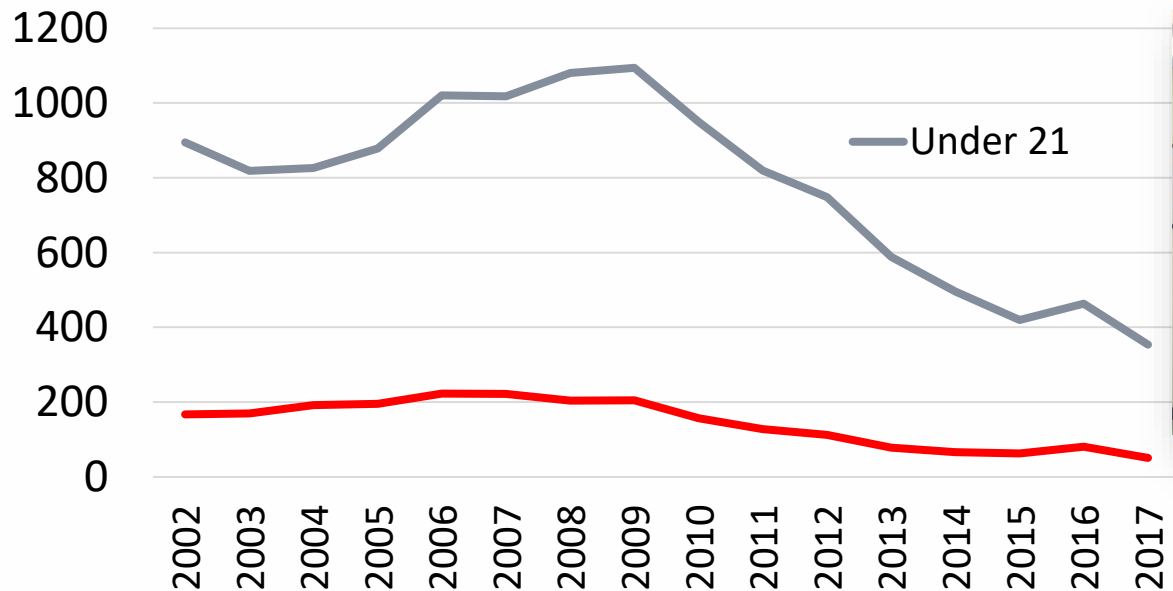
276 young men aged 18 to 21





# UNLOCKING POTENTIAL TRANSFORMING LIVES

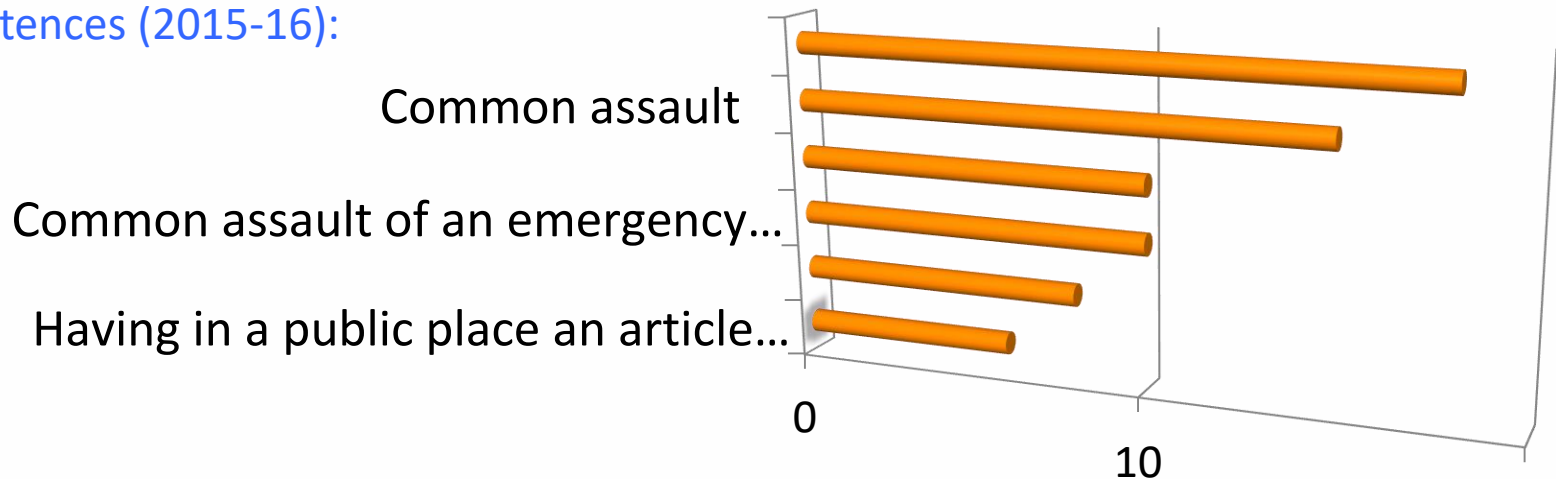
## Numbers of young people in custody have reduced markedly since 2010



Source: Scottish Prison Service

## Their offences are mainly crimes of violence

Most common main crimes for which 16 & 17 year olds were given custodial sentences (2015-16):



95 individual 16 & 17 year olds were given custodial sentences in 2015-16 for 199 crimes.  
In addition, 39 sentences were given for main crimes with fewer than 5 occurrences.

# UNLOCKING POTENTIAL TRANSFORMING LIVES

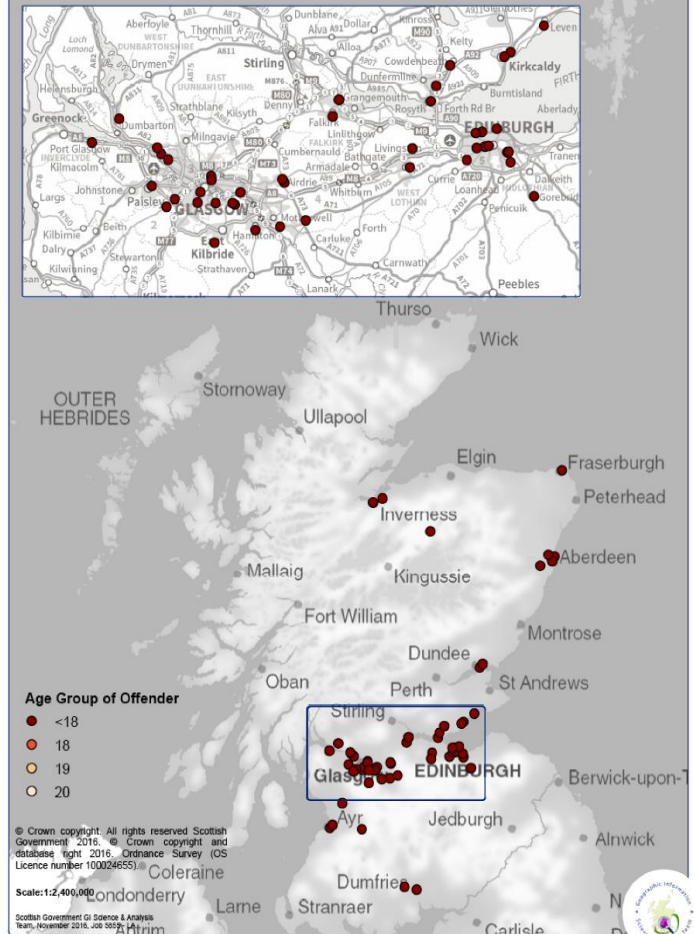


The children and young people come from  
a geographically broad spread of  
Communities

62 % of the 16 and 17 year olds and  
55% of 18 to 21 year olds  
come from the 20% most deprived communities  
in Scotland

Each one is an individual with a story

## Residences of Polmont Young Offenders



# UNLOCKING POTENTIAL TRANSFORMING LIVES



**What have we learned about the  
young people's needs?**

- Narratives/discussions with young people
- Research
- Analysis of data
- 'Self-evaluation'

YOUTH JUSTICE IMPROVEMENT BOARD

OCTOBER 2017

**CHILDREN AND YOUNG PEOPLE IN  
CUSTODY IN SCOTLAND:**

**LOOKING BEHIND THE DATA**

## The young people's family and care experience

Almost 60% said they had been involved in Children's Hearing system<sup>a</sup>

33% were removed from their family of origin<sup>a</sup>

24% were in care at age 16<sup>b</sup>

15% reported physical abuse<sup>a</sup>

10% reported sexual abuse<sup>a</sup>

32% said their family need financial assistance frequently/most of the time

46% have had a parent who has been to prison

28% have witnessed violent arguments between parents and 18% physical harm between parents



*Surceos: Carla Cesaroni (unpublished) Comparative study between young offenders institutions in Scotland and Canada;  
Briege Nugent 'Getting a life: young people's desistance from offending'*



# UNLOCKING POTENTIAL TRANSFORMING LIVES



## The young people's experience of school

- 70% enjoyed school some or most of the time<sup>b</sup>
- 90% were excluded from school<sup>b</sup>
- 42% were excluded four or more times

A substantial proportion attended behaviour support units, residential and/or secure care

Just over 40% *of those assessed* are at or below SCQF level 3 in literacy, numeracy



Sources: <sup>a</sup>Carla Cesaroni (unpublished) Comparative study between young offenders institutions in Scotland and Canada;

<sup>b</sup>SPS Prisoner Survey 2013; <sup>c</sup>SPS ;

## The young people's experience of bereavement

90% of 33 young men had experienced at least one bereavement

More than 75% had experienced traumatic bereavements

Two-thirds had experienced four or more bereavements

56% had experienced the death of a friend



Source: Vaswani, N. (2014) The Ripples of Death: Exploring the Bereavement Experiences and Mental Health of Young Men in Custody .



### Experience of trauma, including predictors of PTSD

74% have witnessed serious violence in their neighbourhood (fighting, attempts to kill, murders, gang violence, kidnapping)

58% have feared that they might be badly hurt or someone close to them badly hurt

64% have been physically assaulted/badly beaten in the community

76% have been threatened with a weapon

36% have been upset by seeing a dead body



# UNLOCKING POTENTIAL TRANSFORMING LIVES



## The young people's cognitive and neurodevelopmental needs

39% of those assessed have a learning disability or difficulty



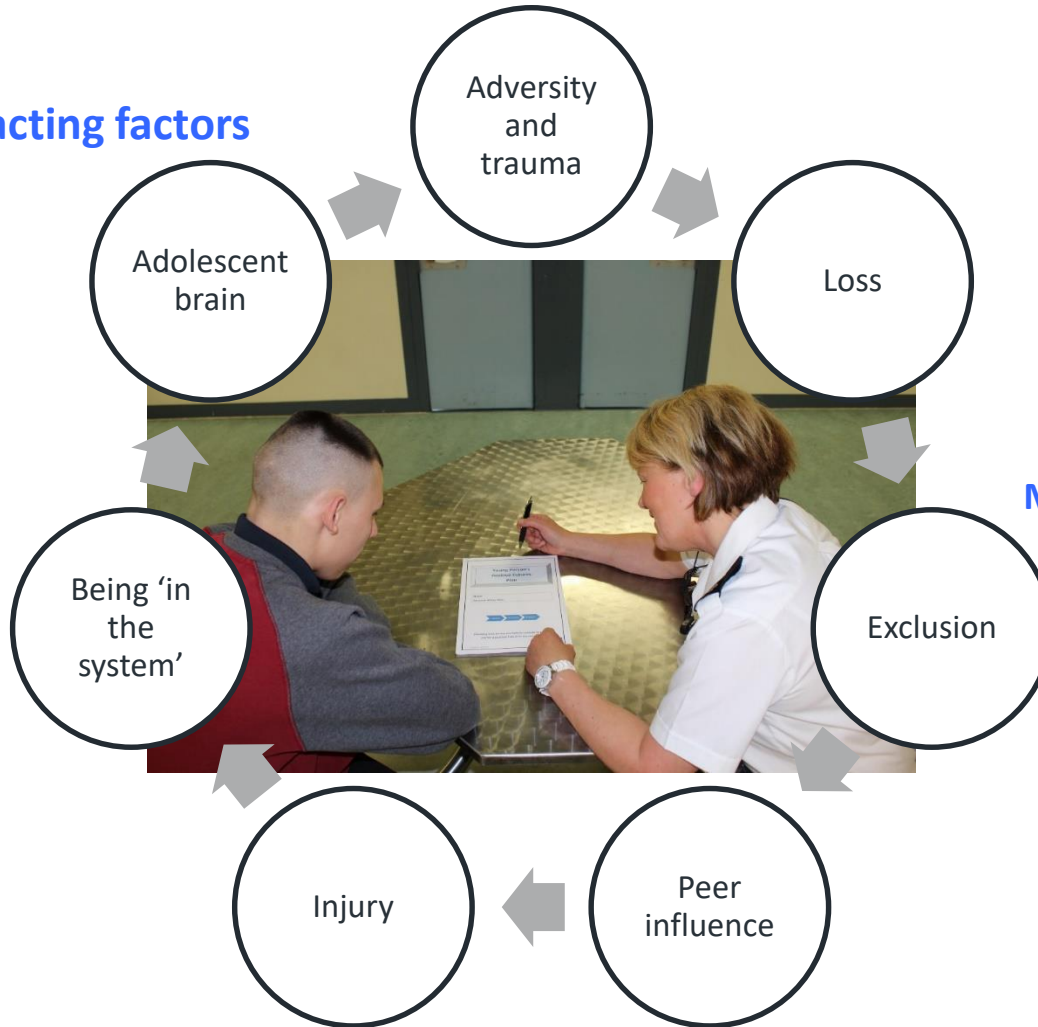
60% have speech, language and communication needs<sup>d</sup>

36% report having had a head injury, 25% two or more times.  
25% of these injuries were from fighting - with bricks, bottles, baseball bats, golf clubs, hammer etc



Sources: <sup>a</sup>Carla Cesaroni (unpublished) Comparative study between young offenders institutions in Scotland and Canada;  
<sup>b</sup>SPS Prisoner Survey 2013; <sup>c</sup>SPS ;

## Interacting factors



## May have consequences for

- attachment
- impulse control and risk taking
- decision making
- further injury
- empathy/seeing others' perspectives
- cognition
- communication
- executive function
- mental health
- alcohol, substance use



## Needs

### Childhood

Care

Inclusion

Support for trauma, bereavement and adversity

Family support

Support for cognitive, communication needs

And .....

