

# Children and Screen Time

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What You Need To Know

## ABOUT ME

# Michael Vaughan

## Registered Psychologist

- B.Sc. (Hons.) in Psychology
- Postgraduate Certificate in Education
- M.Ed. (Educational Psychology)
- Registered Psychologist



# Quick Life Story

- Born in Birmingham, England
- Childhood years in the West Midlands
- Came to NZ on a job exchange in 1986
- Interests include football, hiking, health & fitness
- Married to a kiwi for 19 years, two fabulous boys
- **I know parenting can be tough, even for psychologists!**

Are you  
kidding me?

*Let me tell you  
about MY kids!!*

No matter who you are or how much  
training you have, you are not going  
to be a Perfect Parent

Just do your best...

When you take your kids to a fun activity...



Parenting & Screen Time:  
Aim High – but don't try  
to be perfect

### PERSON WITHOUT KIDS:

"A recent study conducted at a prestigious university proved that prolonged screen time can have negative impacts that prevent children from learning, which is notable."

 @MACGYVERINGMOM22 

### ME:

"Cool. A recent study conducted in my living room proved that allowing my children as much screen time as I see fit, prevented me from losing my shit, which is also notable."

... but maybe  
don't go this far



**ME, TO OTHER PARENTS:  
WE TRY TO LIMIT SCREENTIME  
TO TWO HOURS A DAY AT MOST.**

**ME, TO MY TODDLER:  
HERE'S MY NETFLIX PASSWORD,  
DON'T WAKE ME BEFORE NOON.**

*Dad and Burjed.com*

# Today's talk will cover:

- What's happening with our children – which issues am I seeing more often in my Private Practice work with children?
- Children's increased screen time – should we be worried? What are the psychological and physical effects?
- Guidelines to help you navigate through the screen time challenge



# Questions

- Let's talk – happy to engage during presentation
- Question Time (raise hand at the end of the slide)
- If too many questions I'll have to move on and answer at the end

# What's happening to our children?

*In my Private Practice I am noticing:*

- ANXIETY is the big 'growth industry'
- DEPRESSION is not far behind

*Arguments about Screen Time have become  
the biggest source of conflict between children  
and parents*

# Under pressure 24/7

- Children used to be able to ‘switch off’ after school
- Home used to be a ‘safe haven’ (for most children anyway)
- Now, connected to internet during most of their waking hours
- Children say they feel pressured and overwhelmed
- Feel guilty if unable to respond to messages right away
- Feel anxious if access to messaging becomes constrained

# What activities is Screen Time replacing?

- Physical activities (implications for health and well-being)
- Socializing in the 'real world' (implications for socialization)
- Interacting with family (implications for relationships)
- Other recreational activities (e.g. art, music)
- Any others?

# Screen Time – how much is too much?

- The ‘Growing Up In New Zealand’ study (based on almost 60 eight year-olds)
- On screens for average of 3hrs. per day (not including screen time at school)
- Ministry of Health recommends less than 2 hrs. per day of passive screen time

# Ministry of Health Guidelines

- Zero recreational screen time for children under 2
- Less than an hour per day for kids aged 2 to 5, and fewer than two hours per day of passive screen time for those aged 5 to 17.
- Yet, M.O.H. surveys find those guidelines are being exceeded by nearly 90 per cent of children younger than 14.

## Screen Time – how much is too much? (2)



# Children & Screen Time – should we be worried?

## ***Uni. of Auckland study in 2021 concluded that:***

- It depends upon the precise type of screen activity, the level of engagement by caregivers, and whether the content being watched is age-appropriate.
- Replace blanket screen limits with a fresh approach
- Increased parental involvement in children's Screen Time - monitoring content, choosing interactive screen activities rather than passive watching
- Balancing screen use with family time



# Children & Screen Time – should we be worried? (2)

*Research literature clearly shows that excessive screen time can have a range of adverse effects on children (and adults).*

*Recent literature review: Nakshine, Thute, Khatib & Sarkar (2022)*

*“Increased Screen Time as a Cause of Declining Physical, Psychological Health, and Sleep Patterns: A Literary Review” Cureus Journal of Medical Science, Oct. 2022*

# Interesting quotes from the authors (1)

“It (excessive screen time) increases dependence on validation from faceless people on the internet.”

“It (excessive screen time) reduces the rate at which one physically interacts with others in real life..... affects the release and maintenance of adequate doses of feel-good hormones like dopamine, serotonin, endorphins, and oxytocin, which are naturally required by all.”

