Sleeping for Success

Dr Michael Carr-Gregg

Managing Director
Young and Well Co-operative Research Centre

YOUNGANDWELL CRC

Arianna Huffington encouraging women to 'sleep' their way to the top

Gina Hall, Mar 31, 2014, 3:37pm EDT

Who thinks they have had an adequate amount of sleep over the past month?

Like 40% of Australians the people in this audience are simply not getting enough sleep

How much time do we spend asleep?

Single most important behavioural experience
Average person spends 36% of their life sleeping

32 years of this man's life will have been spent asleep

Poor Political Role Models

4 hours a day

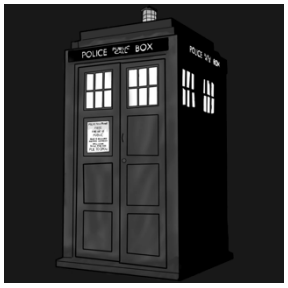
4 hours a day

Local role models

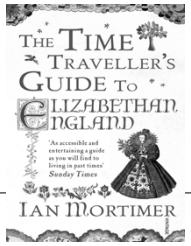
On both sides of the house

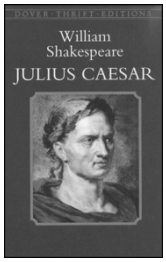
Queensland's greatest gift to the Parliament

So lets go back in time

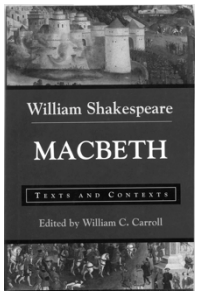


The way sleep was discussed in the Elizabethan era

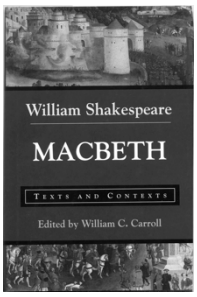




"Enjoy the honey-heavy dew of slumber."



"O sleep, O gentle sleep, Nature's soft nurse, how have I frightened thee?"



"The innocent sleep,
Sleep that knits up the raveled sleave of care,
The death of each day's life, sore labor's bath, balm of hurt minds, great nature's second course,
chief nourisher in life's feast."

From the same time..

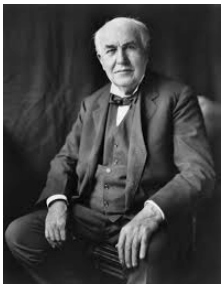
"Sleep is that golden chain that ties health and our bodies together."

Thomas Dekker, English dramatist (1572-1632)

Historically we respected sleep

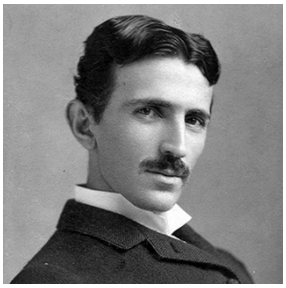
Jump forward 400 years

Thomas Edison



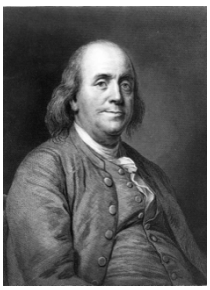
"Sleep is a criminal waste of time and a heritage from our cave days."

Nikola Tesla



2 hours a night

Benjamin Franklin

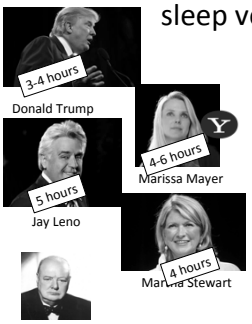


"there will be sleeping enough in the grave"

Margaret Thatcher

"Sleep is for wimps."

Reasons why successful people often sleep very little



- When you become successful, you have more responsibility
- They're likely misperceiving their sleep
- Charles Czeisler, "… In round numbers, the percentage of adults who can really get by on five hours or less per night is about zero."
- Some may have a genetic mutation

DEC2 gene

Gene Cuts Need for Sleep

People With Rare Gene Mutation Refreshed by 6-Hour Sleep

By Daniel J. DeNoon
WebMD Health News
Reviewed by Louise Chang, MD

WebMD News Archive

Aug. 13, 2009 - At age 69 she's never slept more than six hours a day -- no naps -- yet she's healthy and far more active than most people.