### Justice system

Support to understand and comply with expectations of Justice System

Support for alcohol, drug use

Identification of neuro -

developmental and cognitive needs

Opportunities while in custody or through CPOs

### Return to community

Living as an independent adult

Ongoing learning and support needs



## Words from young people in Polmont

*"I couldn't read out in class so kept kicking off and leaving books at home"*

*"Each time I had a new placement I kicked off when anyone started to care for me. I couldn't stand the loss"*

*"It was when my wee Gran died. I drank cider and took vallye to cover the pain"*

*"Just talk to me – don't just see me as bad"*

*"Teachers should look out for children who are frustrated and angry and find the reason"*

*"There was a lot mair going on but they didnae ask."*

## What are we trying to do in Polmont?



# Cognitive changes after Acquired Brain Injury: Effective approaches

**Simon Glen, Project  
Co-ordinator, Headway Glasgow**

# Headway Glasgow

Cognitive Changes after Acquired  
Brain Injury:  
Effective approaches



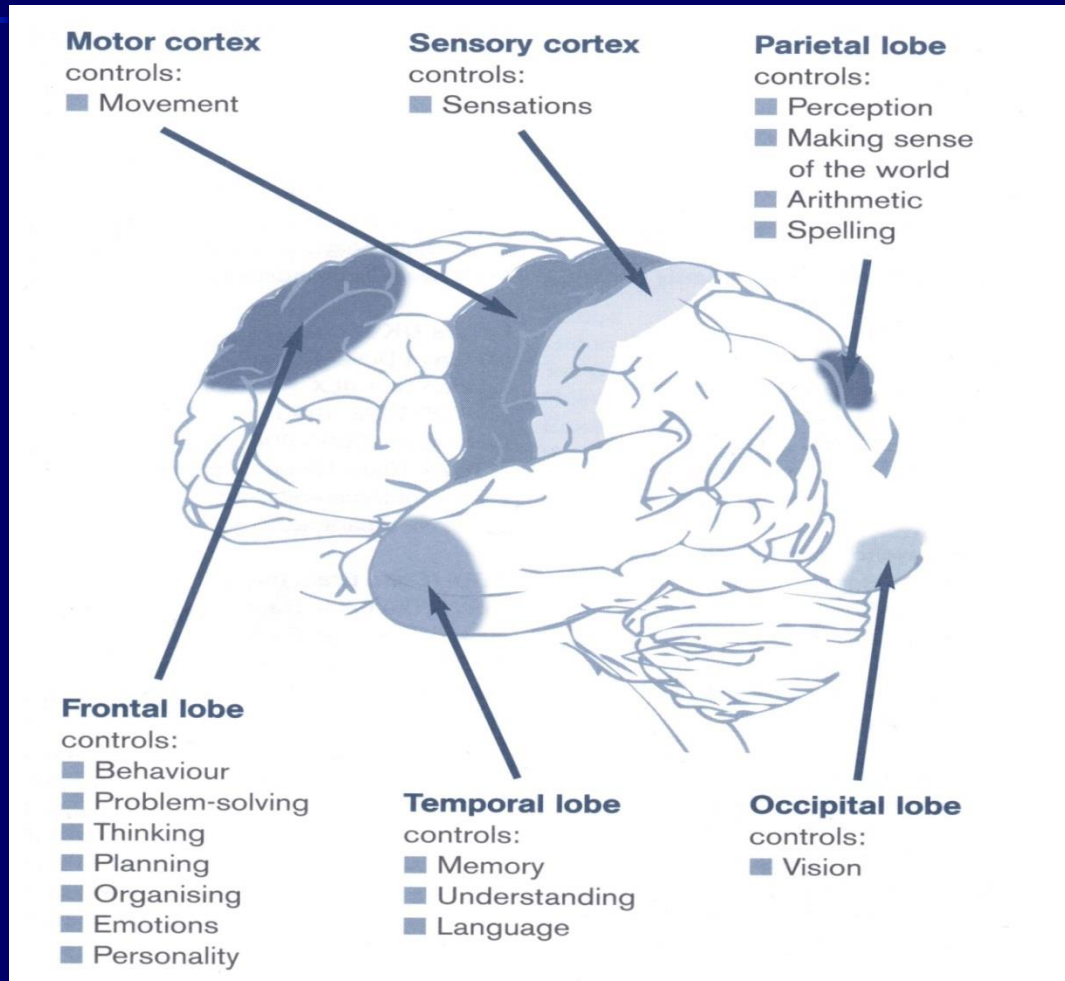
Providing information, support and activities  
to people with a brain injury and their carers.



# Aims

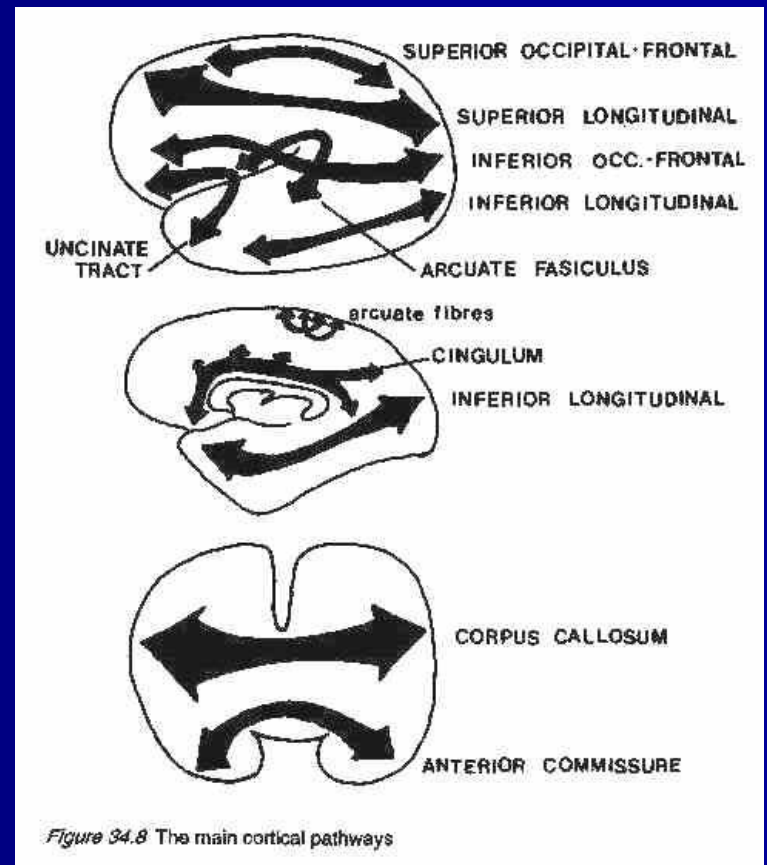
- To find out about cognitive problems
- To look at memory problems and what you can do to help
- To look at executive function problems and what you can do to help

# Brain Functions

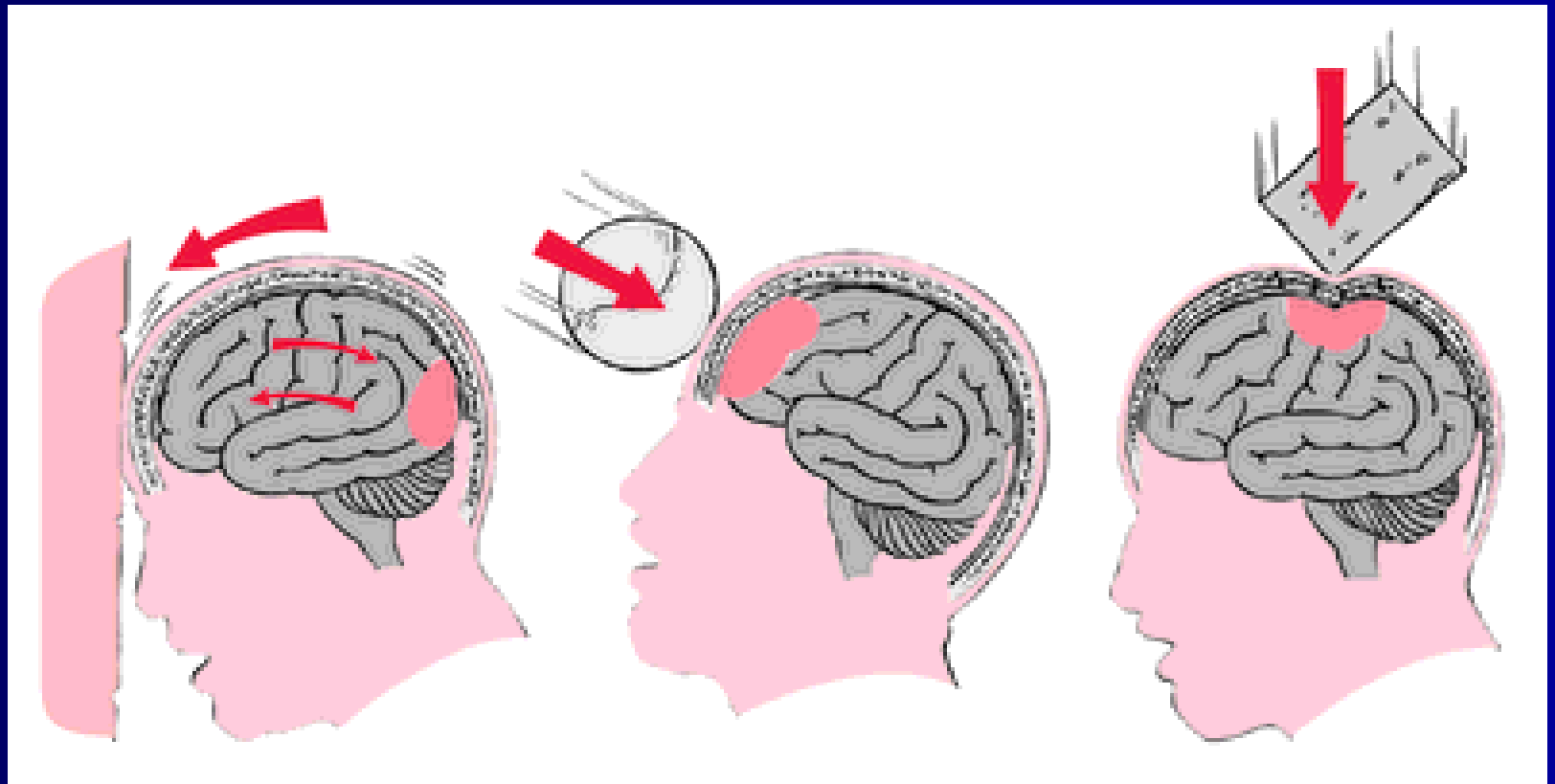


# Pathways in the Brain.

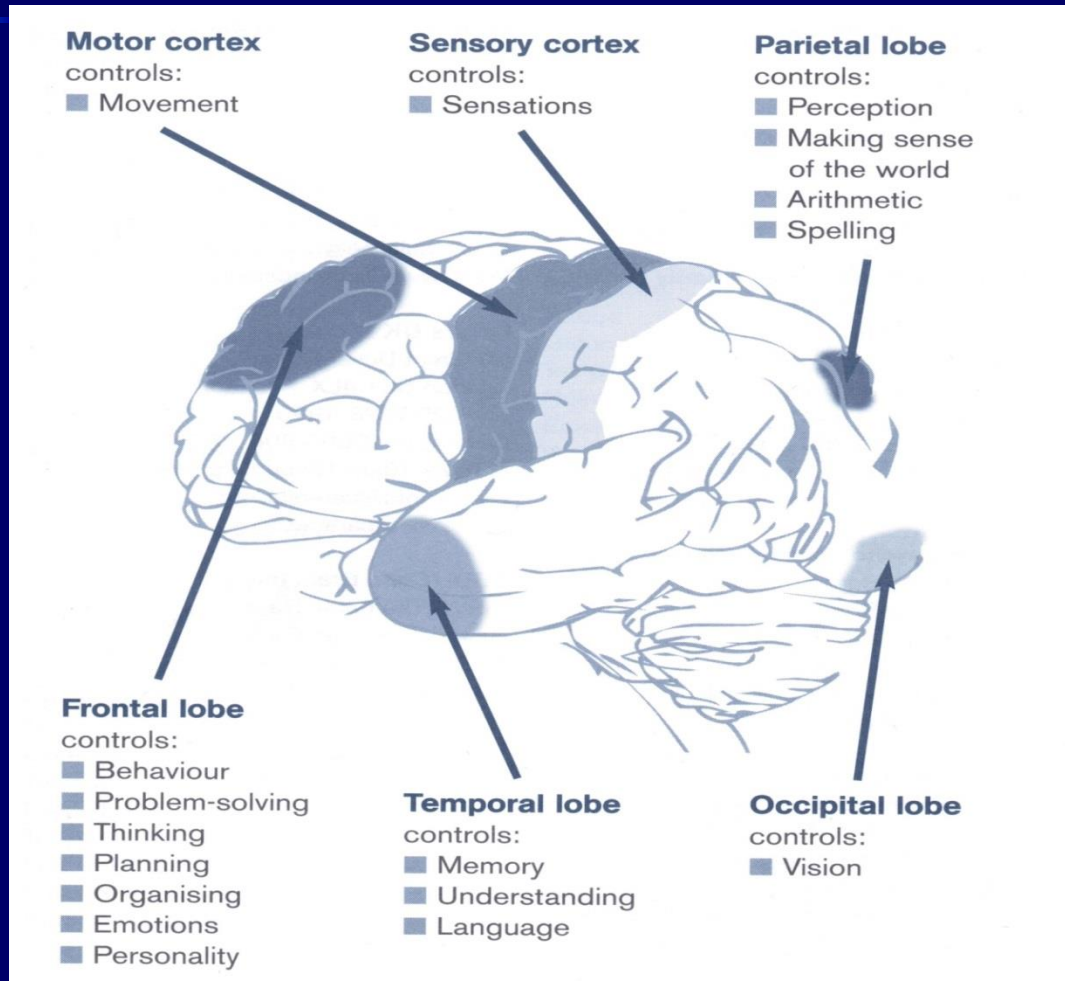
- Many interactions take place to allow the brain to function properly.
- When people have an injury it usually only affects part of the function and not the whole function. (for example with memory)



# Patterns of Brain Injury



# Brain Functions





# Common Cognitive difficulties resulting from brain injury are:

- Memory problems
- Difficulties with attention and concentration
- Difficulties with planning and organising
- Difficulties communicating with others
- Problems with monitoring behaviour
- BUT...