*Nakshine, Thute, Khatib & Sarkar (2022)*

“Increased Screen Time as a Cause of Declining Physical, Psychological Health, and Sleep Patterns: A Literary Review” *Cureus Journal of Medical Science, Oct. 2022*

## Interesting quotes from the authors (2)

- FOMO (fear of missing out) has also been identified as a risk factor for binge usage of the internet.
- Individuals who are screen addicts were also discovered to have lower levels of social support and peer support or attachment to their families and relations. As a result, their level of life contentment is lowered.
- Teenagers are moving away from face-to-face connection, which is limiting offline social support even though it has increasingly been linked to positive social well-being [\[27\]](#).

27. Media use, face-to-face communication, media multitasking, and social well-being among 8- to 12-year-old girls. Pea R, Nass C, Meheula L, et al. *Dev Psychol.* 2012;48:327–336. [\[PubMed\]](#) [\[Google Scholar\]](#)

# Screen Time Dependency - Adverse Psychological and Physical Effects

*From their review of the literature, the authors conclude that:*

“Constant exposure to devices like smartphones, personal computers, and television can severely affect mental health - increase stress and anxiety, for example, and cause various sleep issues in both children as well as adults.”

*Nakshine, Thute, Khatib & Sarkar (2022)*

“Increased Screen Time as a Cause of Declining Physical, Psychological Health, and Sleep Patterns: A Literary Review” *Cureus Journal of Medical Science, Oct. 2022*

Be concerned...but  
not too concerned

When you hear new parents  
say they aren't going to allow  
their kids to have screen time.



# Adverse Psychological Effects

- Symptoms of depression
- Poor sleep quality
- Effect on Mood
- Content-influenced negativity
- Feelings of Social Isolation
- Suicidal tendencies

*Nakshine, Thute, Khatib & Sarkar (2022)*

*“Increased Screen Time as a Cause of Declining Physical, Psychological Health, and Sleep Patterns: A Literary Review” Cureus Journal of Medical Science, Oct. 2022*

# Depression and Suicidal Behaviour

- Depression, mainly social media-induced depression is a growing concern, particularly among today's generation [[19](#)].
- Those not aware of the usage of social media effectively can easily get trapped in a pattern of jealousy, envy, self-doubt, and poor self-esteem [[20](#)].
- It is well known that sleep disturbance symptoms appear before symptoms of depression and suicidal thoughts. Therefore, it is proposed that a mediating element connecting night-time screen use to depressive symptoms and suicidal thoughts in adolescents is the lack of sleep [[21](#)].
- The researchers note that dependence on smartphones, frequent messaging, and protracted fear about not receiving back messages, particularly before bedtime, are likely associated with mood swings, suicidal thoughts, and self-injury.

*Note: References on next slide*

# Depression and Suicidal Behaviour

19. Screen time is associated with depression and anxiety in Canadian youth. Maras D, Flament MF, Murray M, Buchholz A, Henderson KA, Obeid N, Goldfield GS. *Prev Med*. 2015;73:133–138. [[PubMed](#)] [[Google Scholar](#)]

20. Depressed adolescents grown up. Weissman MM, Wolk S, Goldstein RB, et al. <https://pubmed.ncbi.nlm.nih.gov/10328070/>. *JAMA*. 1999;281:1707–1713. [[PubMed](#)] [[Google Scholar](#)]

21. Internet use and problematic Internet use among adolescents in Japan: A nationwide representative survey. [ Aug. 2022]; Mihara S, Osaki Y, Nakayama H, et al.

<https://www.sciencedirect.com/science/article/pii/S2352853216300438>

*Addict Behav Rep*. 2016 4:58–64. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]



# Benefits of Screen Time (1)

- Connection with friends and family using live video apps, e.g. FaceTime, Skype or Zoom
- Access to an amazing amount of information - allows children to investigate topics of interest
- Interaction with peers online can help to build friendships (can be particularly valuable to children who would otherwise be socially isolated)

## Benefits of Screen Time (2)

- Can contribute to your child's learning and development
- Some video games help development of critical or creative thinking
- Can help children to self-help and become more resourceful
- Provides new ideas for traditional play
- uses digital technology to connect with people they know
- Enables children to produce content rather than just consuming it
- Enables children to explore new interests and learn new things with friends

# Adverse Physical Effects

- Obesity
- Cardiovascular disorders
- Hyper-arousal
- Poor regulation of stress
- Low HDL cholesterol
- Insulin resistance

