How to empower digital agency in students, with students, for students

Be Well Digital Global Report

Be Well

COGNITA

CONTENTS

FOREWORD

Our world is changing fast. This brings new possibilities and new challenges. At Cognita, we view our global purpose as enabling our students to 'thrive in a rapidly evolving world'. We intentionally chose the word 'thrive'.

What does thrive mean to you?

We draw on the work of Hannon and Peterson (2021). These authors usefully identify four levels of thriving:

1. Intrapersonal... thriving self
2. Interpersonal ... thriving relationships
3. Societal... thriving communities
4. Global... thriving planet

Where does the digital world fit into these levels? Perhaps it transcends each level.

We believe this is an important report. The digital world is a reality for us all. The students in our schools do not know a world without digital. This brings amazing opportunities for communication, for learning and for innovation. Alongside, there are new questions regarding what it means to be a digital citizen and what it means to manage one's own wellbeing.

Our overriding concern in planning this report was to ensure that we honoured the voices of the students in our schools. Their lived experience is what we genuinely sought. The process of gathering data was to listen and to understand rather than to respond.

I wish to thank Beth Kerr, Cognita's Group Director of Wellbeing, who has listened carefully to craft a report that blends the authentic voice of our students alongside the research, evidence and views of experts in the field. We hope that you enjoy reading it and, above all, that it enables you to take action that benefits the students in your care.

Dr Simon Camby
Group Chief Education Officer
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ABOUT THE AUTHOR

Beth Kerr
Group Director of Wellbeing
Cognita

Beth Kerr is the Group Director of Wellbeing at Cognita and an experienced media commentator on the wellbeing of children and young people. She has been responsible for ensuring that Cognita's approach to student wellbeing is proactive and empowering for all members of its community.

Beth believes passionately that wellbeing is neither a privilege nor a lottery ticket, but something that can be influenced by our actions. It is the foundation to learning and thriving and therefore, students must be empowered with the agency to look after their own wellbeing, in school and beyond.

Beth is an accomplished educational leader specialising in pastoral care and wellbeing and a Team Inspector at the Independent Schools Inspectorate. She holds an MSc from UCL in Child and Adolescent Mental Health and is deeply committed to supporting educators and families to improve the wellbeing of young people today.

Beth is particularly interested in adolescent neuroscience, and the way it influences thoughts, behaviour, and actions, as well as the positive and negative impact of digital habits on the physical and mental health of young people.

INTRODUCTION

At Cognita, we take seriously our responsibility to educate and nurture each student, preparing them for the next stage of their education and for a fulfilling life. Our purpose is to enable our students to thrive in a rapidly evolving world.

Digital technology is one of the key catalysts to this changing world, which brings with it opportunities and challenges in equal measure. To support our students as they strive to manage their technology use, rather than be controlled by it, it is critical to explore this topic with students, and through the lens of adolescent neuroscience.

We believe that education is about igniting passions and empowering young people to use their learning to make a difference to themselves and others. Adolescents must be central to any discussion about the impact of technology on their own wellbeing and outcomes, and therefore they were key contributors to this report.

Although the issue of technology is relevant in the discussion of development for children and adolescents, this report will focus primarily on adolescents for three reasons:

1. All members of the Youth Advisory Panels were aged 13-18, and so the perspectives reflected are those of adolescents
2. The neuroscience discussed largely reflects the sensitive period of development from age 10 to 24
3. The report champions digital agency in students, and while agency is something that we would promote from primary school age, typically, adolescents have more freedom and choice around their digital use, making the concept of digital agency even more relevant and important for them

Youth Advisory Panels from the Cognita community were consulted from eight countries across Asia, Europe, Latin America, and the Middle East. In total, over 150 students shared their thoughts and perspective about:

1. What they valued the most about digital technology
2. What they found challenging or wished they could change about digital technology
3. How the adults in their lives could better help them navigate and manage their use of technology

Preliminary discussions with students highlighted that there are times when they didn't/don't feel well understood by their parents or teachers...clearly technology is adapting faster than adult/teenage relationships!

'When I was a boy of fourteen, my father was so ignorant I could hardly stand to have the old man around. But when I got to be twenty-one, I was astonished by how much he'd learned in seven years' – Mark Twain (1940).

Mindful of this, we sought the help of four global experts who share a passion for putting young people at the heart of their work and research, to discuss this question from the 'Re-imagining Digital Wellbeing' project (Harvard Graduate School of Education - Project Zero):

'How can young people inspire their peers to use technology in healthy ways and make digital spaces better for everyone?'

Dr Amy Orben is a Programme Leader Track Scientist at the Cognition and Brain Sciences Unit at the Medical Research Council (MRC), University of Cambridge and a Research Fellow at Emmanuel College, University of Cambridge. She leads the Digital Mental Health programme at the MRC CBU and focuses on how digital technologies such as social media impact mental health.

Amy has won numerous prizes for her research and at both the University of Oxford and the University of Cambridge, she has received nominations for student-led teaching awards.

Further details about Amy's work can be found here:

- Dr Amy Orben
- Digital Mental Health

Dr Carrie James and Dr Emily Weinstein are Principal Investigators at Project Zero at the Harvard Graduate School of Education, where they have worked for over a decade leading research about youth and technology. Their projects focus on the ways social media shapes adolescents' everyday lives, including well-being, civic participation, ethics, and family life.

Drs James and Weinstein are passionate about developing resources to support schools and families in rethinking digital citizenship, including through their long time partnership with Common Sense Education. Emily and Carrie's 2022 book, Behind Their Screens: What Teens Are Facing (And Adults Are Missing), details new insights from research with thousands of teens. This book may sometimes be referred to as 'Behind Their Screens' in the report.

Further details about their work, and link to their book can be found here:

- Dr. Carrie James
- Dr. Emily Weinstein
- Behind Their Screens: What Teens Are Facing (And Adults Are Missing)

Amy Blankson is the CEO Of Fearless Positivity, Co-Founder of the Digital Wellness Institute, and bestselling author of The Future of Happiness. A graduate of Harvard and the Yale School of Management, she's the only person to receive a Point of Light award from two US Presidents. She is also a member of the UN Global Happiness Council, a Fellow of the World Innovation Organization, a featured professor in Oprah's happiness e-course, and a regular contributor to Forbes. Her current work focuses on how to cultivate happiness and well-being in the digital era.