# Our problems don't occur in isolation...

## **So Cognitive problems result in:**

- Emotional and Behavioural Problems
  - Feeling depressed,
  - Worry and Anxiety
  - Being irritable or easily angered
- Functional Problems Including
  - Social Isolation
  - Changes in relationships
  - Impulsiveness

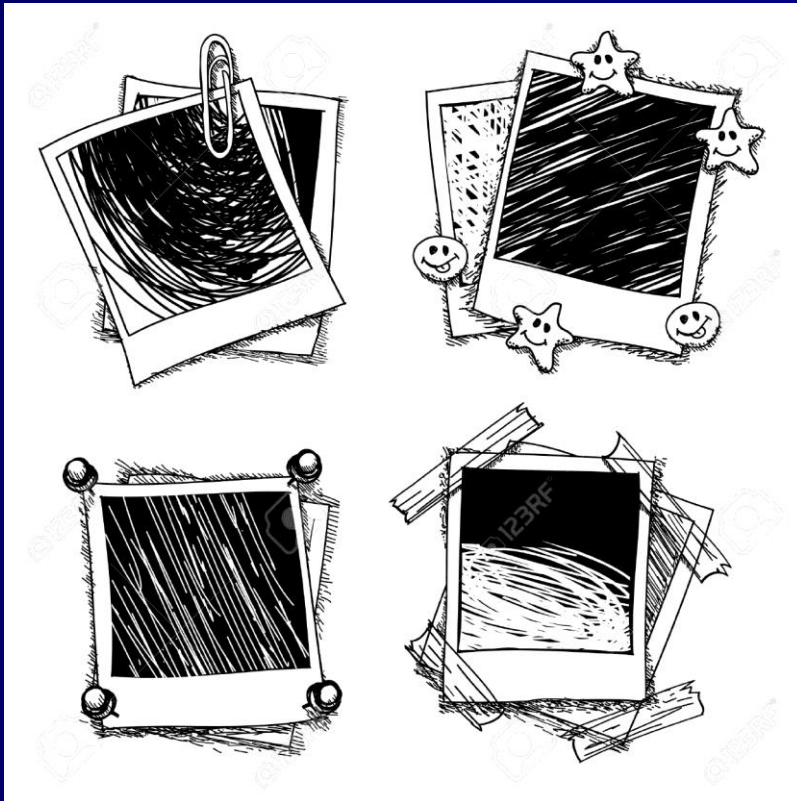
# Additional Points

- Brain Tissue has a limited capacity to regenerate
- Recovery relies on effective rehabilitation
- People with a moderate or severe brain injury mainly don't get back to the way they were before.
- Recovery can continue for a long time after the injury

# Common Brain Injury

## Memory Problems:

**No memory of the injury**



## **Common Brain Injury Memory Problems:**

**No memory of the injury**

**And usually some problem remembering events leading up to and after the injury.**

**Memory function either doesn't work or is faulty at this time.**

# **Common Brain Injury Memory Problems:**

**Poorer memory for new learning.**





## **Common Brain Injury Memory Problems:**

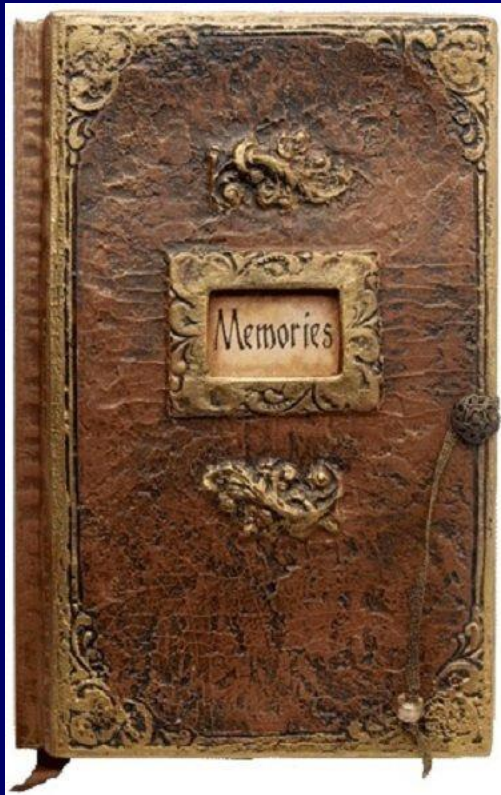
**Poorer memory for new learning.**

**It becomes more difficult to make new memories. People can also have difficulties making specific types of information, eg.**

- **Visio-Spatial- getting lost,**
- **Learning new skills,**
- **Remembering to do things in the future**
- **Memory for names**

# **Common Brain Injury Memory Problems:**

**Good long term memory**



## **Common Brain Injury Memory Problems:**

### **Good long term memory**

**People often have fairly clear memory from before the time of the injury and from when they were young- these memories have been laid down properly and can usually be retrieved more easily than new memory**

# **Common Brain Injury Memory Problems:**

## **High levels of Everyday Memory Problems**



## **Common Brain Injury Memory Problems:**

### **High levels of Everyday Memory Problems**

**People with brain injury have the same type of memory problem we all have- with names, losing things, appointments, intending to do things...**

**BUT- much, much more frequently.**

**This is a huge source of frustration, particularly: "I get that too"**

# Attention Test

3 attention tests



**Brain Injury Memory Problems:  
generally people have:**

**Concentration and attention problems**



## **Brain Injury Memory Problems: generally people have:**

**Concentration and attention problems**

**Memory often relies on you being able to focus on something and intending to remember it**

**This explains the “selective memory” problem- people are more interested in some things than others.**

# Memory Problems:

## What can you do to help?

- Don't rely on people remembering themselves
- Be aware: often people overestimate their abilities (or don't know what their difficulties are)
- Tell people **AND** write things down
- Remind people- letters, text messages, emails
- Give people time to concentrate
- Get a family member or friend to prompt someone.
- Encourage phone reminders, calendars, notebooks
- Encourage a routine- eg same time each week

# Professional Help

- A neuro-psychology assessment will identify specific deficits and approaches to use for particular people.
- Your area may have a Community Brain Injury Rehabilitation Team with a range of professionals.

# Executive function

- This is a term for the multiple skills we use to plan, organise and carry out anything we want to do
  - from getting up in the morning
  - to organising your holiday.
- These skills seem to be co-ordinated in the frontal lobes of the brain

# Common Problems with Executive Functions

## ■ Motivation



# Common Problems with Executive Functions

## ■ Motivation

- Different to laziness
- More likely a problem with initiation/  
Getting Started/ making the first step
- Sometimes related to planning problems-  
and knowing what the first step is.



# Common Problems with Executive Functions

## ■ **Motivation: What helps?**

- Sometimes when the first step is made the others follow on
- Prompts / Reminders / Alarms
- Planning in advance
  - Breaking the activity down into steps to follow
  - having a written version of the steps

# Common Problems with Executive Functions

## ■ Concrete Thinking



# Common Problems with Executive Functions

## ■ Concrete Thinking

- Getting stuck on one meaning of things
- Problems understanding metaphors, jokes, stories about other people.
- Difficulty seeing things from other points of view

# Common Problems with Executive Functions

## ■ Concrete Thinking: What Helps?

- This is very difficult for the person to change- You need to adapt instead
- Use specific examples
- Avoid arguing your point (if you can)
- Reduce metaphors and jokes you use
- Help the person to communicate with other people- be a “go between”

# Common Problems with Executive Functions

## ■ Problem Solving



# Common Problems with Executive Functions

## ■ Problem Solving

- People might get on fairly well most of the time
- but if something different to the norm happens it might be difficult for them to change and adapt.
- Relates to a difficulty with new learning
  - It is difficult to teach people to solve problems because they are unknown but...

# Common Problems with Executive Functions

## ■ Problem Solving: What Helps

- Try using risk assessment skills in discussion with the person
- A. anticipate what problems might arise in a specific situation
- B. Plan alternatives if the problem arises
- C. put things in to place that will reduce the risk.



# Common Problems with Executive Functions

## ■ Impulsive behaviour



# Common Problems with Executive Functions

## ■ Impulsive behaviour

- People might do things without thinking through what the consequences might be
- Might happen very quickly without a seeming chance to intervene
- Might be easily influenced by other people and taken advantage of because of this

# Common Problems with Executive Functions

## ■ **Impulsive behaviour: What Helps?**

- If you have a chance to intervene- try using the risk assessment process with the person
- Is there a possibility of helping change the person's environment to reduce some of the triggers to impulsive behaviour

# Common Problems with Executive Functions

## ■ Difficulty in Social Situations



# Common Problems with Executive Functions

## ■ **Difficulty in Social Situations**

- People might have difficulty interacting in groups, and in one to one situations
- Due to the impact of memory, impulsiveness, concrete thinking...
- Might be judged to be impolite or rude.

# Common Problems with Executive Functions

## ■ Difficulty in Social Situations

### What Helps?

- Ground Rules. Most of our social interactions have unspoken boundaries but as people with ABI might not recognise these it helps to be explicit about what is okay and what isn't.
- Put structure into group situations- be clear about who's "turn" it is and who is next
- If possible remove distractions in one to one situations.

# Professional Help-reminder

- A neuro-psychology and speech and language assessment will identify specific deficits and approaches to use for particular people.
- Your area may have a Community Brain Injury Rehabilitation Team with a range of professionals.



# Take away point

Sometimes you can help the person with cognitive problems change

... but sometimes you need to change the way you work with them.

Find out from the person which fits best.

# Headway Glasgow

- Providing information, support and activities to people with a brain injury and their carers.
- Factsheets and booklets free to download at this link or search: Headway UK Factsheets

# **The impact of traumatic experiences on the brain: Approaches to keeping safe and healthy**

**Carole Murphy**

**Practice Development Adviser**

**Centre for Youth and Criminal Justice**

# What do we know about trauma and its impact on the brain?

# What is trauma?

Emotional and psychological trauma is the result of extraordinarily stressful events that shatter your sense of security, making you feel helpless in a dangerous world.

Traumatic experiences often involve a threat to life but **any situation that leaves you feeling overwhelmed can be traumatic, even if it doesn't involve physical harm.**

# Types of trauma

Type 1: “simple” trauma (PTSD)

response to a discrete single incident

Type 2: complex trauma

involves exposure to events that:

- are repetitive or prolonged,
- involve direct harm and/or neglect and abandonment by caregivers or responsible adults
- occur at developmentally vulnerable times, and have great potential to compromise severely a child’s development

(Courtois & Ford, 2009)

## FIGHT - FLIGHT - FREEZE

What's really happening when we go into

*"Survival Mode"*

### Learning/Thinking Brain

(Prefrontal Cortex)  
The logical smart  
part of your brain  
goes "off line"

### Limbic System

Lower Brain Functions  
"Take over!"