*Nakshine, Thute, Khatib & Sarkar (2022)*

“Increased Screen Time as a Cause of Declining Physical, Psychological Health, and Sleep Patterns: A Literary Review” *Cureus Journal of Medical Science, Oct. 2022*

# Adverse Physical Effects (continued)

- Increased levels of stress hormones
- Altered brain chemistry
- Creates a drag on mental energy and general development

*Nakshine, Thute, Khatib & Sarkar (2022)*

“Increased Screen Time as a Cause of Declining Physical, Psychological Health, and Sleep Patterns: A Literary Review” *Cureus Journal of Medical Science*, Oct. 2022

## Adverse Physical Effects (continued 2)

### Desynchronization of body clock/circadian cycle

*(from exposure to intense blue light in the evening)*

# Vision

- Headaches, eye strain, impaired vision, dry eyes, and irritation.
- According to research, being in an outside environment stimulates the release of dopamine from the retina, which helps to prevent myopia. [[18](#)].
- Spending time outside can largely eliminate factors contributing to the development of myopia, e.g. prolonged close work or screen viewing.
- The participating young subjects who played video games for more than 30 minutes per day reported headaches, vertigo, and eye strain.
- The dominant eye primarily experienced transient diplopia and refractive problems (such as short-sightedness), ultimately leading to vision loss

18. Time outdoors and the prevention of myopia. French AN, Ashby RS, Morgan IG, Rose KA. *Exp Eye Res.* 2013;114:58–68. [[PubMed](#)] [[Google Scholar](#)]

# Children & Screen Time – Increased Risk of Myopia



## But wait... there's more

- Screen Time exposes children to a range of other physical/health effects
- Less obvious and potentially more serious than those mentioned so far

*Do you know the secret inside your cellphone (and other wireless devices)?*



# The health effects of microwave-frequency radiation from wireless networks and devices

- The radiation from wireless networks and devices is NOT harmless
- Fact not Opinion
- Telecommunications companies acknowledge this (very quietly)
  - devices have safety guidelines
- Our government acknowledges this (very quietly)
  - NZ Safety Standards
- The only debate is this: What level of exposure (if any) is safe?

# Wireless Radiation - Adverse Health Effects

*Independent, peer-reviewed scientific studies have shown adverse health effects at 'non-thermal' levels way below N.Z.'s allowable limits*

- sperm/testicular damage
- Impairment of immune system
- endocrine changes
- oxidative stress
- Increased risk of cancer (USD 25 million study – National Toxicology Programme)
- Electro-hypersensitivity (EHS)

*Note: Pulsed waves, which are typically used in wireless devices, are much more damaging to cellular structures*

# References – Adverse Health Effects of Wireless Radiation

- *Environmental Health Trust* <https://ehtrust.org/science>
- *Safer Technology Aotearoa New Zealand (STANZ)*  
<https://www.safertechnology.co.nz>
- *Physicians for Safe Technology* <https://mdsafetech.org>
- *BioInitiative Report.* <https://bioinitiative.org>

# International Agency for Research on Cancer (I.A.R.C.)

Wireless, microwave-frequency radiation was classified as:  
CLASS 2B – POSSIBLE HUMAN CARCINOGEN  
by the W.H.O.'s International Agency for Research on Cancer (2011)

Dr. Heather Guy – 15 years experience as GP in Whangarei

<https://youtu.be/2cFqRREG4JY>

06.37-10.40

No amount of  
evidence...

New study concludes that wireless radiation exposure **at levels below current U.S. limits** impairs neurogenesis and causes neuronal DNA damage in young Wistar rat brains

-Journal of NeuroToxicology, November 2022



ENVIRONMENTAL  
HEALTH TRUST

# N.Z.'s Safety Standards – have they got it right?

## *Is radiation from wireless devices harming our children?*

- The Ministry Of Health (MOH) position is that radiation from wireless networks and devices is safe if within the NZ Safety Standard (allowable limit)
- Safety Standards (allowable limits) determine the amount of wireless radiation to which the NZ public can be exposed – including children, babies and unborn
- Countries such as Italy, Switzerland, China and Russia have allowable limits 100x lower than ours
- Are we sure we know best?

# Children are more vulnerable than adults



This is the head of a five-year-old.

# Research on Children's Vulnerability to Radiation from Wireless devices

- Children have smaller heads than adults.
- Wireless radiation can go deeper into their brains
- Children have a shorter distance from their skull to their brain centre.
- Government regulations are based on a 220-pound man's head, not a child's head.
- Children have much thinner skulls than adults, they have less protection.
- Children's brains contain more fluid and less fat and more readily absorb microwave-frequency radiation
- Research shows that children can absorb up to ten times more radiation in the bone marrow of their skulls than adults.



