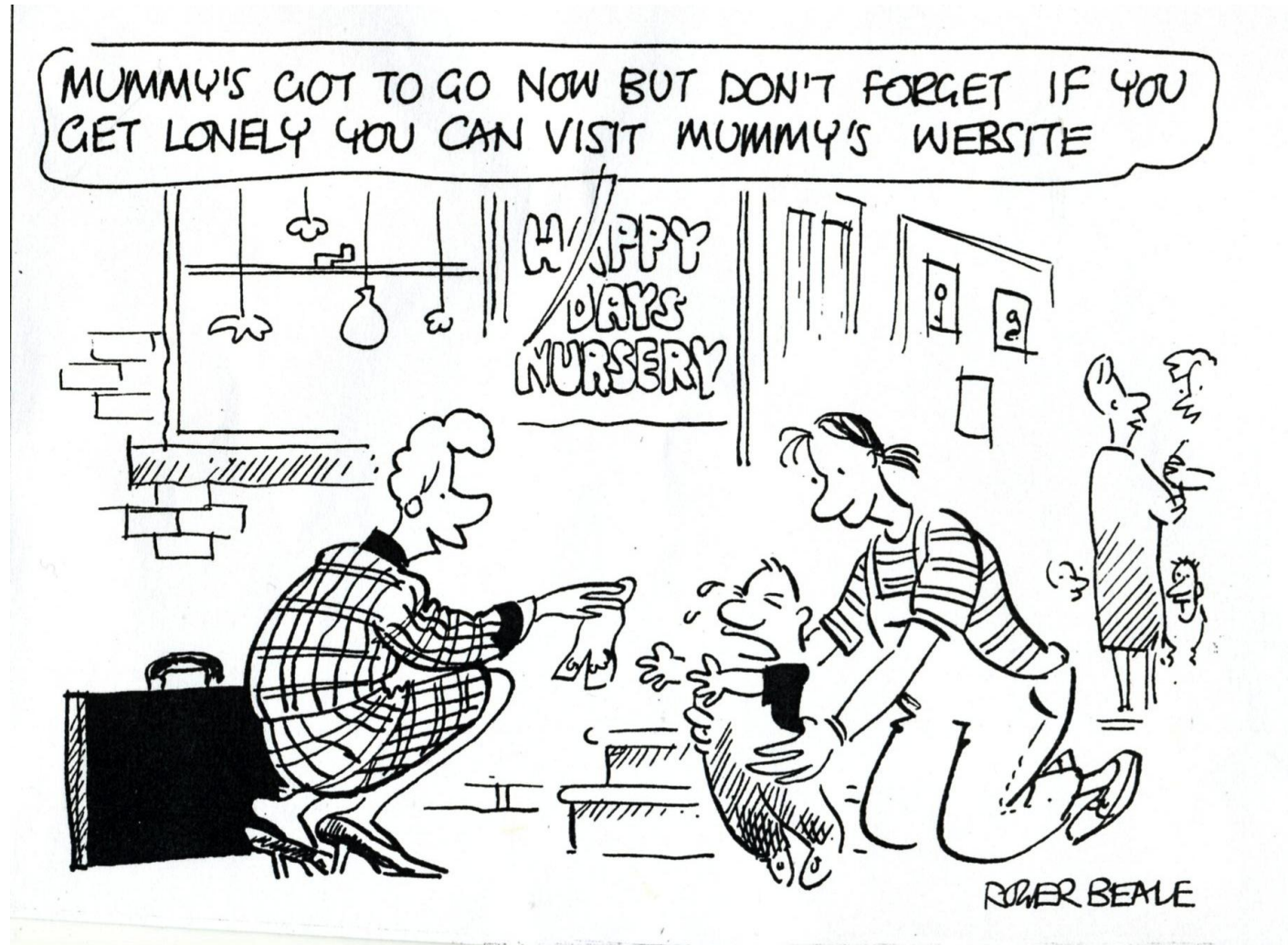


**Research on the Impacts of  
Technology on the  
Thoughts, Feelings and  
Behaviour of Children**

**Assoc Prof Jacqui Taylor**

Children are using technology at an increasingly young age...







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Headline news...

**'Almost half of British children aged 9 to 12 are using social networking'**

- LSE study: 25,000 9-16yrs across EU
- average = 38%
- lowest France 25% (45% of parents banned it)
- highest Netherlands 70% (no age limit to main SNS)

Facebook have no plans to lower age, but some say that it would make it safer

Between the ages of 10 and 11, children in this this country spend:

- 900 hours in school lessons
- 1,300 hours with their family

How many hours in front of a screen?

**2,000 hours!**



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# Gender differences

Females prefer interaction, dislike competition, deterred by sexualised stereotypical characters

- communication for relationships / emotionally open

Males prefer stimulation/arousal of games

- communication for team play
- control over simulated world



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# Location, location, location

**Children can reach the Web from many places – the level of control is changing rapidly**

Some control = home, school, libraries

Less control = at a friend's house, where rules / supervision might not match your own

No control =

**With mobile devices, now anywhere!**

# Children's understanding of the Internet

Yan (2005) related ages to developmental stages (social / intellectual / moral)

N=83, age 5 to 12 yrs

5 to 8yrs naïve about technical / social aspects

9 to 10yrs transition - good awareness of intellectual uses + some understanding of moral dangers