Her 44-year-old daughter also goes to bed at 10 p.m. and gets up at about 4 a.m., even when on vacation. The two share a rare mutation in a gene called DEC2. People with this mutation, researchers find, need less sleep.

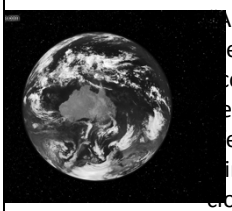
The gene is the first ever linked to human sleep behavior. The discovery comes from Ying-Hui Fu, PhD, of the University of California, San Francisco, and colleagues.

In the 20th century

"…We use Thomas Edison's light bulb to invade the night and we occupy the dark.. .and we treat sleep as almost an enemy…our ignorance about sleep is quite profound."

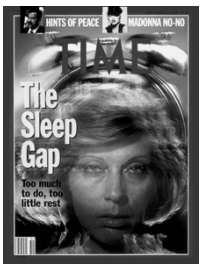
THE AUSTRALIAN

Too tired to think about it? Why a lack of shut-eye will end up killing us



Australia is in the grip of a sleeping epidemic of irritability, accident-proneness and chronic health conditions, as modern lifestyles mess with the primal firing of our internal body clocks."

Shane Rodgers, The Australian 4 May 2015



"When we've got social commitments, family commitments and work, we tend to say that we'll just stay up another hour to do this other thing. We know we're going to be tired the next day but we don't necessarily have that value set on it to know that it could increase the risk of an accident or it could be impairing health and preventing us from losing weight."

- Dr **Siobhan Banks**

Why have we abandoned sleep?

- It appears we don't do much
- don't eat
- don't drink
- Don't have sex

- It appears a complete waste of time

Some parts of the brain are more active in the sleep state

Why do we sleep?

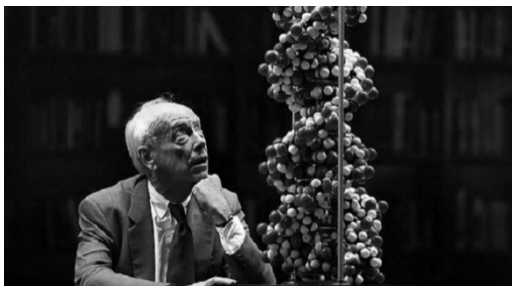
- Restoration
- Energy conservation
- Brain processing &memory consolidation & creativity enhancement

It is not an indulgence

Things people dreamed of that became reality

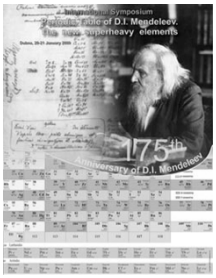
Larry Page

Things people dreamed of that became reality



James Watson

Things people dreamed of that became reality



Dimitri Mendeleyev

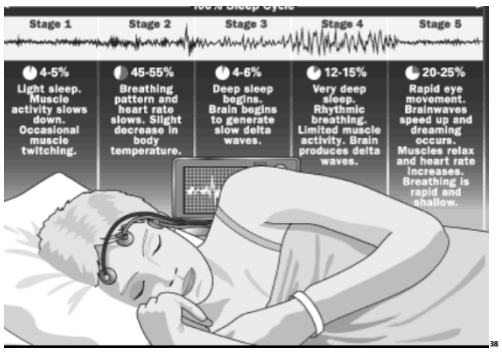
Things people dreamed of that became reality

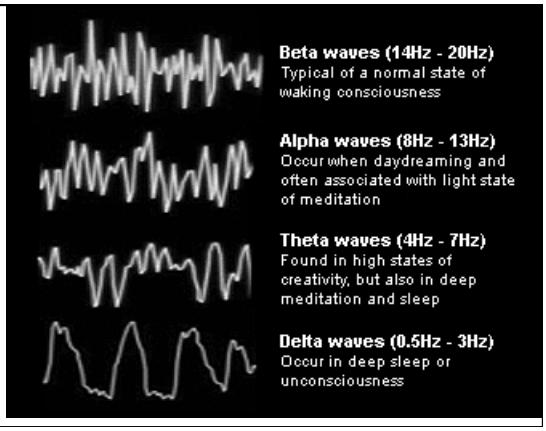
Elias Howe

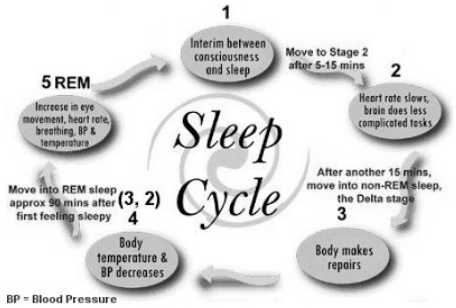
The function of sleep

- Is to repair and reorganize the brain
- Critical for learning
- We integrate the knowledge that we learn today with our prior experiences