# Published research

For more studies, visit <https://ehtrust.org>

- Fernández, C., de Salles, A., Sears, M., Morris, R., & Davis, D. (2018). [Absorption of wireless radiation in the child versus adult brain and eye from cell phone conversation or virtual reality](https://doi.org/10.1016/j.envres.2018.05.013). *Environmental Research*, 167, 694-699. <https://doi.org/10.1016/j.envres.2018.05.013>
- Siervo B, Morelli MS, Landini L, Hartwig V. [Numerical evaluation of human exposure to WiMax patch antenna in tablet or laptop](https://doi.org/10.1002/bem.22128). *Bioelectromagnetics*. 2018;39(5):414-422. doi:10.1002/bem.22128
- P. Gandhi, [“Yes the Children Are More Exposed to Radiofrequency Energy From Mobile Telephones Than Adults,”](https://doi.org/10.1109/ACCESS.2015.2438782) in IEEE Access, vol. 3, pp. 985-988, 2015, doi: 10.1109/ACCESS.2015.2438782.
- Gandhi, O., Morgan, L., de Salles, A., Han, Y., Herberman, R., & Davis, D. (2011). [Exposure Limits: The underestimation of absorbed cell phone radiation, especially in children](https://doi.org/10.3109/15368378.2011.622827). *Electromagnetic Biology And Medicine*, 31(1), 34-51. <https://doi.org/10.3109/15368378.2011.622827>

# What are other countries doing about this? (1)

- France has banned wi-fi from nursery schools and restricted its use in teaching children up to the age of 11.
- Cyprus has also banned wi-fi from kindergartens, and only permits it in the staff offices of junior schools for administration purposes.
- Israel also prohibits wi-fi in pre-schools and kindergartens. Wi-fi is gradually introduced in class as children get older. The Israeli city of Haifa has hardwired its schools so that children can use computers that don't need wi-fi to connect to the internet.

# What are other countries doing about this? (2)

- Frankfurt hardwired 80 per cent of all its schools more than a decade ago
- School authorities in Salzburg, Austria, wrote to Head Teachers officially advising them not to use wi-fi as long ago as 2005.
- Ghent in Belgium has banned wi-fi in pre-schools and day care centres
- Individual local authorities in Spain and Italy have removed wi-fi from all their schools.
- French Polynesia has prohibited wi-fi in nursery schools and limits its usage in primary schools.

# American Academy of Paediatrics

- Children are not little adults and are disproportionately impacted by all environmental exposures, including cell phone radiation.
- Current FCC standards do not account for the unique vulnerability and use patterns specific to pregnant women and children.
- It is essential that any new standard for cell phones or other wireless devices be based on protecting the youngest and most vulnerable populations to ensure they are safeguarded throughout their lifetimes.

- American Academy of Pediatrics

# Wireless Radiation Safety Standards in N.Z

- N.Z. Safety Standards (exposure limits) are largely determined by the Interagency Committee for Health Effects of Non-Ionising Fields
- Heavy industry representation, light on medical/biological expertise
- Over half the Committee represents industry and government interests
- Conflicts of Interest
- Refusal to acknowledge thousands of peer-reviewed studies showing 'non-thermal' biological effects

# Regulation of the Telcos. in New Zealand

- Regulations in NZ have increasingly taken power away from individuals, local boards and councils
- Telcos can place a tower right outside your child's bedroom window
- Who wrote the regulations for the telecommunications industry?

# Who wrote the regulations?



**vodafone**

TelstraClear

**Alistair Dixon**



**vodafone**

TelstraClear

**Poul Israelson**



**vodafone**

TelstraClear

**Karl Mischewski**



**Spark**<sup>nz</sup>

Telecom  
NEW ZEALAND

**Chris Horne**



**Spark**<sup>nz</sup>

Telecom  
NEW ZEALAND

**Christine Turner**



**Spark**<sup>nz</sup>

Telecom  
NEW ZEALAND

**Harry Hopkinson**

**Enfocus**

Resource Management & Public Policy

**David Willetts**

Ministry of Economic  
Development



Manatū Ōhanga

**Richard Hawke**

Ministry of Economic  
Development



Manatū Ōhanga

**Ian Hutchings**



MINISTRY OF  
HEALTH

MANATŪ HAUORA

**Sally Gilbert**

# 5G - Almost zero safety testing !!

- Particular concerns about 5G-enabled devices due to planned usage of higher frequency millimetre waves
- Almost zero safety research has been done