Further details about her work can be found here:

- Amy Blankson
- Digital Wellness Institute

In 2020, Dr Amy Orben wrote an excellent paper titled - 'The Sisyphean Cycle of Technology Panics'. It proposed that attempts to control digital use will always fail due to this cycle in which society becomes alarmed by technology's negative effects, then attempts to regulate it, only to eventually fail, adapt, and move on to the next digital advancement it considers problematic. This cycle undermines the establishment of positive and proactive principles that could inform policy, research and education around technology, as those wanting to help children and young people get caught in a negative trap - pushing that stone up the hill, only to watch it roll back down again.

We hope that our global research project can help drive the movement to stimulate awareness of the power of the digital world, and initiate behaviour change designed to improve overall student wellbeing – now and in the future.

GUIDANCE FOR READING THE REPORT

Given the pace of change in the technology industry, it is important that our approach to developing student digital agency is based on principles, rather than trying to deal with every new app or trend as they come up - in what could perhaps be described as 'little boy with his finger in the dam' style!

While this report will not set out an exhaustive list of principles to follow, these recommendations are designed to help get the most out of it, and in particular encourage an action based response:

a) Consider this general topic through a holistic lens - combining the social, emotional, physical, academic, neurodevelopmental and digital influences congruently

b) Ensure that student discussion and feedback is always a meaningful part of any discussion around this topic

c) Prioritise a multi-disciplinary approach - striving for alignment between those who work with, care about, and profit from the attention of adolescents. To do this, there needs to be an intentional strategy to facilitate it - it will not happen by chance

d) The themes raised are complex, and there is no one silver bullet, but the answers lie within humanity, and humanity starts with the individual. With that in mind, reflect on the children or students in your life, consider the provocations that resonate the most as you read, and commit to taking some action

EXECUTIVE SUMMARY

The global penetration of digitalization has revolutionised the way we communicate, learn and live. Its impact is profound for children and young people.

It is incumbent upon the adults in their lives to support them to develop digital agency to optimise the benefits and minimise the challenges of technology.

This report explores how students themselves can help educators, parents, and technology firms do this and does so through the lens of the adolescent brain and the neurobiology of social emotions.

In this research, there were five key themes which emerged through discussion with the Youth Advisory Panels and in the interviews with the global experts.

1 Homogeneity relating to perception and use of technology by adolescents and adults

There was global unity in the response trend by students across all three questions, and their lived experiences with digital technology transcended culture, language, and geographical location

- Technology is intricately woven into the fabric of their lives – students do not see life divided into 'online' and 'offline' worlds
- A shared empathy about digital experiences between members of the Youth Advisory Panels across the different countries
- A unified sense that there is a distinct gap between how adults and students perceive, use, and feel about digital technology

2 Sophisticated self-awareness of the challenges relating to individual and peer digital use

Insightful, honest, and humorous cognisance of the difficulties in overcoming these challenges

- Acute self-awareness relating to the students' own difficulties with managing digital distractions
- Light-hearted self-deprecation in relation to over-dependence on technology was a theme across the discussions
- A common sense of helplessness that being aware of any detrimental impact of their technology use on their wellbeing and learning was not enough to initiate or maintain behaviour change

3 Value of understanding adolescent neuroscience to increase digital agency

Students feel empowered to better manage their tech use by understanding how the structure and development of the adolescent brain is vulnerable to digital over-dependence through persuasive design methods

- Feelings of guilt are reduced, as this knowledge gives them a context and language to understand their 'irrational' online behaviour or actions
- Students felt reassured that the issues they were facing were not individual to them, but relevant to students globally – perhaps because neurologically, brains are structurally very similar, wherever you are in the world
- This understanding gave students the digital agency to build better habits around their tech usage, and led to conversations about the science behind habit formation

4 Communication between adults and adolescents inadequate to support digital agency

Students are motivated to develop digital agency and want help – but are wary of asking for it due to a perceived gap between the lived experience of being an adolescent and that of an adult

- Overreacting and oversimplifying by adults dissuades young people from asking for help
- Students appreciate talking and being listened to but 'why did you do that?' and 'when I was your age' are alienating and unhelpful questions or comments
- Role modelling is powerful, but students find pious lectures from adults who do not practice what they preach (often under the 'excuse of work') irritating and ineffective
- 'Online safety', 'E-Safety' assemblies, or lessons were not recounted favourably and there was a unanimous feeling that education around digital technology would benefit from more student input and design

5 Disappointment in technology's prioritisation of profits over wellbeing for children and young people

A frustration with social media and technology companies for their lack of ethical and moral consideration for the wellbeing of children and young people during the persuasive design process

- The age verification system is 'a joke' – but if it could be made a little less easy to circumnavigate, then this would delay access to sites that are unsuitable or unsafe for many (acknowledge not all) children
- Students felt that they are blamed for mistakes they make online and tech companies bear no responsibility for their carefully targeted, extensively funded systems that promote impulsive posting and sharing
- There was open and honest acknowledgement of the difficulties students themselves have in moderating the amount of time they spent online. This was in stark contrast to the lack of transparency by the big tech companies about how fundamental adolescent neuroscience is to their persuasive design process
- There was an unease about the role of AI in media manipulation and targeted advertising, accompanied by a helplessness and confusion about how to challenge it

QUESTIONS TO PONDER AND SOMETHING TO TRY

To develop and maintain a good relationship, we need to communicate and empathise with the other person in it. It is very much a journey, rather than a destination. Something fluid that is impacted not only from how we and they feel, think and act within the relationship, but also by external influences.

It is important to assess how our relationships make us feel, and be selective, and proactive with our most precious commodity – our time - when choosing who we spend it with.

Our relationship with technology might benefit from a similarly mindful approach. These questions are intended to prompt further thought and consideration of the key themes, some on an individual level, and others on a wider societal one.

We hope that considering them before delving into the more in-depth and separate analysis of each theme, and then revisiting them afterwards, will help generate thoughtful and stimulating reflections.

The terminology in the structure is inspired by a recent report by RSAcademics, and divides the provocations into ‘questions to ponder’, and ‘something to try’.

1 Homogeneity relating to perception and use of technology by adolescents and adults

Question to ponder

- How can adults resist the urge to refer to and treat technology like a 'different world'?

Something to try

- Create structures and systems within education that promote regular discussion between groups of students across the world about how to develop digital agency in children and young people
- Share the outcomes of these discussions with adults to align perceptions and use of technology

2 Sophisticated self-awareness of the challenges relating to individual and peer digital use

Questions to ponder

- Do we underestimate adolescents' ability to self-assess what is challenging to their own wellbeing and learning?
- Would the digital adolescent flourishing survey (below) be a helpful tool for them to develop this ability?