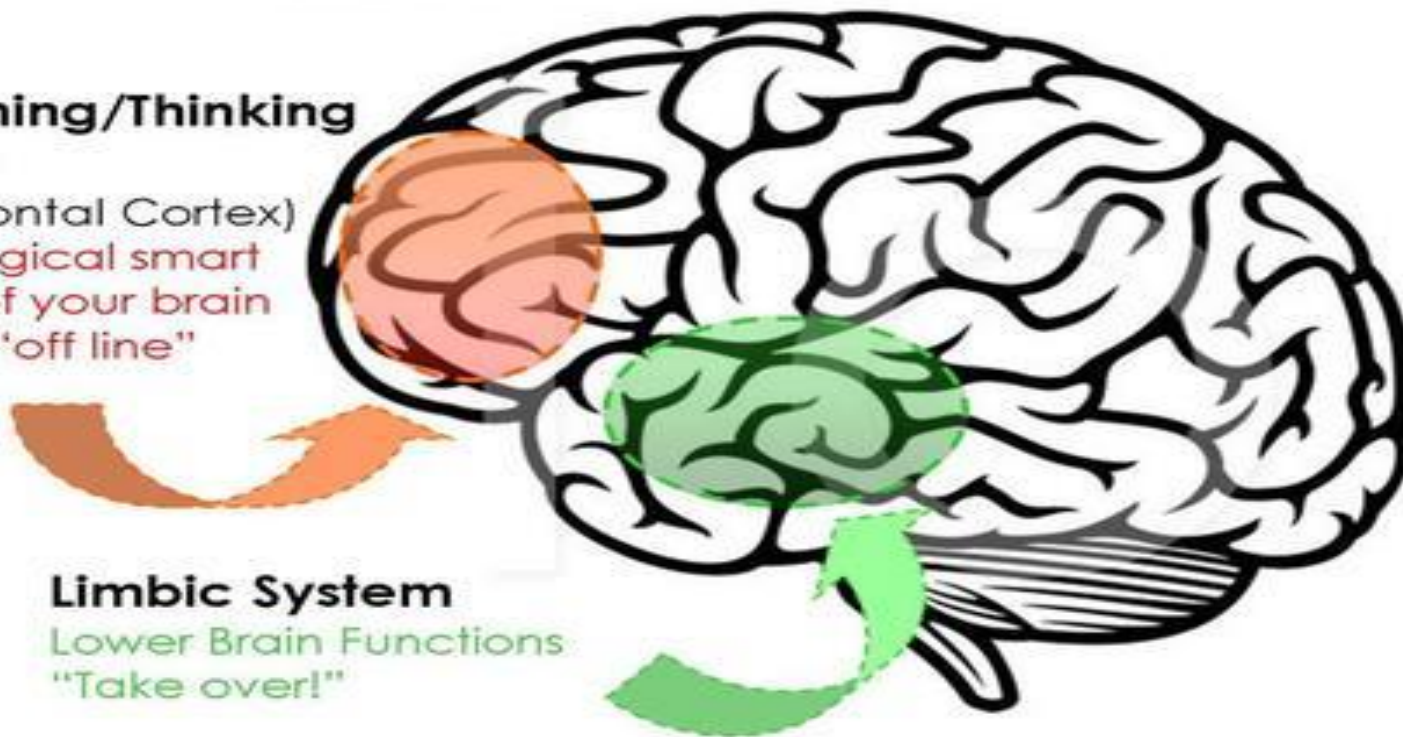
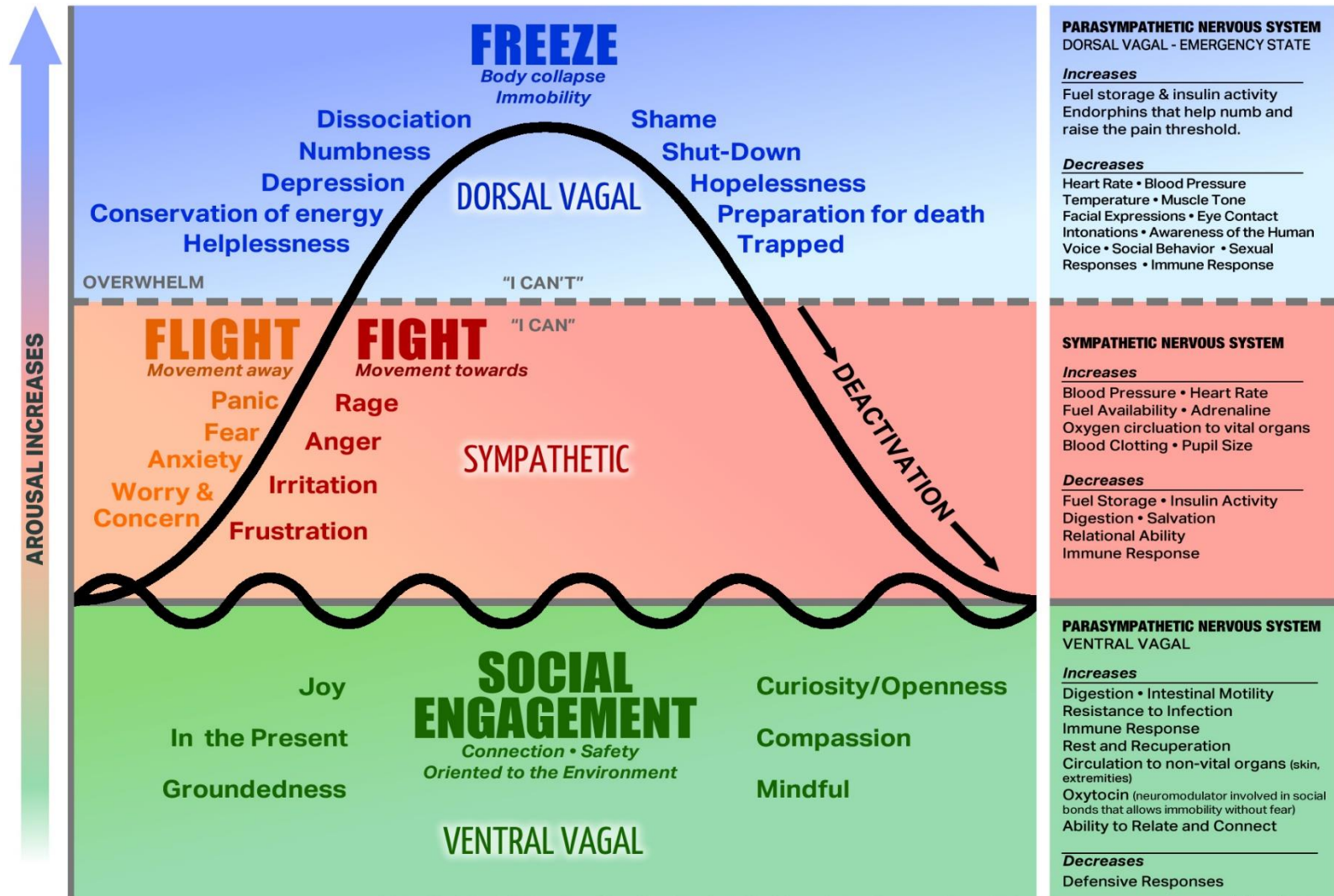


Illustration for The Greenhouse KC LLC www.TheGreenhouseKC.com

Brain image courtesy of illustrations of.com #1214809



# Fight – Flight - Freeze



Adapted by Ruby Jo Walker from: Cheryl Sanders, Steve Hoskinson, Steven Porges and Peter Levine

[rubyjowalker.com](http://rubyjowalker.com)

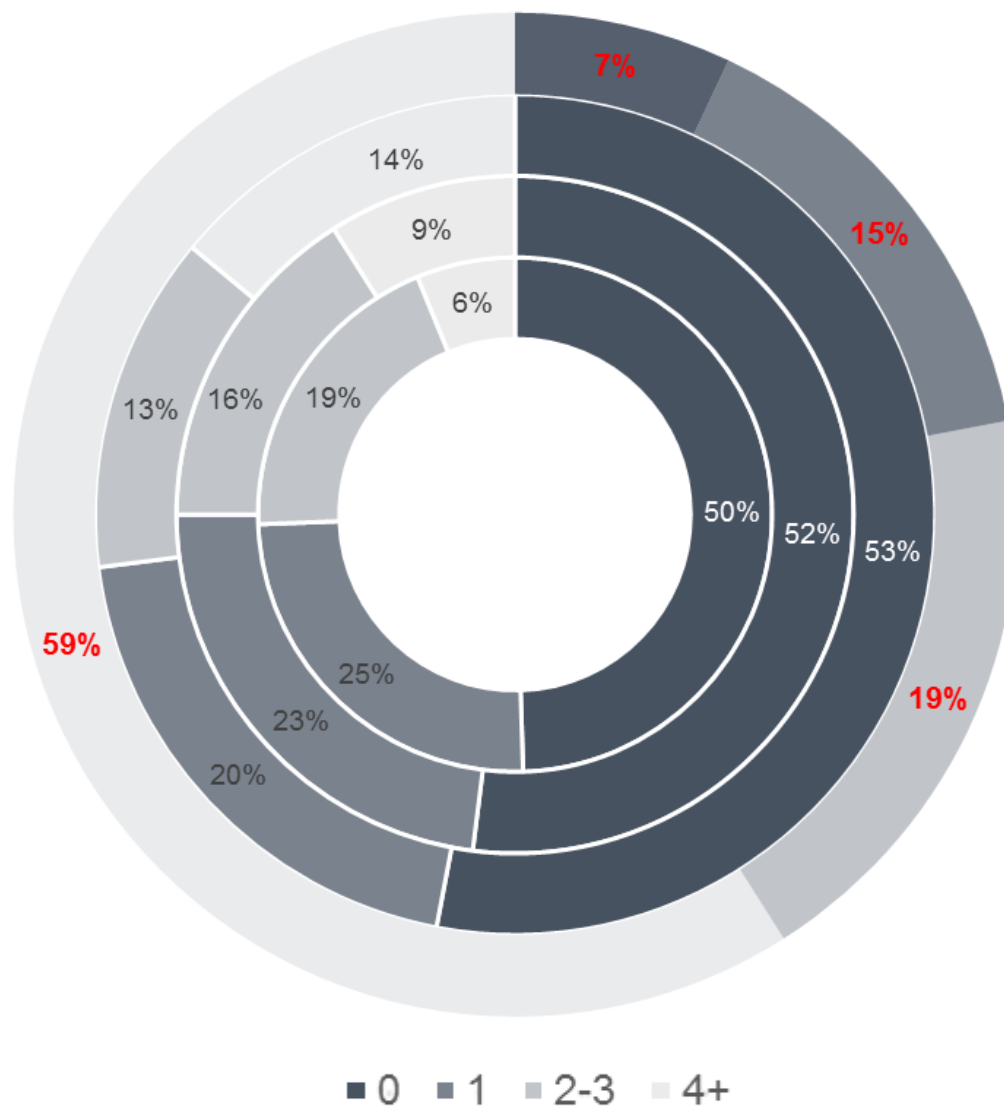


What do we know about the traumatic  
experiences of the children and families  
we work with?

# Prevalence



# Extent of adverse childhood experiences



# What do we know about the traumatic experiences of staff?

# Types of impact on staff

(Association of Child and Adolescent Mental Health)

Burnout	Vicarious Trauma/Compassion Fatigue	Secondary/Indirect Trauma
Cumulative, usually over long period of time.	Cumulative, with symptoms unique to each service provider	Immediate and mirrors patient trauma
Predictable	Less predictable	Less Predictable
Work Dissatisfaction	Life Dissatisfaction	Life Dissatisfaction
Evident in work environment	Permeates work and home	Permeates work and home
Related to work environment conditions	Related to empathic relationship with multiple client's/patient's trauma experiences	Related to empathic relationship with one client's/patient's trauma experiences
Can lead to health problems	Can lead to health problems	Can lead to health problems
Feel under pressure	Feel out of control	Feel out of control
Lack of motivation/and or energy	Symptoms of PTSD	Symptoms of PTSD similar to client
No evidence of triggers	May have triggers that are unique to practitioner	Often have triggers that are similar to client's triggers
Remedy is time away from work (holidays, stress leave) to recharge; or positive change in work environment (this might mean a new job)	Remedy is treatment of self, similar to trauma treatment	Remedy is treatment of self, similar to trauma treatment



centre for youth  
& criminal justice

# Signs/symptoms

Worried not  
doing  
enough

Low self-  
esteem

Cynicism

Loss of  
confidence

Nausea from  
worry

Hopelessness

Intrusive  
memories

Difficulty  
concentrating

Headaches

Distressing  
dreams /  
nightmares

Flashbacks

Insomnia /  
difficulty  
sleeping

Negative  
cognitions

Diminished  
satisfaction

Dreaming  
about clients  
experiences

Psychological  
distress

Difficulty  
talking about  
emotions

Avoidance

Feeling  
detached

Irritability  
and anger

Diminished  
interest in  
activities

Hypervigilance

Depersonalisation

Emotional  
numbing



# Prevalence



What should we do to keep safe and healthy?