Sleep cycle







12% of people only dream in black and white

Many people claim that they don't dream at all, but that's not true: we all dream, but up to 60% of people don't remember their dreams at all

What does sleep deprivation do to lab rats?

Normal life expectancy 2-3 years

No REM sleep death at 5 weeks

No sleep death at 3 weeks

Source: Everson CA, et al. Sleep. 1989 Feb;12(1):13-21

What about your students?

www.sundayheraldsun.com.au 21

Students asleep at the desks

TONY RINDFLEISCH
Education reporter

THOUSANDS of Victorian secondary students are jeopardising their school results because of a chronic lack of sleep, a leading expert says.

Clinical psychologist Andrew Fuller said many students were too tired to learn after spending hours each night text messaging friends or playing computer games.

Children fall asleep in class, cannot concentrate and are stressed because of a lack of sleep, he said.

Research by Mr Fuller, a fellow of Melbourne University's Department of Learning and Educational Development, shows 90 per cent of Year 10 students do not have enough sleep. About 15 per cent are so tired, their ability to learn is severely hampered.

Mr Fuller, co-author of resilience programs used in more than 800 Australian schools, also called for:

SCRAPPING of timed tests for all year levels, including VCE.

MORE than nine hours' sleep a night for adolescents.

SWAPPING high-carbohydrate breakfasts of cereal and toast for protein-rich fish and eggs to boost memory and concentration.

JOBS of no more than 10 hours a week for secondary students.

NO fluorescent lighting in study areas.

Mr Fuller's move for an end to timed tests follows a recent *Sunday Herald Sun* report in which adolescent psychologist Michael Carr-Gregg called for homework to be banned.

Mr Fuller said timed tests made students more vulnerable to stress and were not an accurate measure of competency, unlike project work.

Computers in bedrooms, offering the Internet and computer games, were often jeopardising students' school results and the trend of text messaging was taking up many hours of adolescents' evenings.

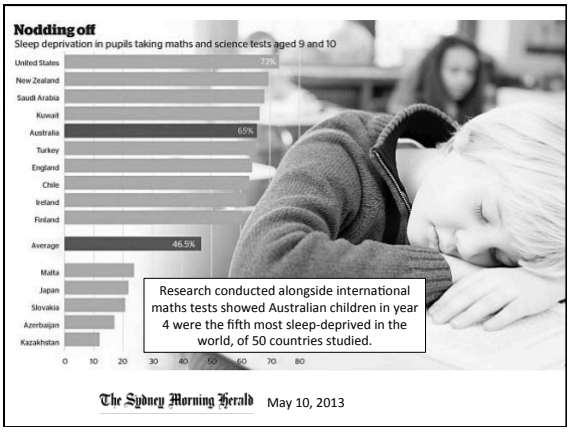
The privilege of a computer in the bedroom had to be managed, he said.

"Research indicates that long-term memories are consolidated during dream time," Mr Fuller said.

Adolescents needed more sleep than they did as children and sleeping in on weekends was not the answer, he said.

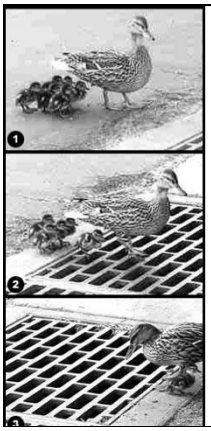
Any more than 10 hours a week part-time work also added to students' stress and fluorescent lights increased cortisol, an indicator of anxiety, in the blood.

The Victorian president of the Australian Education Union, Mary Bluett, said students were tired from jobs, homework and socialising.



Research conducted alongside international maths tests showed Australian children in year 4 were the fifth most sleep-deprived in the world, of 50 countries studied.

The Sydney Morning Herald May 10, 2013



Parenting

There is no such thing as a perfect parent

47

Is this the predominant parenting paradigm in Australia today?