Link to survey

Something to try

- Could schools and families teach students the science behind habit building to help them establish healthy digital habits, and break unhealthy digital habits, that they themselves had identified as helpful or unhelpful to their goals or ambitions?

3 Value of understanding adolescent neuroscience to increase digital agency

Question to ponder

- Do we as adults caring for and working with adolescents, understand the key pillars of their neurodevelopment that have such powerful effects on their thoughts, feelings, and behaviour during this period?

Something to try

- Could schools include a module in their pastoral or advisory programme that explained adolescent neuroscience and its implications to their students?
- Could this be shared with families?

4 Communication between adults and adolescents inadequate to support digital agency

Questions to ponder

- Could we as adults honestly appraise our own technology use and be more aware of aligning what we say to what we do?
- Could we ask our students or children how they would like us to respond if they need help following a digital 'incident'?

Something to try

- Could schools establish Digital Youth Advisory Panels who have real responsibility to co-create assembly material around digital technology and student wellbeing?
- Could we work with young people to assess what they want an assembly or lesson to provide? For example - is it information? Or is it to feel more empowered to take control of their digital use? Or for some hacks that can help them better manage their digital use?

5 Disappointment in technology's prioritisation of profits over wellbeing for children & young people

Questions to ponder

- Can we work with our students to pause before posting – from a young age, so that it becomes an embedded habit?
- How can schools and families put pressure on technology companies to integrate the 'pause' option, known in the trade as 'friction', in their platforms for children and adolescents?

Something to try

- Share with students the Center for Humane Technology's work who expose the science that underpins the persuasive design process for children in a helpful Youth Toolkit. Find out more about the Youth Toolkit here
- Given that students' sleep is detrimentally impacted by online interruptions to it, and that children are less likely to make decisions they are happy with when they are tired or half asleep, work with your child to establish a no phones in bedroom overnight habit

KEY THEME 1

Homogeneity relating to perception and use of technology by adolescents and adults

There was global unity in the response trend by students across all three questions, and their lived experiences with digital technology transcended culture, language, and geographical location

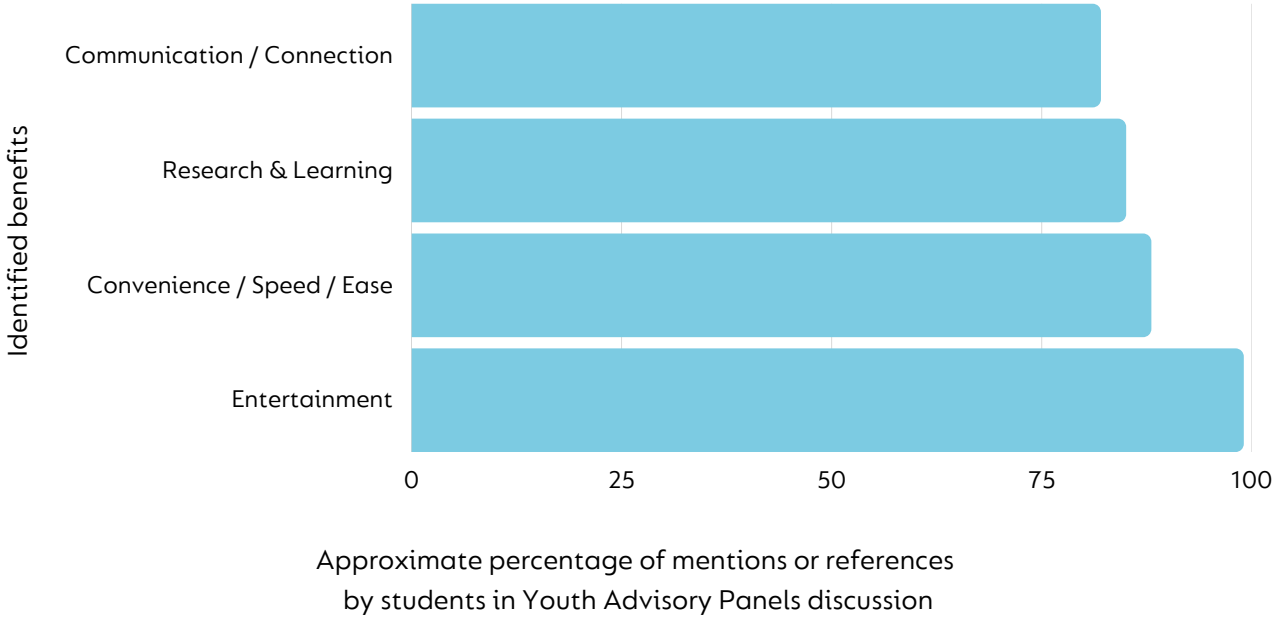
- Technology is intricately woven into the fabric of their lives – students do not see life divided into 'online' and 'offline' worlds
- A shared empathy about digital experiences between members of the Youth Advisory Panels across the different countries
- A unified sense that there is a distinct gap between how adults and students perceive, use, and feel about digital technology

The 'online' v 'real' world is a debate that causes eye-rolling from Gen Z. This is the generational cohort following millennials, born between the late 1990's and early 2010's. Notably, they are the generation that has been immersed in technology since they were born, as of course are Gen Alpha (the ensuing generation, born from late 2010 to date). Therefore, all students in schools have not known a 'different' world, so it is little wonder that they appear exasperated by the distinction. It stands to reason that beginning debates like this does not set the tone for productive and open conversation.

Given that the Youth Advisory Panel members spanned four geographical regions, attended different schools, spoke a range of languages and were growing up in diverse cultures, they were all able to relate with ease to each other's experiences online. Indeed, of all the challenges they raised, there was only one that was not repeated in some way by other groups, which was - 'It excludes old people'. For clarification, the student was thinking about his grandmother when he spoke about 'old people'. He explained how technology made her life harder, for example, when she was trying to pay for parking and the only way was through a parking app.

The top four benefits of digital technology, as listed by the number of times they were mentioned by different students, were remarkably similar and are shown on the next page.