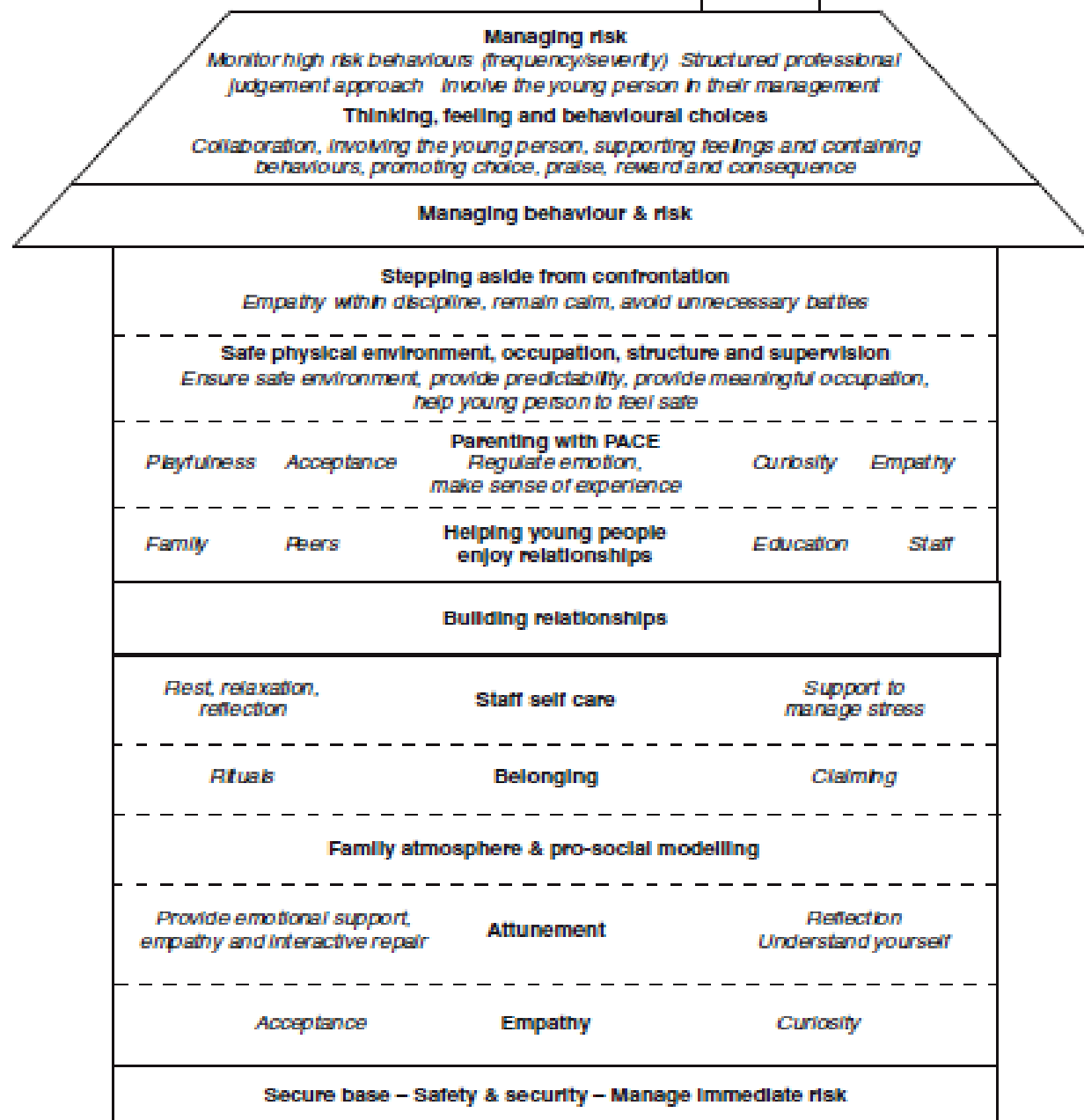


Figure 15.1 The DART house of parenting (adapted from Golding, 2013 – with permission)

# TRANSFORMING PSYCHOLOGICAL TRAUMA:

A Knowledge and Skills Framework for the Scottish Workforce

in partnership with:



Scottish  
Government  
gov.scot



*Click anywhere to continue...*

## TRAUMA INFORMED PRACTICE LEVEL

Outcome	What workers know (knowledge)	What workers can do (Capacity/skill/ability)
Workers are well supported when responding to trauma.	<p><b>All workers understand:</b></p> <ul style="list-style-type: none"> <li>that directly witnessing traumatic events in the workplace or hearing about trauma experienced by others can impact on their own health and well-being and can cause secondary traumatisation.</li> <li>the importance of being supported to practice good self-care and have access to formal and informal support/supervision to help them manage the impact of trauma exposure in the workplace.</li> </ul>	<p><b>All workers can:</b></p> <ul style="list-style-type: none"> <li>prioritise good self-care</li> <li>make use of support/supervision in the workplace.</li> </ul> <p><b>Managers can:</b></p> <ul style="list-style-type: none"> <li>include awareness of the potential impact of exposure to traumatic incidents in the organisation's Health and Safety protocols.</li> <li>provide access for workers to formal and informal support/supervision in the workplace.</li> </ul>

You are here: [Home](#) > Other resources to support professional development and learning



## Other resources to support professional development and learning

Here you can explore and find other resources to support professional development and learning.



**Supervision**



**Mentoring**



**Coaching**



**Leadership Exchanges**



**Action learning**



**Leadership Capability Indicators**



**Continuous Learning Framework (CLF)**



**Access the Learning Log**



**Leadership Capability Feedback Tool**

# Space to Think: Lessons and Impact of the IVY Project

**Kristina Moodie and Arlene Anderson**

**December 2015**

## Vicarious trauma - signs and strategies for coping



**NSPCC**

## Vicarious trauma: the consequences of working with abuse

An NSPCC research briefing

August 2013

A review of the research literature on the implications for professionals of using empathy when working with traumatised children and families.

# Working with offenders with personality disorder

A practitioners guide

Second Edition - September 2015

# Strategies

Professional strategies	Personal strategies
Remind yourself of things about your work that are positive and rewarding	Get plenty sleep, take your holidays, and take time off when you are unwell
Make your work place as comforting as possible	Leave work on time
Take a proper lunch break and regular breaks	Change out of your work clothes when you get home
Take time out to support one another as colleagues – debrief often as a team & as individuals	Spend time out of work with people whose company you enjoy/makes you laugh
Set up peer reflective/supervision groups	Make time for leisure activities
Although enough time to complete tasks – it is okay to say “no” to extra tasks	Monitor alcohol & drug use
Know when to ask for help at work	Know when to seek help for your well being



# Help!



# Implications for practice

- What do you do currently?
- What works well?
- What can you change right now?
- What would you like to change in the future?
- What do you need to support that?

# The impact of internet pornography on the adolescent brain: Approaches to prevention and recovery

**Mary Sharpe, Advocate, Chief  
Executive Officer, The Reward  
Foundation**

Grey cells and prison cells: meeting the cognitive needs of vulnerable young people

# Impact of Internet Pornography on the Adolescent Brain

THE RE♥ARD FOUNDATION  
Love, Sex and the Internet



@brain\_love\_sex

# Impact of Internet Pornography on the Adolescent Brain

- Introduction to Internet Pornography
- Adolescent Brain
- Compulsive Sexual Behaviour and Addiction
- Prevention and Recovery
- Conclusions

# Introduction to Internet Pornography



# The Biological Context

- Sexual reproduction is Nature's no. 1 priority
- When puberty occurs, our brain changes as much as our body does and curiosity about sex and experimentation becomes a driving focus of attention
- Internet pornography targets this natural sensitivity/vulnerability



# Why Now?

- Free streaming video sites (tube sites) since 2006
- Availability of mobile technology accessing the internet
- Most young people have smartphones and/or tablets  
= accessible, affordable, anonymous
- Quarter of users now women
- Incest/fauxcest- fastest growing search term
- Significant part of the 'Attention Economy'
- £ billions made from 'click per page load' linked to advertising

# The Environmental Context



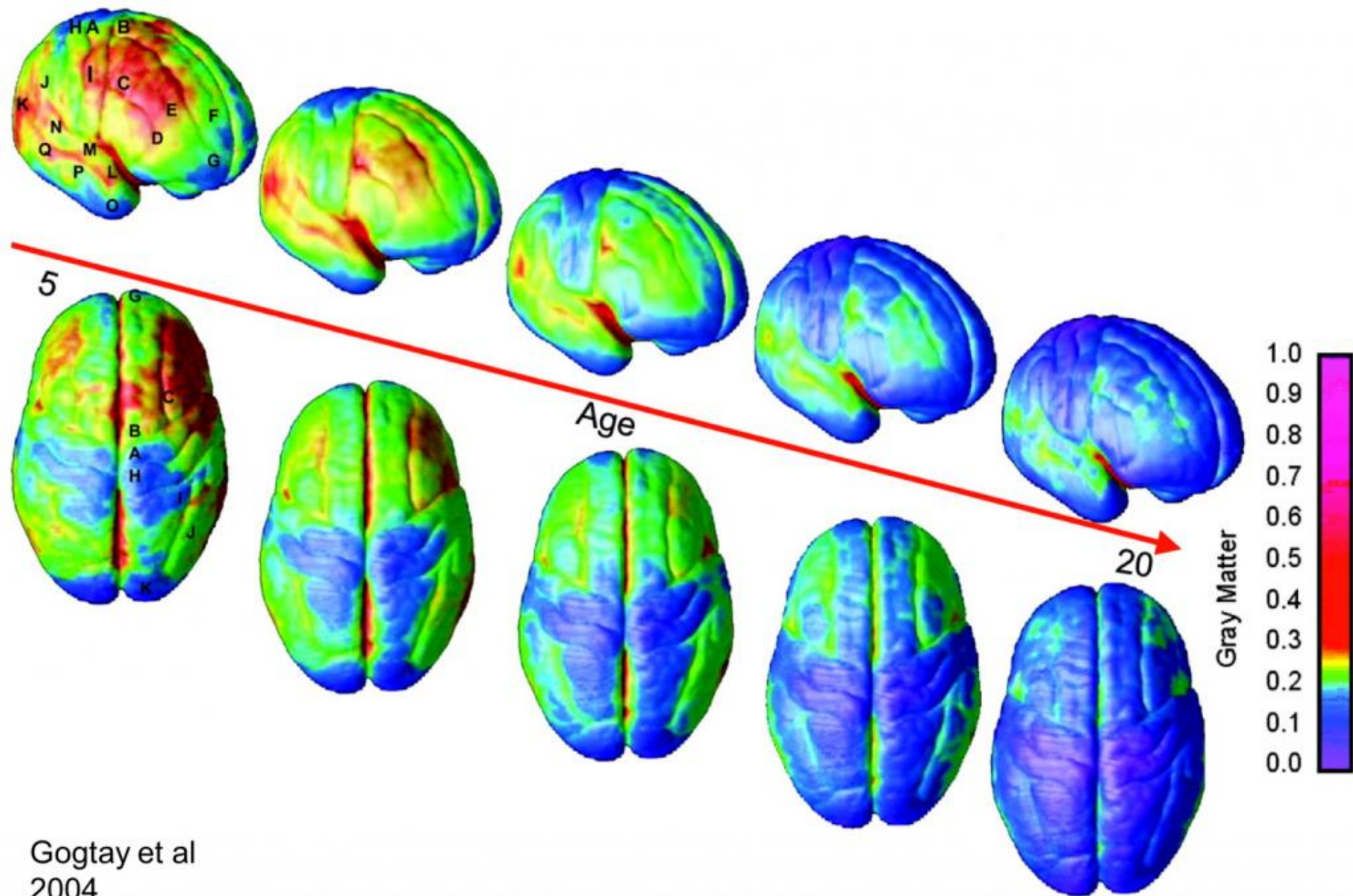
- Pornhub, largest provider, delivered **92 billion video** views world-wide in 2016
- Pornhub alone provides approximately **7 million** pornography sessions in **UK per day**
- In UK **1.4 million** unique visitors to adult sites were **under the age of 18** in May 2015  
(Department of Culture, Media and Sport, 2016)

# Today's internet pornography is different from pornography of past

- Gagging
- Choking
- Rough anal sex
- Ejaculation on face
- Spitting on the face
- Anus-to-mouth
- Multiple partners
- Hair pulling
- Verbal abuse
- Racist abuse