A child is not morally, emotionally or intellectually prepared to play the role of 'friend'.

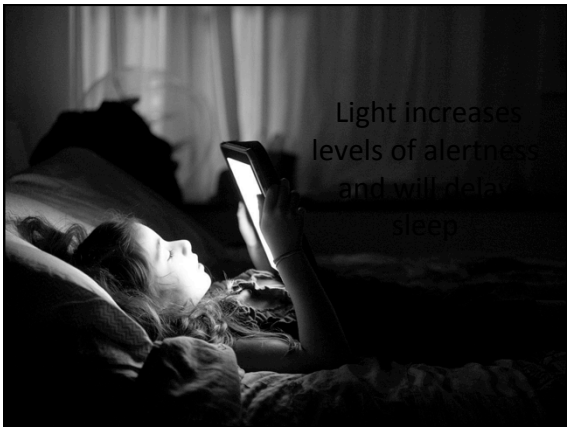
Why are we not getting enough sleep?

- It is fundamentally about the light to which we are exposed
- Electricity and the ability to turn it on at will
- Technology
- Together with the Caffeine

What about cultures with no electricity?

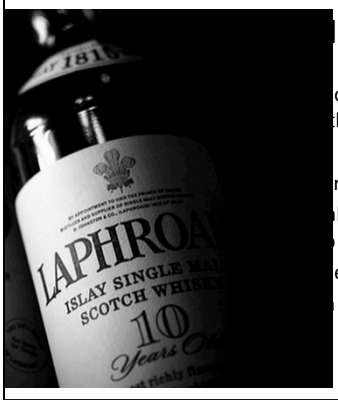
Adrianopolis (Czeisler 2011)

- Small village 5 hours out of Curitiba
- a home where there is no electric light
- Family of 7 children
- Gets dark at 6pm
- 1 room on a dirt floor
- 'We never wake up during the night'



The artificial light to which we are exposed is reeking havoc on our ability to remain in sync with the 24 hour day

most energy
drinks

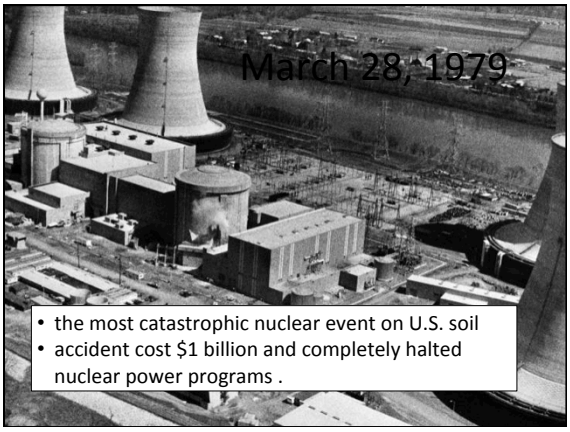


of people use alcohol
the sandman

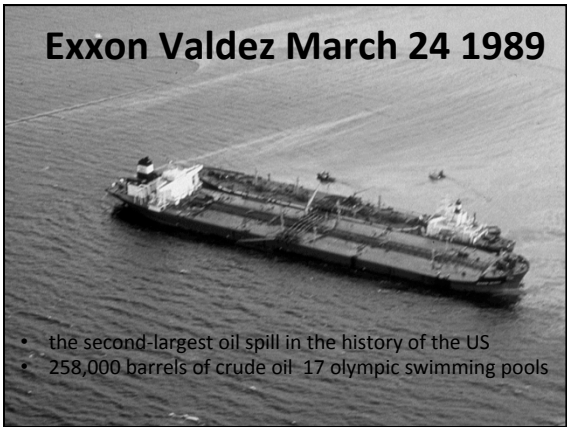
rological processes
kes it hard for you to

e quality of your sleep
muscle relaxant

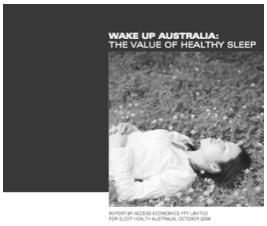
Cost of sleep deprivation


March 28, 1979
- the most catastrophic nuclear event on U.S. soil
- accident cost $1 billion and completely halted nuclear power programs .