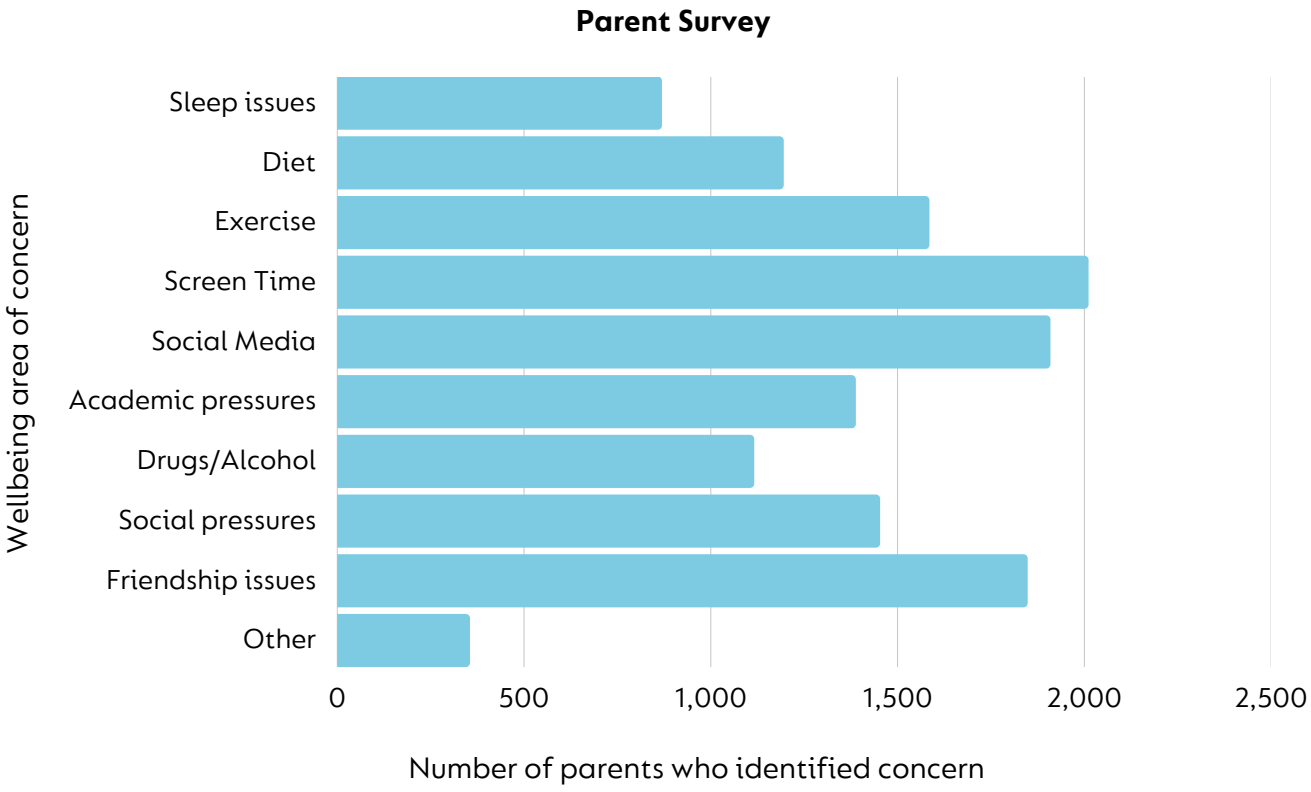
Indicative benefits identified by students in Youth Advisory Panel discussions



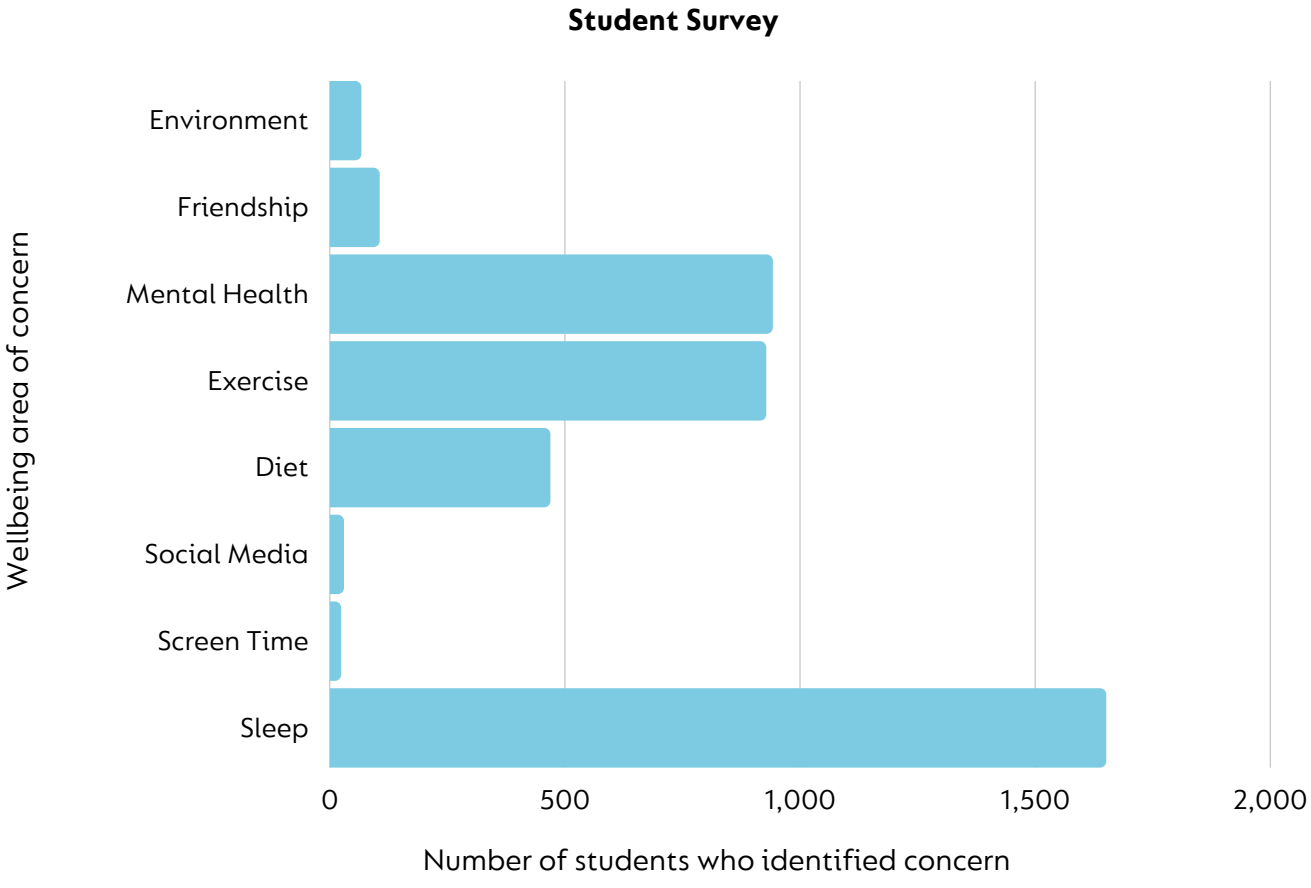
Interestingly, in all groups, students led with communication/connecting with others, then – pleasingly for parents and teachers - how it enhanced and increased opportunities for learning, followed by how easy and convenient it made life (Google Maps, Weather App and Amazon Prime were all mentioned). It was only after prompting that the students acknowledged that they used, and loved, its entertainment offerings. When asked if they had just 'forgotten' about it or if it was a conscious decision, many of them expressed that, for adults, the entertainment element was often portrayed as a negative, indicative of time wasting or mindless activity, and so were reluctant to lead with this benefit.