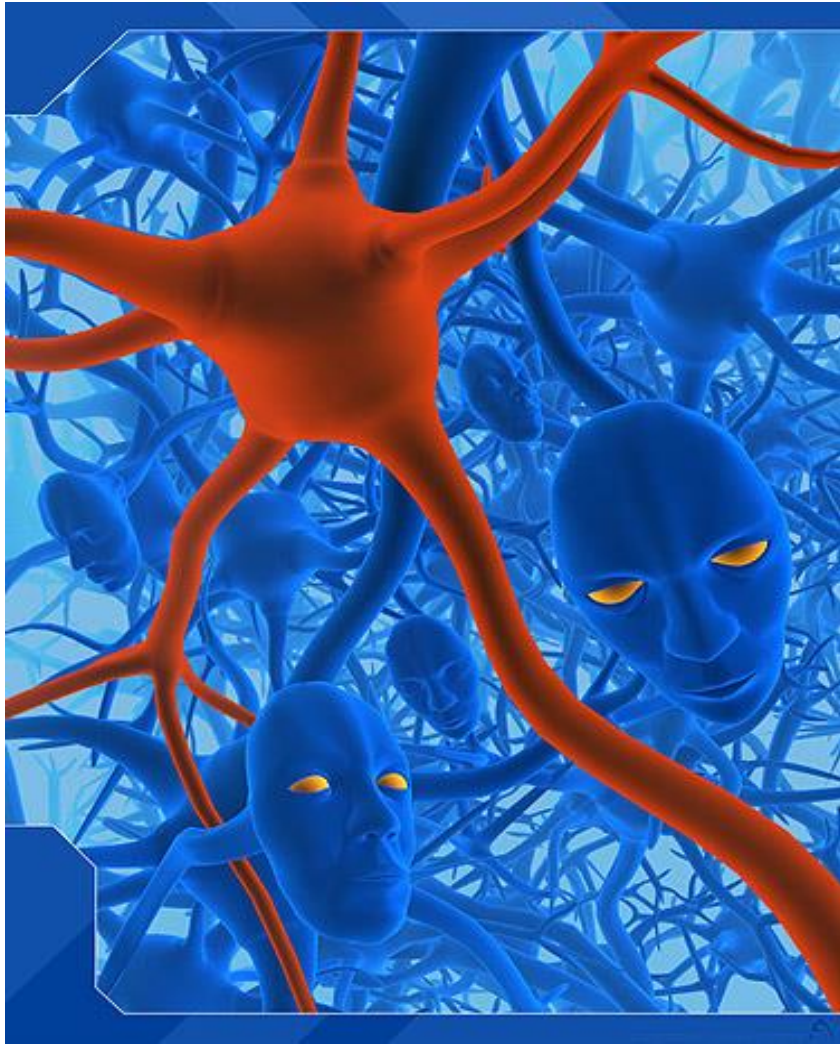
Adolescent Brain

12 to 25 years



Gogtay et al  
2004





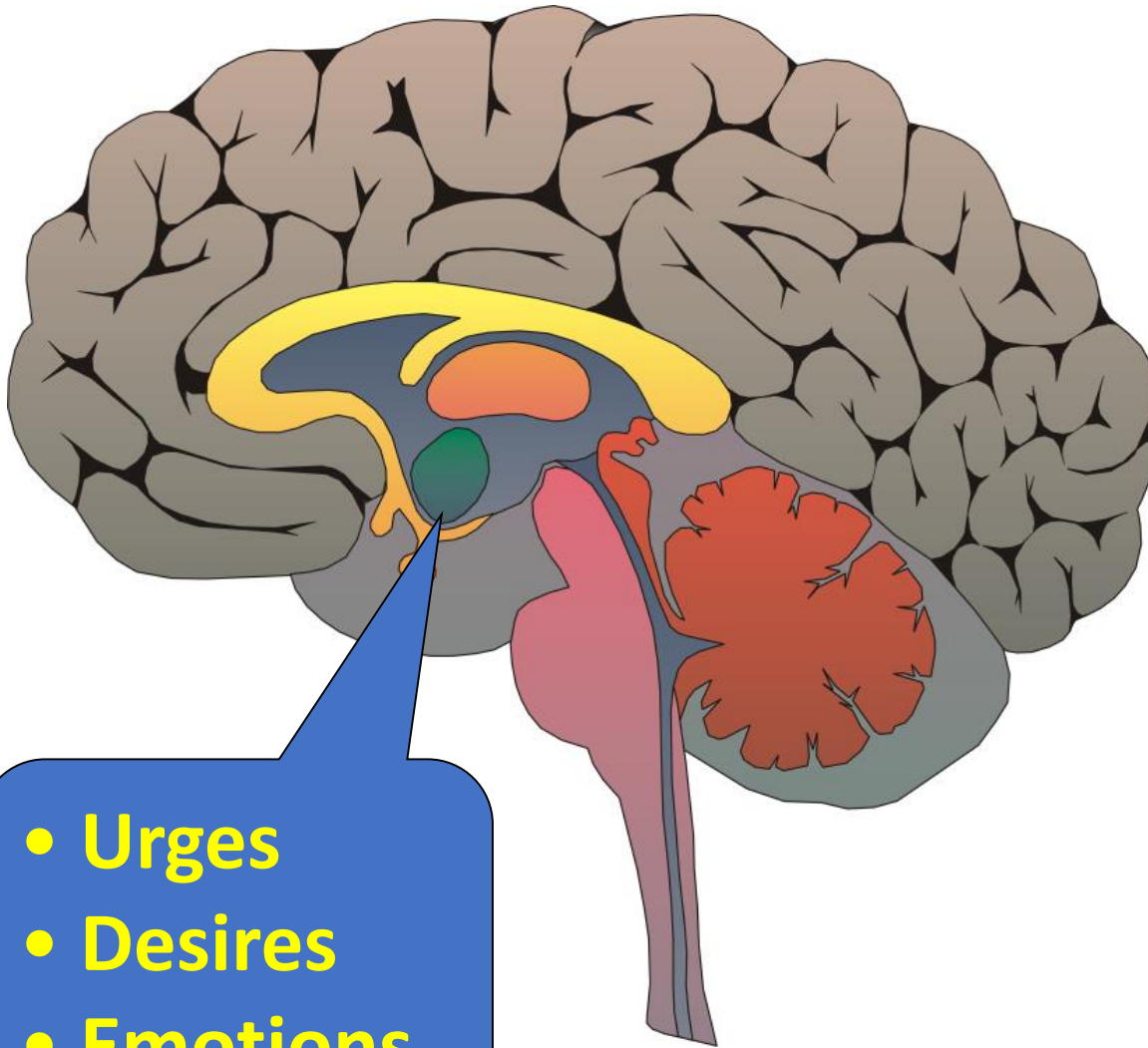
# Neuroplasticity

We're always adapting to the environment to aid survival

Repeated behaviour can become a habit. It forms pathway/memory in the brain.

Can unlearn habits too

# Limbic Brain

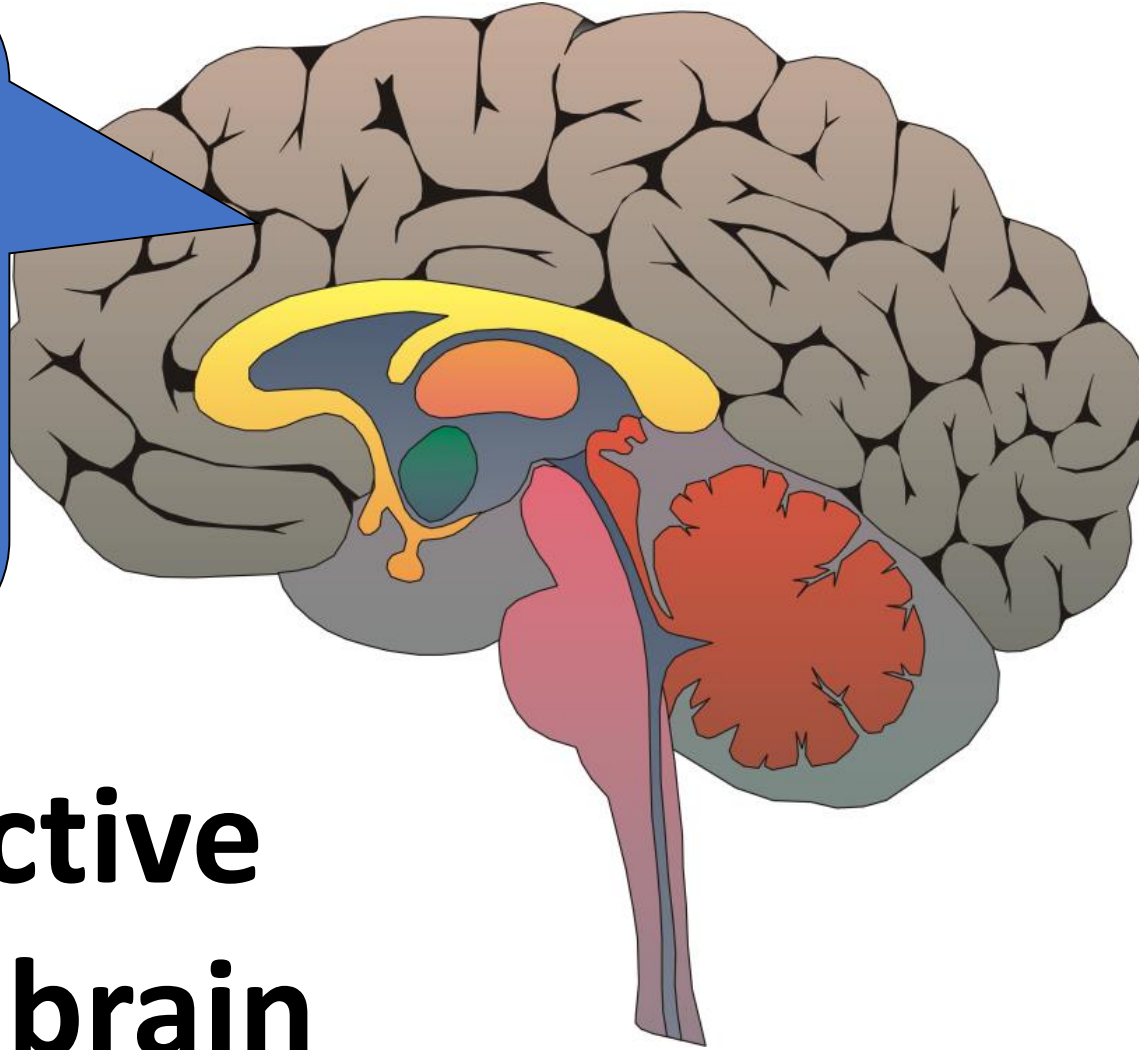


- Urges
- Desires
- Emotions

**Hot** go  
get it!  
**'Wanting'**  
Brain

# Neo-Cortex

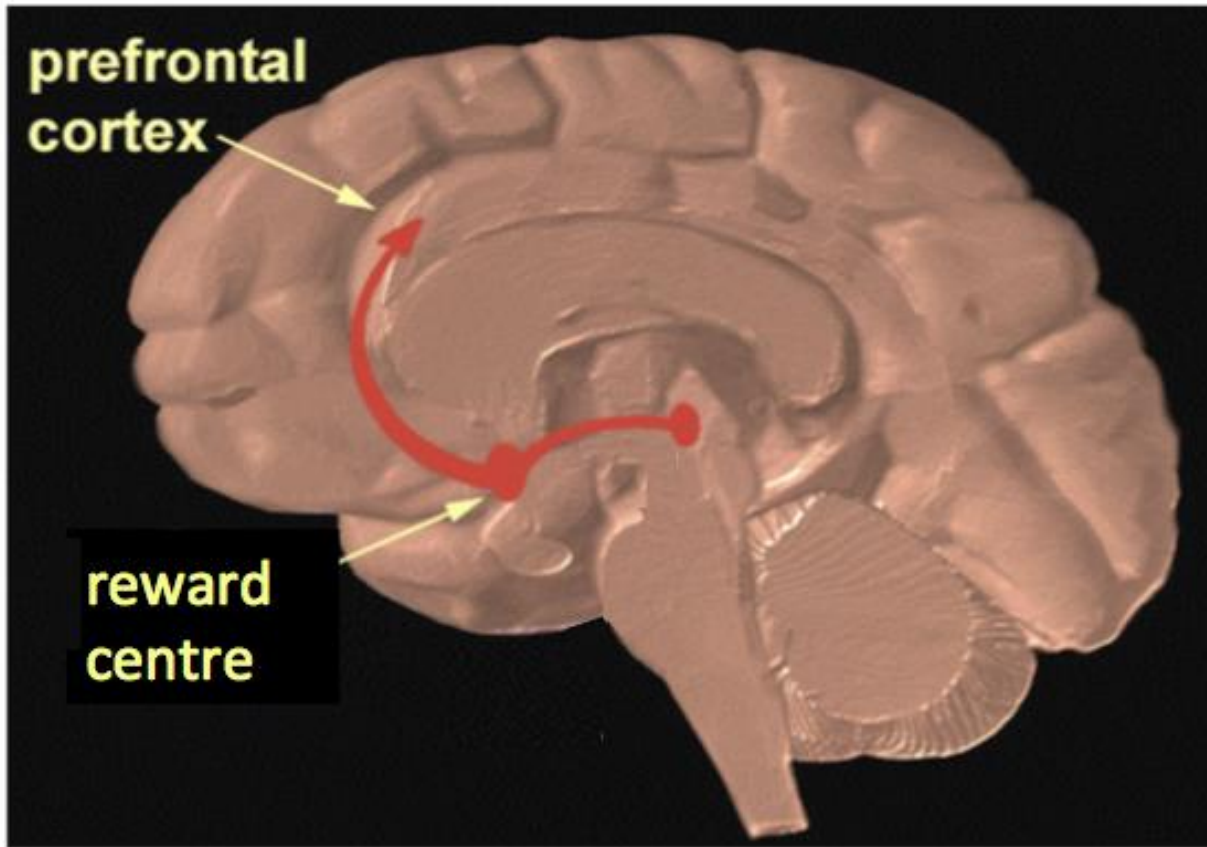
- Thinking & feeling
- Processes emotions
- Plans & plots
- Loves
- Controls impulses
- Creative



**Cool** reflective  
**‘thinking’** brain



# Reward System



Key pathway  
between  
wanting and  
thinking brain  
driving all  
behaviour

# Imbalance Of Power

Reward circuit  
in overdrive



# Imbalance Of Power

**Reward circuit  
in overdrive**



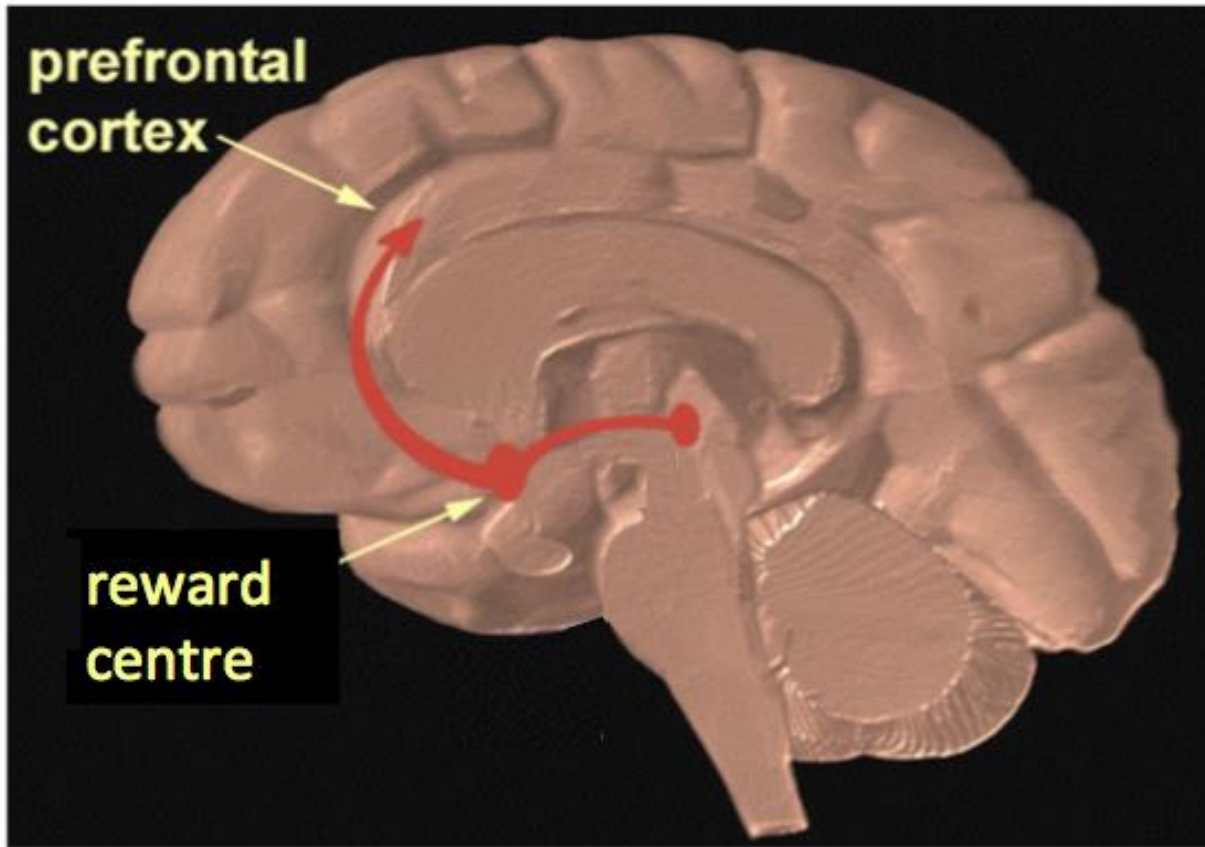
**Frontal lobes  
under construction**



# Dopamine

- Dopamine, the ‘go-get-it’ signaling neurochemical in the brain’s reward system that’s also **crucial to memory formation**. Helps us remember both positive and negative experiences. This stamped-in memory **motivates us to repeat pleasurable experiences**
- Adolescents produce more dopamine than adults or children and are more sensitive to it. This is why they are especially **vulnerable to addiction** of all kinds
- **Chaotic background** leads to dysregulated stress system and more vulnerability to addiction
- Dopamine **works with adrenaline** to increase sexual arousal – anxiety, shock, extreme novelty increase it
- Too much or too little dopamine causes **imbalance** and behavioural problems – **Goldilocks Principle**