January 28, 1986
All seven crew members died


Exxon Valdez March 24 1989
- the second-largest oil spill in the history of the US
- 258,000 barrels of crude oil 17 olympic swimming pools

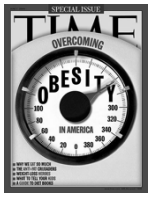
How much does sleep deprivation cost the country?



- over **1.2 million Australians** (6% of the population) experience sleep disorders
- **costs of $10.3 billion in 2004**

ACCESS ECONOMICS

Weight gain and sleep deprivation



- If you sleep around about 5 hours or less every night, then you have a 50% likelihood of being obese
- sleep loss gives rise to the release of the hormone ghrelin, the hunger hormone
- So there's a link between tiredness and the metabolic predisposition for weight gain

Sleep deficiency

- Weight gain
- Diabetes risk
- Hormone regulation
- Cardiovascular disease
- Labile emotions
- More distractible
- Hyperactivity in kids
- Burnout
- Depression
- Inflammation
- Infection risk
- Vaccination response
- Cancer

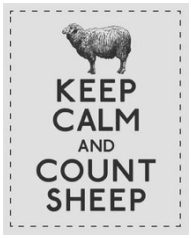
Herald Sun News

June 3

Insomnia link to dementia chances

So what can you do?

Sleeping for Success



- Decide that sleep is a priority
- Make your bedroom a haven for sleep
- Wind down
- Reduce amount of light exposure at least 30 mins before you go to bed and make it as dark as you possibly can
- Establish a regular bedtime and regular wake time
- Sleep in a cool, dark, quiet place
- Make bedroom a technology free zone with TV, phones or screens
- Get rid of caffeine after lunch.
- Get rid of alarm

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

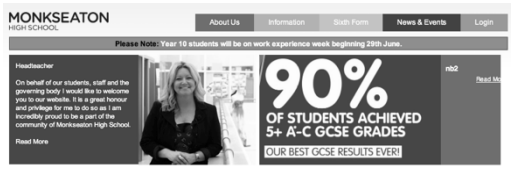
Let Them Sleep: AAP Recommends Delaying Start Times of Middle and High Schools to Combat Teen Sleep Deprivation

8/25/2014

For Release: August 25, 2014

Studies show that adolescents who don't get enough sleep often suffer physical and mental health problems, an increased risk of automobile accidents and a decline in academic performance. But getting enough sleep each night can be hard for teens whose natural sleep cycles make it difficult for them to fall asleep before 11 p.m. – and who face a first-period class at 7:30 a.m. or earlier the next day.

The Revolution is coming!



- school start times were shifted from 08:50 to 10:00
- led to an increase in the %of pupils getting five good GCSEs from about 34% to about 50%
- Among disadvantaged pupils, the increase had been from about 19% to about 43%

Schools wake up to sleepy students and consider later teaching hours

WES HOSKING EDUCATION REPORTER HERALD SUN AUGUST 19, 2014 6:10PM

SHARE 59 COMMENTS SAVE THIS STORY

Templestowe College year 11 student Melissa, with mum Karen Davis, is looking forward to a few more sleep-ins before school. Picture: Josie Hayden

UPDATE: EDUCATION Minister Martin Dixon has backed more flexible starting times for government students if schools want it.

In 2015

- 620 students were offered one of three schedules:
  - existing 8.50am-3.30pm
  - 10.30am-5.15pm
  - 7.15am-1.15pm

What happened?

Peter Hutton
Principal
Templestowe College

"…Currently we have three classes that now start at 7.15, one maths, one English and one Elite Basketball and had only 3 students select the late start option. Fortunately due to the flexibility of our timetable structure we have been able to accommodate these students with a late start."

Can Technology Help?

Arnold Schwarzenegger: 'It's only a matter of time' before the machines take over

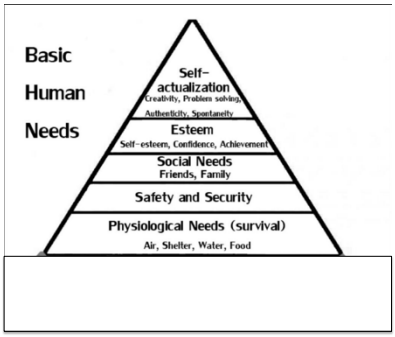
SARAH THOMAS

- Arnold Schwarznegger returns to Terminator
- Flashback: Arnie's 1974 visit to Sydney