This highlights the keen sense expressed by all panels, regardless of country or culture – that adults and adolescents were not aligned in their views around digital technology. This is expanded further in theme 4.

It is also supported by two global surveys conducted by Cognita. One was by parents in 2019, following its first Global Be Well Day – a day entirely focused on wellbeing in every school. The parents were asked about the issues they worried about the most for their children's wellbeing and wanted to be tackled on the day. Across the regions – Asia, Europe & Latin America (Cognita did not have schools in the Middle East at the time), the top two concerns in every region were- Screen Time & Social Media.



Contrast this with a Voice of the Student survey conducted in 2022, which asked students about the key wellbeing issues for them, summarised, below:



Screen time and social media do appear, but out of 15,169 students who added verbatim, only 29 students mentioned screen time, and 23 students mentioned social media. A stark contrast in the things that parents and students believe threaten their wellbeing.

It is not clear yet whether students are convinced of the relationship between their number one concern – sleep, and use of technology at night. A systematic review and metal-analysis, titled 'Association between portable screen-based media device access or use and sleep outcomes' (Carter et al 2016), asserted strong, consistent evidence of an association between bedtime access to or use of electronic devices and reduced sleep quantity and quality in children with a mean age of 14.5, as well as increased daytime sleepiness. It concludes that:

'An integrated approach among teachers, health care professionals, and parents is required to minimize device access at bedtime, and future research is needed to evaluate the influence of the devices on sleep hygiene and outcomes' - Ledger of Harms · The Next Generations (humanetech.com)

To triangulate the conversation between schools, students, and families, and to see if parents felt that there was: 'a distinct gap between how adults and students perceive, use, and feel about digital technology', we also consulted a selection of our parents from Cognita schools in the Middle East, Spain and the UK.

It is fair to say that parents' views had been coloured somewhat by their children's learning experiences during Covid. They felt that overall, technology had been used very well by the schools to enable learning and increase their children's confidence and independence in using technology. One example a mother gave was of finding out that her 10-year-old daughter, a talented tennis player, had been researching her opponents in-depth before a tennis tournament, by watching videos of them and analysing their match statistics to enable herself to be as prepared as possible.

Parents also reported awarding 'tech time' as a highly coveted reward that could be used as an effective motivation tool – or conversely reducing or withdrawing it to deter or sanction against unwanted behaviour. They acknowledged that negotiating tech time however, was often a source of conflict.

While parents did mention concerns about meeting or being influenced by nefarious online 'strangers', their concerns around over-use and over-reliance on technology aligned with that of the Youth Advisory Panels, perhaps indicating that the 'gap between how adults, students, and families perceive, use, and feel about digital technology' is not quite as significant as students think.

KEY THEME 2

Sophisticated self-awareness of the challenges relating to individual and peer digital use

Insightful, honest, and humorous cognisance of the difficulties in overcoming these challenges

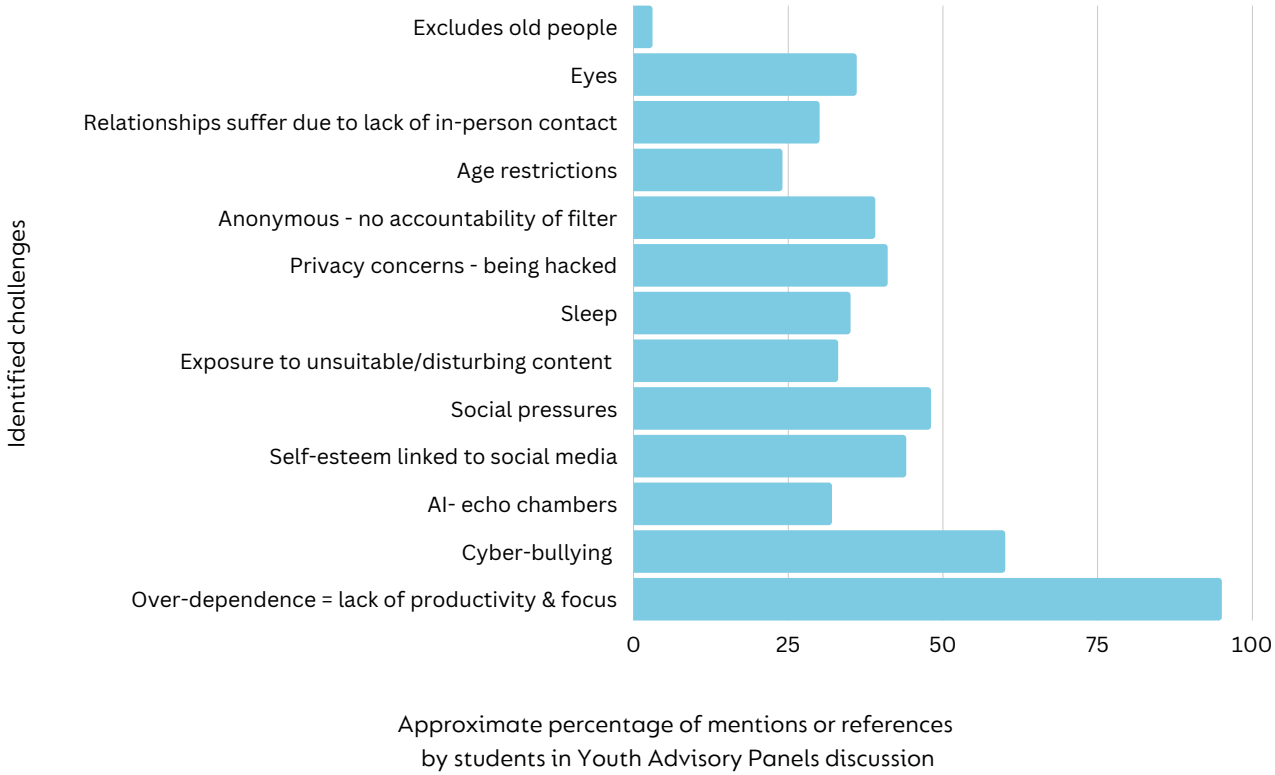
- Acute self-awareness relating to the students' own difficulties managing digital distractions
- Light-hearted self-deprecation in relation to over-dependence on technology was a theme across the discussions
- A common sense of helplessness that being aware of any detrimental impact of their technology use on their wellbeing and learning, was not enough to initiate or maintain behaviour change

There were a broad range of issues identified by the students in response to the question:

'What are the challenges of technology?'