11-12yrs extensive online social experience + some understanding of risks

13+ yrs continuing moral development + mature understanding



# Potential problems of SNS and videogames

**Emotion, Attitudes and Behaviour**

**Identity and Relationships**

**Learning and Attention**

**Biological changes?**

## Emotion, Attitudes and Behaviour

- desensitisation to aversive stimuli and sensitisation to aggressive stimuli
- violent videogames causal factor of aggressive behaviours and thoughts
- over-use = neglect of relationships and routines and similar to physical addiction (mood, tolerance, withdrawal symptoms, conflict and relapse)

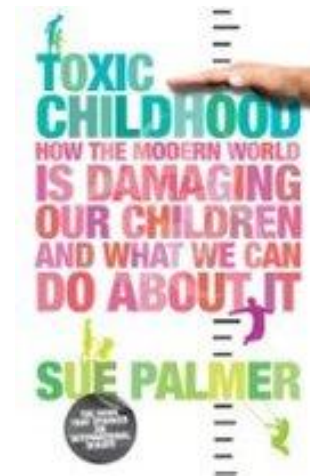


## Identity and Relationships

children do not value real world

identities as much as online ones

'kids are likely to find the real world boring and will look to more extreme types of behaviour to get a kick out of life ...in the virtual world things happen much faster, relationships are begun and ended with the click of a mouse and you can reinvent yourself in your online profile whenever you want to'



'We are seeing children's brain development damaged...before they start social networking, they need to learn to make real relationships with people'

Educational Psychologist: 'children should be kept away from computer games until they are seven. Most games only trigger the 'flight or fight' region of the brain, rather than the vital areas responsible for reasoning'

## Learning and Attention

screen addiction potential 'brain disruptor' "often unrecognised, it may present as disorders in learning, attention, behaviour or social-emotional adjustment"



### Divided Attention Disorder

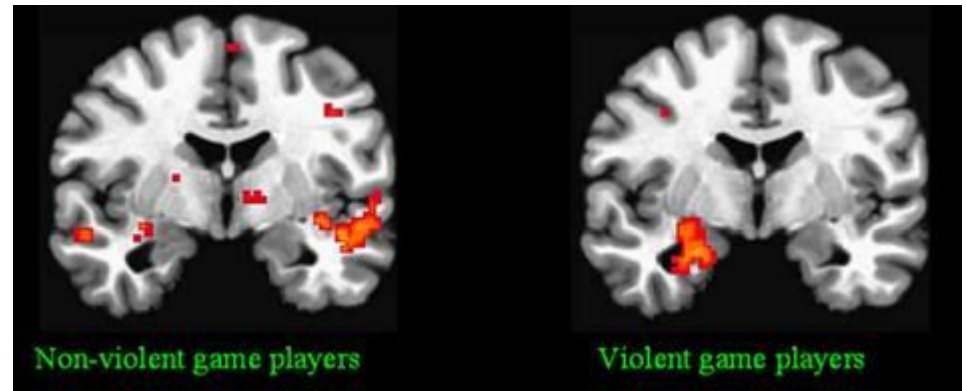
- disrupt academic progress
- create physical problems
- interfere with optimal input for critical stages of brain maturation

Baroness Greenfield: repeated exposure could 'rewire' the brain “adolescents brains ‘infantalised’: short attention span, frequent gratification, self-centred, inability to empathise with others”

## Is using the Internet biologically changing the way children think?



- links to rise in ADHD and Autism, but little confirmation



technology affecting the structure, function, and development of the adolescent brain  
= the techno-brain

# Recognising symptoms:

- sleep problems (Tetris brain)
- reduced motivation for outside play / exercise
- online friends more important than 'real' ones
- time loss -> leads to neglect and conflict
- daily routines: miss meals, hygiene, sleep
- more emotional following gameplay
- inability to focus / attend, fidgety



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# Positive Impacts

Attitudes and Behaviour

Learning and Skills

Social Interaction

Social Support

## Attitudes and Behaviour

Tyagi (2008): SNS promote a more equal status (wealth, gender, ethnic background less of a role in r'ships / comm'n)

Encourage prosocial behaviour offline + civic engagement

## Learning and Skills

Online games enhance: problem solving, hand-eye coordination and leadership training

SNS developed C21<sup>st</sup> skills (digital citizenship + technological fluency)

Prevention interactive video games:

'Tick Tacklers' +Lyme Disease

'You make me sick' Health-related: DS, Wii etc



## Social Support

at times of stressful life events  
increased use of Internet for  
entertainment + relationships

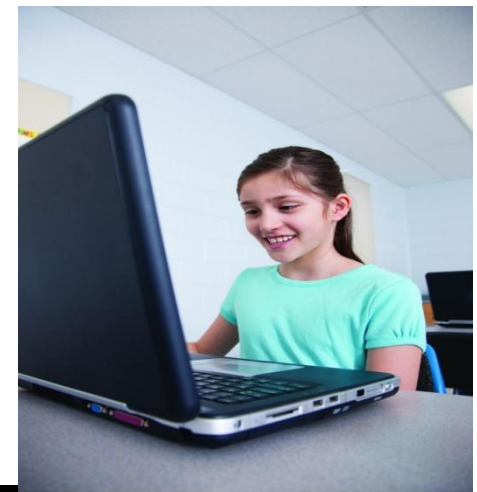
- more support = find stressful life events less upsetting



## Social Interaction

extend real-life relationships + meet  
new people

- share experiences and better understanding of global / political







Next:

- Technical issues
- Classifications and the Law
- Guidelines / support