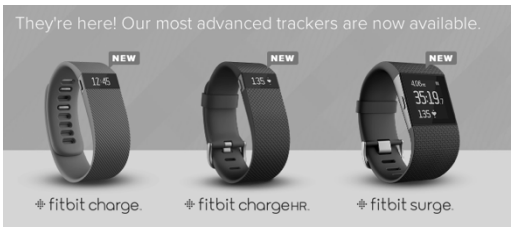
It's appropriate that Arnold

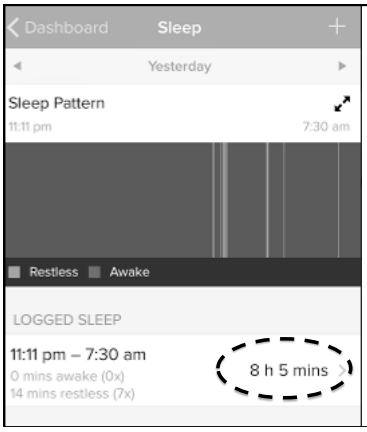
The man and the machine: Arnie poses in

A reconfiguring of Maslow



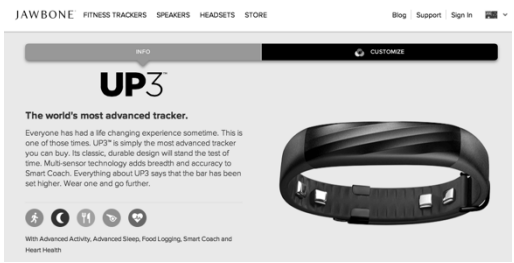
Fitbit range

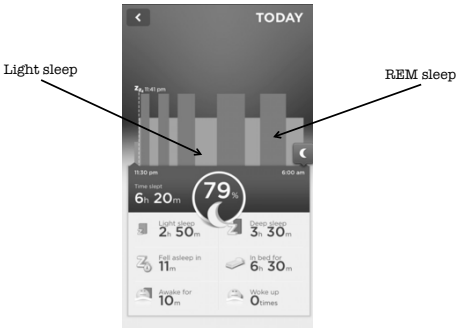


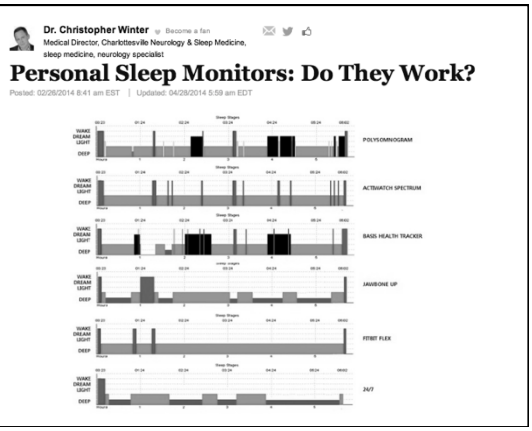


Yesterday's sleep dashboard

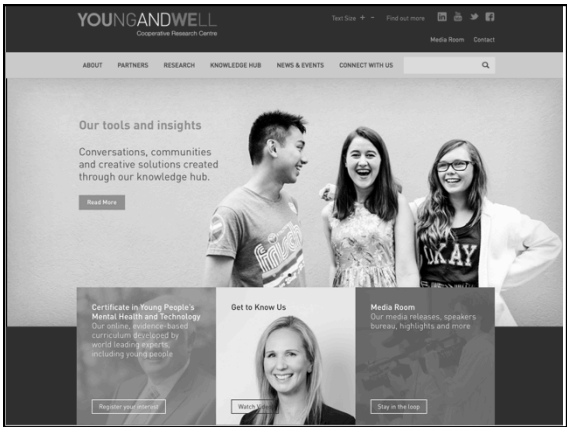
Jawbone







One of the most accurate


YOUNGANDWELL
Cooperative Research Centre
Text Size + -
Find out more
Media Room
Contact
ABOUT
PARTNERS
RESEARCH
KNOWLEDGE HUB
NEWS & EVENTS
CONNECT WITH US
Our tools and insights
Conversations, communities and creative solutions created through our knowledge hub.
Read More
Certificate in Young People's Mental Health and Technology
Our online, evidence-based curriculum developed by world leading experts, including young people
Register your interest
Get to Know Us
Media Room
Our media releases, speakers bureau, highlights and more
Stay in the loop