Distinct and common key themes emerged across the regions:

Indicative challenges identified by students in Youth Advisory Panel discussions



The top three issues were:

1. Over-dependence, which they felt impacted their productivity and focus (TikTok was mentioned in every region in relation to this)
2. Cyber-bullying was commonly referenced, especially with students aged 13-16
3. Social pressures and self-esteem issues were acknowledged by all the girls as a problem, and although the boys did empathise to a degree, there was a gender divide in terms of reported experiences

'Stranger danger' was not raised once.

Students were very open to share experiences of when they had intended to spend a short amount of time online, and then realised they had 'wasted' considerably longer! It seems that persuasive design techniques are most successful, and it is ironic that students are initially lured into watching a short video on Tik Tok, YouTube Shorts or Instagram reels, but then end up spending as much time online as they would have watching a long film!

The Youth Advisory Panel in Spain first brought up the power of TikTok – 'I hate TikTok – but I just can't stop watching it!', said one 17-year-old boy, to sympathetic laughter from his peers. When this was recounted to students in Brazil, Chile, the UK and Asia, they all laughed in exactly the same way and shared a similar love/hate relationship with the platform. This was also replicated in Dr James and Dr Weinstein's research from America:

'The app TikTok runs my life' she reflected. 'I can sit there for hours on end just scrolling through this app…I can't even count how many times I have fallen asleep on TikTok. It has taken over my life' – Brynn
Source: Behind Their Screens – What Teens are Facing (And Adults are Missing). Chapter 2

Students were totally honest about their over-dependence on their phones and the majority couldn't imagine being parted from them, despite an intuitive understanding that they impacted their focus and concentration. They had not quite appreciated however, the real time cost of 'multitasking', and were shocked by the findings of a University of California study that found it takes 23 minutes to refocus after an interruption. Debunking the concept of multitasking was a prompt for some useful discussions between them about ways they could minimise distractions, with students sharing tips that had worked for them.

Media multitasking is also something that Tristan Harris and the Center for Humane Technology has been researching, citing on their website studies like this one, titled 'The cost of interrupted work: More speed and stress' (Irvine n.d.). It found that after tracking more than 800 adolescents across time, the degree to which young teens (aged 11-13 years old) multitasked was a significant predictor of attentional problems 3 months later ($p < 0.05$), highlighting the potential impact of distracting digital environments on young teens' development.

Students were also very honest about their conformity to social media trends, and one excellent example of this was SnapChat streaks and SnapChat scores - a public and stark measure brutally reinforcing the notion that the more you streak, the better/more popular you are. When talking about SnapChat streaks, one boy said, 'It's trained us so well though Miss, it's really hard to break away'. As we continued to talk, we drew parallels between the hold the streaks have over them, and the hold the wish not to appear stupid had over the King's people, as he paraded naked through the town in the Hans Christian Anderson's folktale – 'The Emperor's New Clothes'. Although the students knew deep down that keeping a streak was not an indication of how good a friend a person was, they didn't want to be the little boy in the fable who called out, 'But the King is not wearing any clothes!'.

This of course is totally understandable when we consider teenagers' evolutionary and neurodevelopmental drive towards their peers. SnapChat streaks have been perfectly and effectively designed with the adolescent brain in mind.

They had not quite appreciated however, the real time cost of 'multitasking', and were shocked by the findings of a University of California study that found it takes 23 minutes to refocus after an interruption.

Finally, students expressed concern about the impact of cyber bullying on their generation, how easy it is to do, and how hard it is to stop. The protective shield of anonymity and the lack of support from the big technology companies led to feelings of resignation that nothing could really be done. This will be expanded in the discussion on Theme 5.

There was an overall sense of helplessness about the likelihood of being able to effect change in their digital habits; just knowing, and not liking the fact that they use a platform too much was clearly not enough to help them change how or how much they used it.

KEY THEME 3

Value of understanding adolescent neuroscience to increase digital agency

Students feel empowered to better manage their tech use by understanding how the structure and development of the adolescent brain is vulnerable to digital over-dependence through persuasive design methods

- Feelings of guilt are reduced, as this knowledge gives them a context and language to understand their 'irrational' online behaviour or actions
- Students felt reassured that the issues they were facing were not individual to them, but relevant to students globally – perhaps because neurologically, brains are structurally very similar wherever you are in the world
- This understanding gave students the digital agency to build better habits around their tech usage, and led to conversations about the science behind habit formation

The structure, function, wiring and capacity of the adolescent brain is wonderful.
During this period which connects childhood to adulthood, the brain goes through a distinct, dynamic, and protracted phase of development; some of the main changes are highlighted in the simple table below, adapted from this important book 'Inventing Ourselves – The Secret Life of the Teenage Brain' by Sarah Jayne Blakemore 2018.

Part of the brain developing	What it relates to
Pre-Frontal Cortex	• High-level cognitive and executive functions including: • Decision-making • Planning • Inhibition of inappropriate or risk-taking behaviour • Social interaction – understanding other people • Self -awareness
Temporal Cortex	• Language • Memory • Social understanding
Parietal Cortex	• Planning movements • Spatial navigation • Multi-sensory processing
Posterior Hippocampus	• Inhibition of inappropriate or risk-taking behaviour • Self -awareness

The key feature of this brain development is the innate drive to seek independence away from their caregivers, and towards their peers. During this time, adolescents are extremely susceptible to social input and although teenagers have a reputation for risk taking, this does not apply in social contexts. Indeed, they are so averse to social risk (for example - something that would result in exclusion or embarrassment in front of their friends), they would often rather take a physical risk or get into trouble with an adult.