*Introduction by Frank Clegg, Former President of Microsoft Canada*

<https://youtu.be/h4TdY344Now>

0.00 – 4.13



# Why is this relevant to 'Children & Screen Time'?

- The Ministry Of Health (MOH) will tell you that the microwave-frequency radiation from wireless networks and devices is safe if within the NZ Safety Standard (allowable limit)
- MOH and MOE are not encouraging schools to adopt the Precautionary Principle
- Little or no education is going on in schools about possible health effects
- Little or no advice to schools/teachers/parents/children about ways to limit exposure
- Have they got it right?
- We all need to do our own research – check the independent research!!
- DYOR....look beyond the MOH website.....it's NOT the sole source of truth

# Simple Strategies to Reduce Exposure

- Turn off wi-fi at night
- Keep devices away from your body
- Turn off devices when not in use (or use Flight Mode)
- Use speaker when making a cellphone call
- Remove wireless devices from bedroom at night
- Never sleep with device under pillow
- Used wired (ethernet) connections whenever possible

*Note: Leaflet available on your way out*

# Flight Mode is your Friend



**Cell Phone  
Safety Tips**

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**Tip #5:**  
**Set your phone to  
airplane mode when  
not in use with all  
wireless features off.**

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Stay safe. Learn more at  
[American4RT.org](http://American4RT.org)



Americans for  
Responsible  
Technology

# The Screen Time Issue - My Advice

- Your child's physical and psychological well-being is important... but so is your relationship
- It's a journey....drive carefully
- Remember that denying access to devices can also be harmful
- Set limits for younger children, discuss boundaries with teenagers in the context of their situation
- Gain understanding of their needs and accommodate those needs when appropriate
- Help them to use technology safely and productively

# Tips for managing Screen Time

- Focus on what children can do rather than what they can't
- Offer screen time on television or a computer, which tends to be at a further distance away.
- Intersperse screen time with playtime outside.
- Remember that limits should expand as your kids grow.
- Engage your child in other activities – listen to podcasts together, read together, play outdoor games, board games, cards etc.

## Here's a cool activity idea...

MY 3YO JUST SAID LET'S PLAY  
A GAME. SO I TOLD HER TO GO  
UPSTAIRS, HIDE IN HER BED AND  
CLOSE HER EYES. SHE FELL ASLEEP.

@STAY.AT.HOMIES

THIS IS MY PROUDEST MOMENT OF  
MY PARENTING JOURNEY SO FAR.

## Another handy tip...

Never take technology  
away from your kids  
as punishment. Instead,  
just take away the  
chargers because it's  
so much crueler.



# Tips for managing Screen Time (2)

- Avoid screen time for children under 2
- Be aware of your own device use and don't allow it to reduce interactions with your child
- Choose educational content for preschool-aged children and join in with their viewing whenever possible.
- Monitor the content older children are exposed to, particularly with adult-rated movies and games, investigate parental controls on devices, and prioritise interactive screen time on computers with larger screens
- Encourage a balance between screen time and other activities. Place limitations around screens where needed, for example, no screen use near bedtime and no devices in bedrooms.
- Discuss the pitfalls of social media with adolescents, such as the potential for cyberbullying and the unrealistic editing of images.



# Education is the key!!

- Need to educate children about the pros and cons of screen time
- Need to explain how to use technology safely
- Education can lead to self-regulation – our ultimate goal
- Schools have a vital role in educating children, parents and teachers – how to use technology safely and productively
- Government, Telcos and Media are unlikely to take on this role

# Applying the Precautionary Principle

- Need School Principals to apply the Precautionary Principle
- Some are already starting to do this
- Paul Cartlidge – Waimate Main School in rural Canterbury  
(posted article in school newsletter)
- Gavin Beere – Hillcrest School, Manurewa, Auckland  
(provides computers rather than BYOD – more control over content)
- Karen Brisco – Omata School, Taranaki  
(limiting the use of devices in junior classrooms, children given more time outdoors, activities to develop social and creative skills)

***WHO WILL BE THE NEXT PRECAUTIONARY PRINCIPAL ?!!!***

# And finally...

- Collect a Leaflet on your way out – Protect Your Kids, Your Family & Yourself
- Leave your email address if you would like a copy of the Power Point
- Contact me if your school, Principal's Association or other organisation would be interested in a presentation on this topic

Michael Vaughan – Registered Psychologist

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Thank you

**Thank you**