# Reward system's job to seek out natural rewards

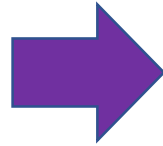


- Sex
- Eating
- Bonding
- Novelty
- Achievement

# Natural Rewards

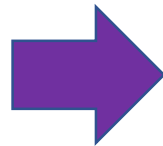
# ‘Supernormal’ Rewards

**Food** – nutritious



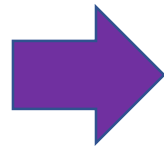
Junk food- high fat, sugar, salt  
e.g. pizza, chocolate, crisps

**Bonding** – real people,  
real love and feelings of  
safety



Social Media – “friends”? Likes,  
SnapChat streaks; followers

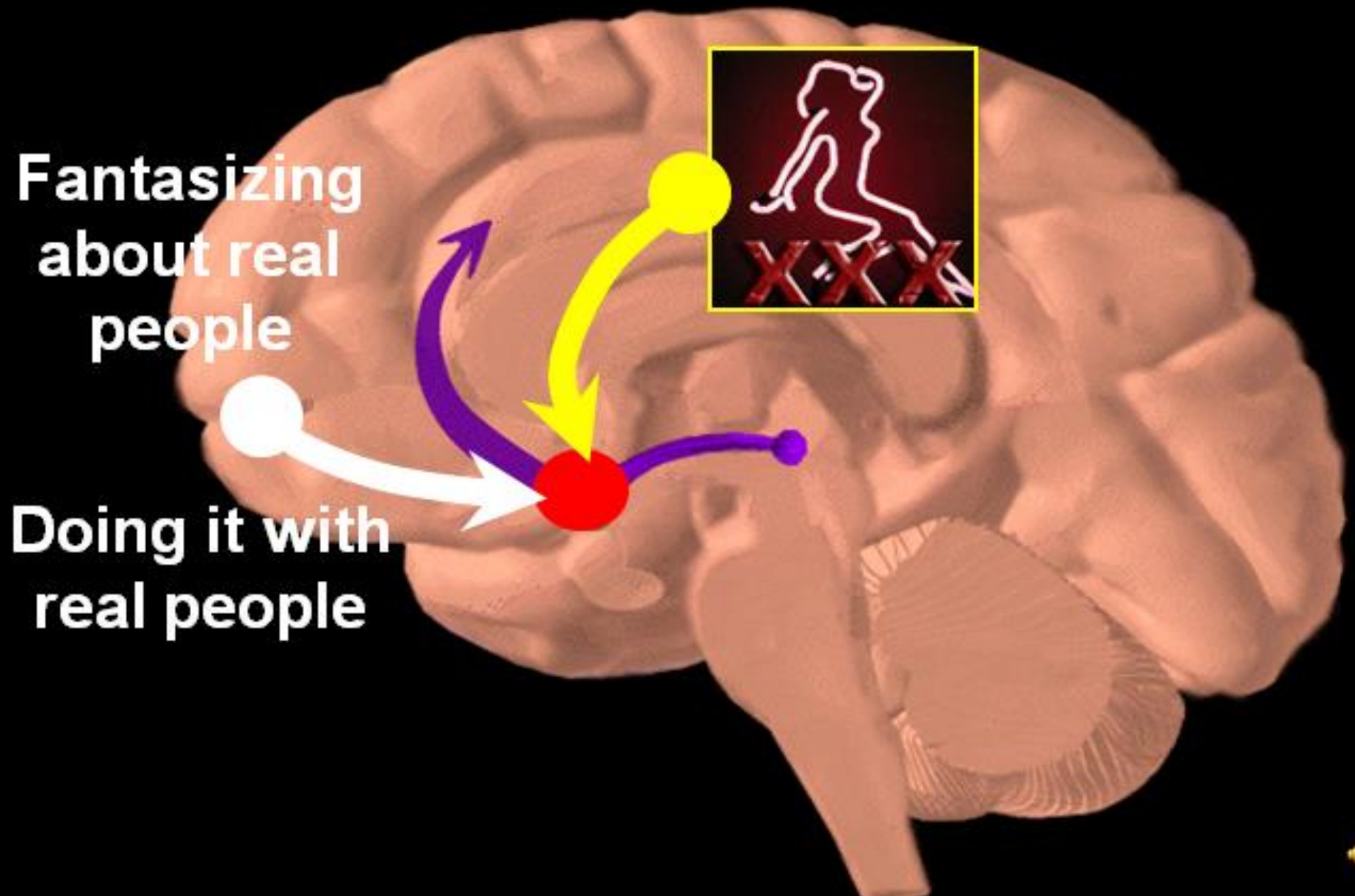
**Sex** – touch, smell, listen,  
see, genuine connection,  
develop intimacy



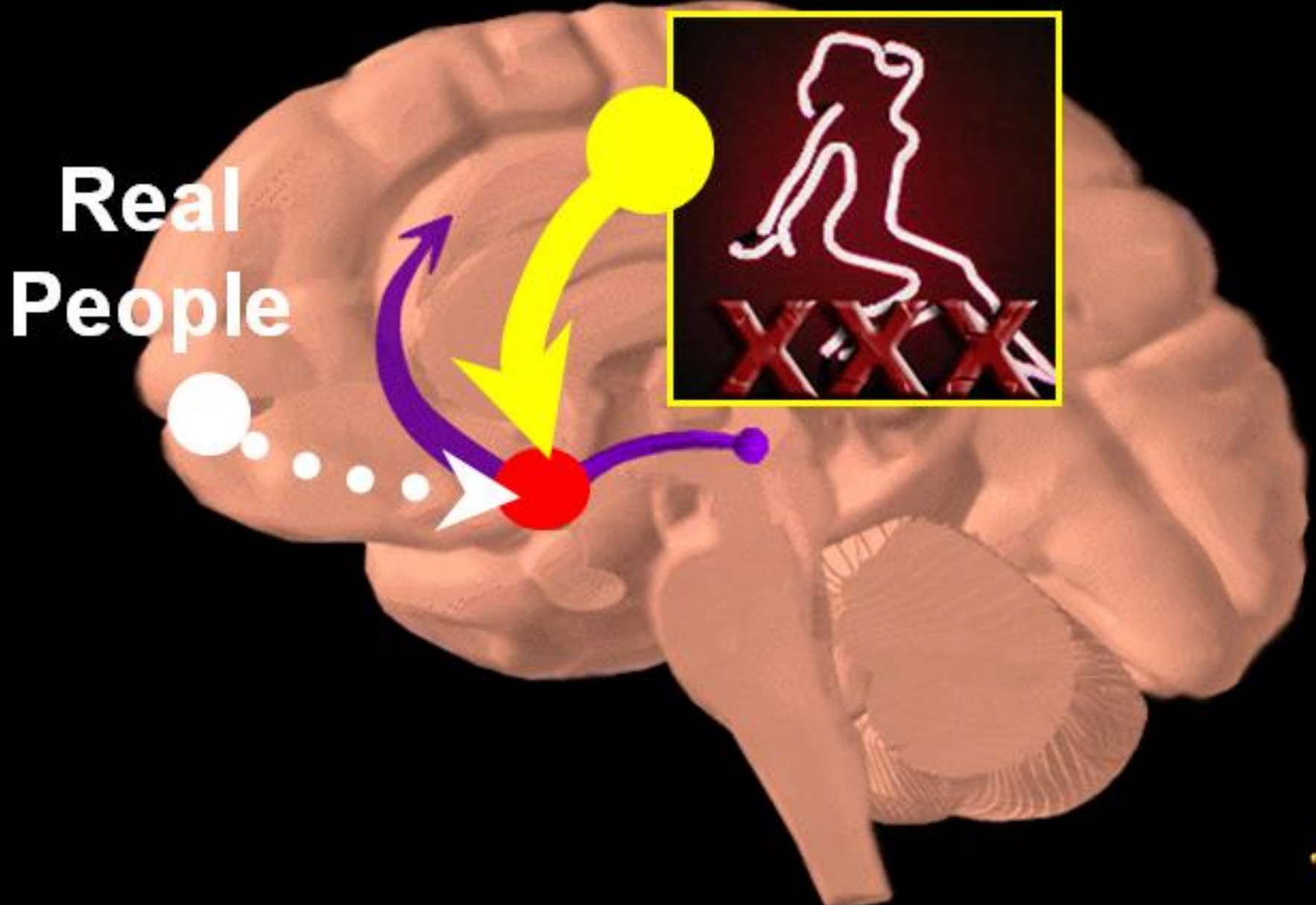
Internet pornography- ‘sex without  
love’, voyeuristic, performance-  
driven, no actual touch, risky  
practices



# Competing sexual pathways



# Porn: the preferred pathway





# Compulsive Sexual Behaviour and Addiction

# Potential Effects of Porn Use

- Reinforces rape myth
- Reduces bystander intervention
- Models aggression and male entitlement – misogyny and sexism
- Models unsafe sexual practices
- Desensitises brain to other person's perspective, own needs/desires dominate
- Reduces grey matter in part of brain that allows us to have compassion & inhibit impulsive actions
- Increases grey matter in part of brain that sets off alarm, anxiety and fear

# Pornography harms the user

- Desensitisation reduces awareness of sexual harassment and aggressiveness
- Escalation (to illegal porn)
- Fetishes and fantasies
- Morphing sexual tastes
- Social anxiety
- Body dysmorphia
- Depression
- Sexual dysfunctions
- Lack of interest in real partners

# The pornography user harms others

## **Acting out what is seen in pornography**

- Engaging in Sexual Harassment
- Violence & Abuse (verbal & physical)
- Sexting
- Coercive sex