We also know that from birth to early childhood, synapses multiply in a process called synaptogenesis, but as children progress into adolescence - 'which synapses remain and which are eliminated depends at least in part on environmental experiences; synapses that are not used are eliminated in a process called synaptic pruning' - Sarah Jayne Blakemore – Inventing Ourselves – The Secret Life of the Teenage Brain. Chapter 4.

Evidently, how the brain develops is intricately linked to what we do and pay attention to. It is, therefore, perhaps little wonder that headlines and data around teenagers' screen use elicits panic in the adults who care about them:

'The combined time that the world spends using social medial now adds up to more than 1 million years every day' – DataReportal

'On average, 8- to 12-year-olds use about five and a half hours of screen media per day (5:33), while 13- to 18-year-olds use about eight and a half hours (8:39)' – Pew Research Centre

'In the next decade, we may see more young people who know just the right emoji for a situation - but not the right facial expression' – Jean Twenge, author of I-Gen

Given the relationship between what Sarah Jayne Blakemore calls our 'environmental experiences' and our brain development, it is important that we are discerning and intentional about how we craft those experiences for our children. However, in considering the role of technology in that process, it would be far more effective if we did it with our children, rather than just to them. The use of digital technology is something they will need to be able to manage throughout their lives, and they should understand the basis of child-centered ethical concerns about using developmental neuroscience as the building blocks for persuasive digital design.

In our Youth Advisory Panel discussions, we discussed how these key changes during this sensitive period in brain development might help explain some of their digital technology use in practical terms:

Neurodevelopmental changes	How this might translate to our actions online
Peer influence	• SnapChat streaks • Working out what the 'right amount of time' is to read and respond to a message • Photoshopping themselves • Feeling pressurised to have thousands of friends on social media platforms • Sharing photos they didn't want to • Liking or commenting on every post – even if it felt meaningless • Lying to parents/teachers to avoid getting phone confiscated • Getting involved in community or charity projects • Finding a like-minded community • Being inspired to be healthier/nicer by friends or influencers • Picking up style inspiration
Reward/Risk Taking	• Taking or sharing an explicit photo • Lying to parents/teachers to avoid facing consequences of actions online • Gaming • Cyber-bullying – often anonymous • Online shopping • Setting up one's own business • Speaking out against the 'popular one'
Synaptic Pruning	• Losing interest in old pastimes, because they are not as exciting as gaming or social media scrolling • Picking up new skills quicker than adults • Building healthy habits that will be easier to keep for life • Building unhealthy digital habits more easily and finding it difficult to break them • Learning how to treat people from watching or being treated that way personally • Feeling that social media has the ability to take up so much of one's headspace because it is inescapable

Our expert panellists – Dr James and Dr Weinstein - lead the way in gathering real student experiences in this field and their book, 'Behind their Screens – What Teens are facing (and adults are missing)', brings to life some of the examples from the table on the previous page.

Although having an in-depth neuroscience lesson was beyond the scope of the discussions for this study, even just a brief overview of the developmental changes to the brain was reassuring to students and helped them make better sense of what had previously been something they felt confused or even ashamed by. It also explained why there was such unity in their experiences, regardless of where they came from. In the same way, they would all respond similarly to physical exertion because their bodies work in the same way (heart rate, breathing rate, temperature increasing etc), their responses to wanting more 'likes' on social media for example, would also be similar because their brains are wired in the same way (in this case, driving them to seek peer approval).

There was certainly an appetite among the students to learn more about their own brains – and it seems that while adults are diligent about teaching their children about their own bodies, the brain is a neglected area. Given its influence not only on how we use technology, but also on how we learn, how we form relationships and how we live, it is perhaps one that should be considered a standard part of education - for students, teachers, and families.

Although having an in-depth neuroscience lesson was beyond the scope of the discussions for this study, even just a brief overview of the developmental changes to the brain was reassuring to students and helped them make better sense of what had previously been something they felt confused or even ashamed by.

KEY THEME 4

Communication between adults and adolescents inadequate to support digital agency

Students are motivated to develop digital agency and want help – but are wary of asking for it due to a perceived gap between the lived experience of being an adolescent and an adult

- Overreacting and oversimplifying by adults dissuades them from asking for help
- Students appreciate talking and being listened to but 'why did you do that?' and 'when I was your age' are alienating and unhelpful questions or comments
- Role modelling is powerful, but students find pious lectures from adults who do not practice what they preach (often under the 'excuse of work') irritating and ineffective
- Online safety, E-Safety assemblies, or lessons were not recounted favourably and there was a unanimous feeling that education around digital technology would benefit from more student input and design

There was a general sense across all the Youth Advisory Panels that adults needed help to enable them to look at technology in a more nuanced and diverse way. The students expressed doubt that the parents could possibly give credible advice because 'they didn't grow up with it' or 'they haven't been there' and tended to jump to conclusions and 'always blame the phone'.

Online safety, E-Safety assemblies, or lessons were not recounted favourably and there was a unanimous feeling that education around digital technology would benefit from more student input and design

They discussed the way parents might react if they had 'made a mistake' on their phone and how this was disproportionate to other transgressions. For example, if their parents told them not to eat the sweets while they were gone... but they did, they imagined that they might be banned from eating sweets for a week/month etc. They guessed that they would not be banned from eating all food! However, if they made a mistake on Instagram or on WhatsApp, then the likely punishment would be to have the phone completely confiscated – not just prevented from using the offending app.

'Phones are not the root of every problem you know' was a sentiment shared by a number of students, and the phrase 'it depends' on was a common one in all discussions, highlighting the complexity of their relationship between technology, wellbeing and learning.

It is also fair to note that given how integral phones are to communication and learning, we should consider the position of the 5Rights Foundation (Founder Baroness Beeban Kidron), who believe that:

'Children's and young people's rights are balanced and multifaceted, entitling them to both autonomy over their own lives and development, and to participation in society more broadly. In an interconnected world, if children and young people's rights are not upheld in one environment, they are denuded in all environments.'

In part because of their campaigning, in 2021, the Council on the Rights of the Child adopted a general comment (no.25) on children's rights in relation to the digital environment:

'Its adoption makes explicit – for the first time – that children's rights apply in the digital world'.