# ICD-11 Beta Draft (Mortality and Morbidity Statistics)

## 6D12 Compulsive sexual behaviour disorder

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### Parent

Impulse control disorders

Show all ancestors up to top 

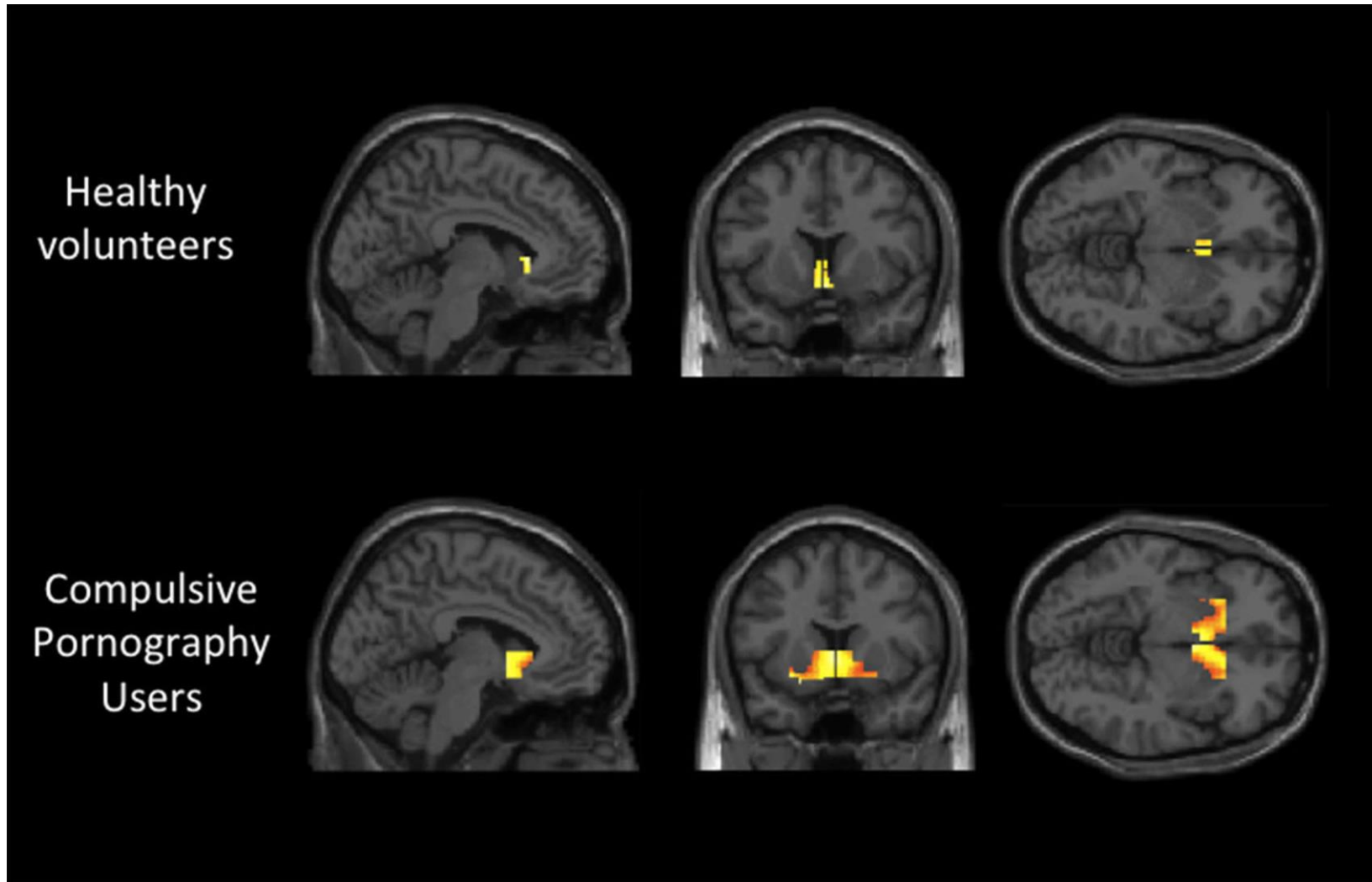
ICD-10 : F52.7



### Description

Compulsive sexual behaviour disorder is characterized by a persistent pattern of failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behaviour. Symptoms may include repetitive sexual activities becoming a central focus of the person's life to the point of neglecting health and personal care or other interests, activities and responsibilities; numerous unsuccessful efforts to significantly reduce repetitive sexual behaviour; and continued repetitive sexual behaviour despite adverse consequences or deriving little or no satisfaction from it. The pattern of failure to control intense, sexual impulses or urges and resulting repetitive sexual behaviour is manifested over an extended period of time (e.g., 6 months or more), and causes marked distress or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning. Distress that is entirely related to moral judgments and disapproval about sexual impulses, urges, or behaviours is not sufficient to meet this requirement.

# Porn similar to drug addiction



# How much is too much?

- Brain changes increase over time
- Italian study found: 16% of high school seniors who consumed pornography more than once a week experienced abnormally low sexual desire. Compared to 0% of non-porn users reporting low sexual desire (Pizzol et al 2015)
- Moderate use or weekend bingeing

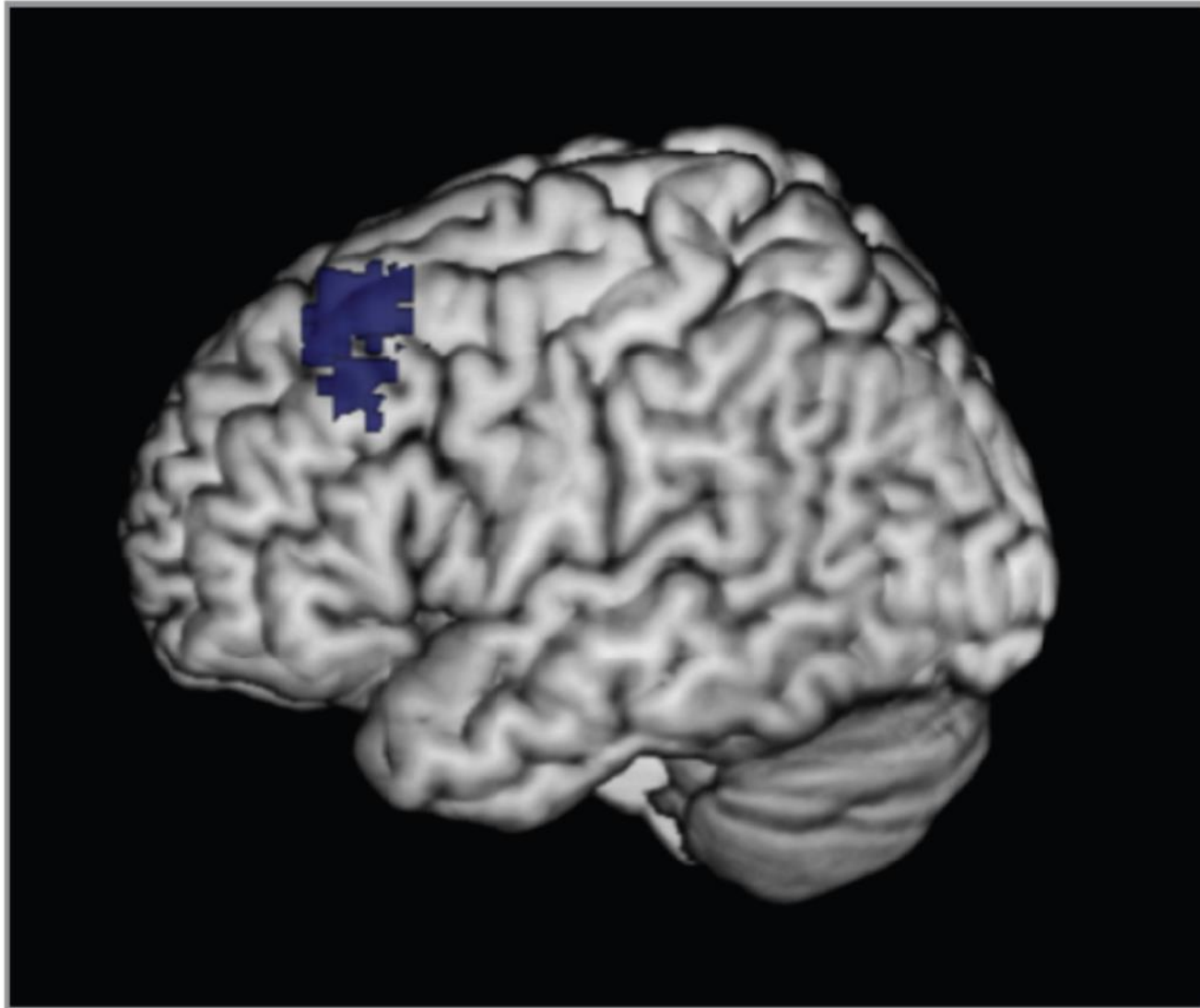
# “Brain Structure and Functional Connectivity Associated With Pornography Consumption: The Brain on Porn”

(Kuhn & Gallinat, 2014)

- Study of “moderate porn users” (up to 3 hours/week)
- Less grey matter in key areas
- Less response to “vanilla porn”
- The connection between the striatum and the prefrontal cortex (reward pathway) weakened with increased porn watching



# Brain Structure and Functional Connectivity Associated With Pornography Consumption



# Addiction process-brain changes

**1. Sensitisation** – hyper-sensitive to cues, narrowing

**2. Desensitisation** – ‘numbed’ pleasure response to everything else normal - more than ‘habituation’ (short term); drives tolerance/escalation in some

~~**1. Hypofrontality** – shrinkage of grey matter, poorer signals and communication, so no will power, no control, less empathy~~

**2. Dysfunctional stress circuits** – emotionally volatile, hypersensitive to stress, leads to relapse

# Erectile Dysfunction (E.D.)

Until c. 2002 studies consistently reported E.D. rates of 2% to 5% in men under 40 with sex issues going to doctors

In recent studies...

- rates for E.D. range from 14% to 35%
- rates for low libido range from 16% to 37%

= c. 1,000% increase in youthful E.D. rates in last 10-15 years

Q. What variable has changed in the last 15 years that could account for this astronomical rise?

A. Free streaming Internet pornography since 2006?

## A typical escalation pattern is reported by this young man on NoFap...

“I'm 19 years old and have been watching porn since 14...I thought I was some sort of deviant but the porn just kept escalating: anime, shemale, gay, anal fisting, then urination, and then animals. Recently, I was watching incest porn and I stepped over the unthinkable line: a video with...illegal activity in it. I saw about 10 seconds of it. I had a raging hard-on from the dopamine and masturbated even though I was disgusted with what I saw...Whenever I watch regular porn, it would get me off at first and then I would start the "hunt" again [for something more extreme], as if I couldn't control myself.”

# Child-on-child sexual abuse in Scotland

“The number of cases reported to the Crown Office involving a sexual offence committed against a child by a child rose by 34% between 2011-12 to 2015-16.”

(2017, Solicitor General, Alison Di Rollo)

# Porn, Aggression & Crime

- Cyber-enabled crime accounts for around half the growth in all sexual crime recorded by police between 2013-14 and 2016-17
- Victims were younger for cyber-enabled crime, median age 14, three quarters were aged under 16 in 2016-17
- 3 meta-analyses of dozens of studies from various countries associate pornography use either with increased verbal and physical aggression, or attitudes supporting violence against women
  - [A Meta-Analysis of Pornography Consumption and Actual Acts of Sexual Aggression in General Population Studies \(2016\)](#)
  - [A Meta-Analysis of the Published Research on the Effects of Pornography \(2000\)](#), and
  - [Pornography and attitudes supporting violence against women: revisiting the relationship in nonexperimental studies \(2010\)](#).

# Rape Profile in Scotland

## April to June 2017

- For crimes with child victims the most common relationship was **family member**, followed by a friend of a family member. For crimes with younger child victims the most common relationship was family member (62%).

(Data from Police Scotland)

- About half of rapists are adolescents

# Prevention and Recovery



Young people talked about three key things that might have stopped them from sexually offending

1. Make their relationships safe
2. Reform their sexuality education
3. Help them manage their use of pornography

(McKibbin 2017)

# Preventing Adolescent Harmful Sexual Behaviour: A NOTA Think Piece

Stuart Allardyce, Nicola Wylie, Berit Ritchie, Mary Sharpe with Ian Barron

<http://bit.ly/2F3klxz>

# Gabe Deem

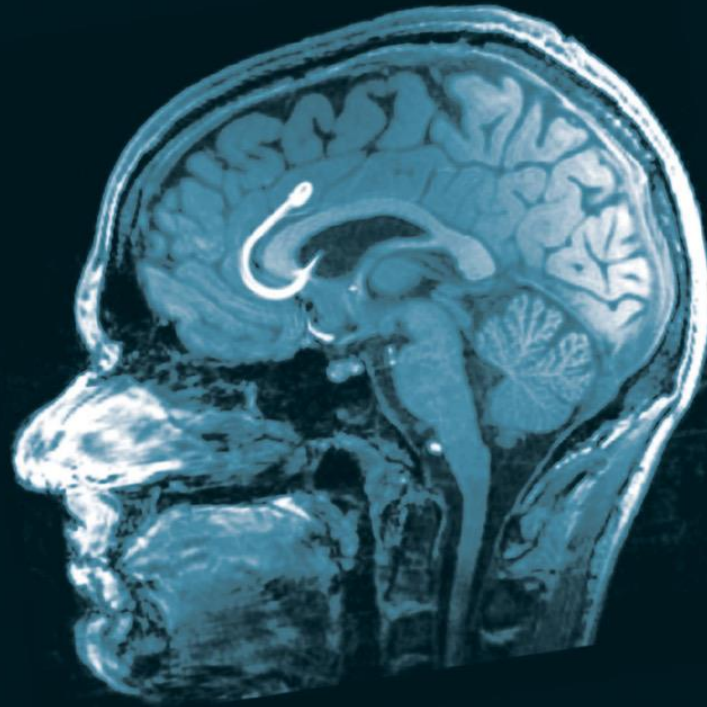
## My recovery story

# The Reward Foundation's work

- Porn harm awareness education in schools that teaches about reward system of brain- impact on mental & physical health, relationships, attainment and criminality
- Big Lottery Fund- pilot lessons for P7, S2-3, S5-6 includes digital detox using experiential learning
- Royal College of General Practitioners - accredited 1 day workshops on impact of internet pornography on mental and physical health for professionals
- Board Member of Society for Advancement of Sexual Health in US
- Campaigns in international coalitions to raise awareness about pornography's potential harms; public health crisis
- Free research and information on TRF website, newsletter, Twitter @brain\_love\_sex

# YOUR BRAIN ON PORN

Internet Pornography and the  
Emerging Science of Addiction



Gary Wilson

Revised and Updated Edition

# Mindfulness Stress Reduction Programme

- Average 27 minutes mindfulness exercises per day
- MRI showed decreased grey matter (nerve cells) in amygdala (anxiety)
- Increased grey matter in hippocampus – memory and learning
- Produces psychological benefits that persist throughout the day
- Reported reductions in stress

(Harvard Medical School, Sara Lazar, 30 Jan 2015 Psychiatry Research: *Neuroimaging*)

# Neuroplasticity means recovery is possible!

Former users can regain their zest for life,  
their libido and rediscover their  
compassion for real partners



# Conclusions

- Internet porn is potentially addictive, especially for adolescents
- Education about the reward system is key
- Teach life skills including interpersonal communication to reduce internet usage; mindfulness; time in nature
- Love people not pixels



[www.rewardfoundation.org](http://www.rewardfoundation.org)



@brain\_love\_sex