Students also felt that while their digital use was often the focus of their parents' concern, parents themselves struggled to develop healthy digital habits, but were not open about it. Data cited from the Digital Wellness Institute supports their suspicion:

'In 1991, the average daily media consumption for an adult (non-work related) was 20 minutes. In 2021, it was 3 hours 59 minutes'

Dr James and Dr Weinstein's book has taken an approach to parental advice that the students in our discussions supported and felt would promote better conversations between children and adults around digital technology. Instead of bombarding parents with technological details about different apps or trends (which everyone acknowledged changed so quickly anyway), they take a more principled approach, which has its foundations set in developmental science. On the next page are excerpts from their book 'Behind their Screens', which summarises some of their parental advice:

Empowering Digital Agency in Adolescents

Conversation Keys

''No matter what your role, empowering digital agency may seem like a tall order. Even if you are on board with the mission, implementing a new approach is hard – whether it's disrupting parent-child dynamics at home or reworking deeply entrenched school procedures for digital mishaps. But there are a few guiding principles that parents can take on board, that have been repackaged in the form of memorable "keys" to better conversation with teens about tech.'

- Asking over assuming – research shows a profound shift when adults ask and listen. Open-ended questions are especially generative e.g. 'What's your view of TikTok? What's great about having Snapchat and what can get tricky? How do you decide who to follow on Instagram? What do you wish I understood about gaming?
- Empathy over eye-rolling – it's crucial to pause knee-jerk judgements because compassion is so often warranted. Move away from 'they must not be thinking' and become more attuned to what they are thinking about – often a web of social pressures from multiple sources
- Complexity over commandments – teens often face situations where values we want them to hold are in direct tension with one another. For example – if a friend asks for an honest opinion on an anonymous app, should you respond honestly, even if it might hurt their feelings? Should honesty be prioritized over kindness or vice versa? These tensions - and the resulting lack of a clear cut/right or wrong path - are characteristic of the digital landscape. In this context, commandments like 'be honest,' 'be a good friend' are important but alone provide insufficient guidance for the dilemmas facing teens
- Normalising without minimizing – understanding that when teens hear that their challenges are shared by others, it both normalizes and validates their struggles. An example of minimizing might be – 'Ahh this happens to everyone, you just have to get used to it'. Normalising without minimising might sound like – 'That happens to me too, and it's such a struggle with social media, really hard'
- Normalising without essentialising – recognizes that while adolescents have commonalities by virtue of being adolescents, their experiences are powerfully shaped by their identities and contexts. Acknowledge both shared aspects of teens' experiences and the real differences among them.

This is an excellent book that supports parents and educators explore the complexities that teens face in their digital lives.

The students themselves also had some excellent suggestions for adults to better support adolescents, which are highlighted in the table below. The term 'they' is how the Youth Advisory Panel members referred to adults.

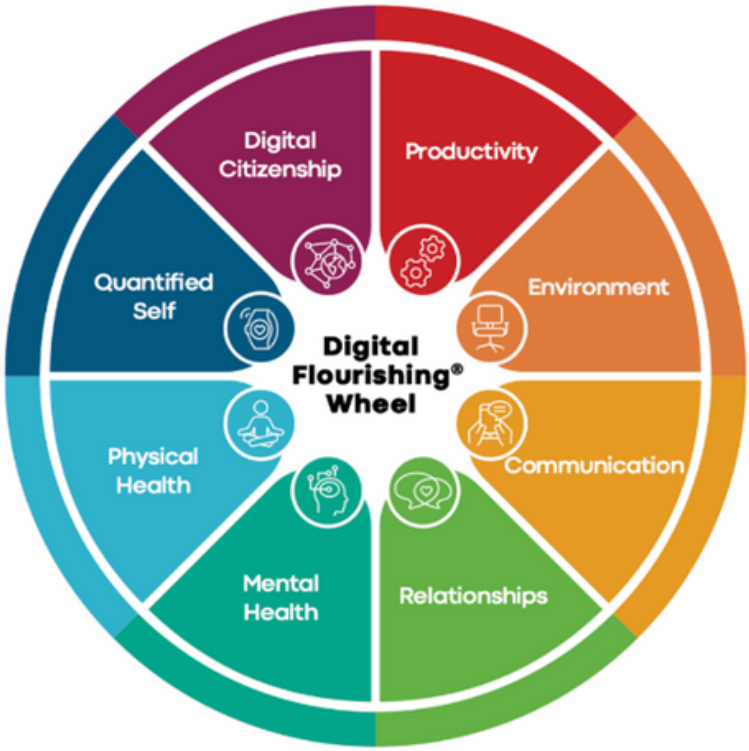
Theme	Suggestion
Privacy	'No snooping – privacy is really important' 'There is fine line between privacy and safety, and they sometimes overstep the mark. You can't trust them if they snoop, and you're not likely to talk to them' 'Privacy and exposure - help with this don't lecture'
Boundaries	'It's helpful if parents insist on not having it (the phone) in the bedroom. It's too hard to stick to it yourself'
Knowledge & understanding	'Research technology - they haven't got a clue, so try to understand it first. Don't be closed minded, understand it' 'Learn how to use it properly and have useful advice - e.g. how do I delete this photo? Not 'why on earth did you post it?'. That's not helpful!' 'Maybe do a course! Learn the principles behind the platforms if not the exact details of every app – like what is it for, posting pictures, communicating etc' 'Sometimes they just lump everything together and don't understand the different parts of what the phone does' 'They didn't grow up using tech so how can they give advice. They haven't been there, and they assume they know, or assume we're lying, which is the worst' 'They always blame the phone like it is one thing, not a platform to do many things'

Theme	Suggestion
Knowledge & understanding (continued)	‘Listen to children and know that for most of your questions, the answer is - 'it depends' - it's not the same answer to every problem on tech! ‘They never start with the positives and tech is mainly positive’
Communication	‘It's hard for them to understand our communication with each other - there's different way of talking to different people and if you take it out of context, it sounds worse than it is’ ‘Do not talk about ‘stranger danger’! ‘Start with the positive – it’s never like that, it’s always all the terrible things…that are not even terrible, they just exaggerate them’ ‘Look at the phone in terms of what it allows e.g. listen to music, connecting etc - not all bad’
Relationship forming	‘Make sure you create relationships with your kids when they are younger. It is harder when they are teenagers but if they trust you already, it's better’
Role modelling	‘Parents also get distracted themselves - they're terrible role models!’

The sense that adults didn't really understand how to help students extended to their recollections of school assemblies or lessons on the dangers of being online. Again, experiences were incredibly similar, and, in every group, there was eye-rolling and laughter when they spoke about any presentation titled something like 'E-Safety/Online Safety'. They appreciated that their schools cared about them and wanted them to be aware of any potential threats to their safety, but felt strongly, that lessons had in the past been pitched wrongly – in terms of expertise and presentation. More recent lessons from Common Sense Education moves away from this very negative starting point and is an excellent, balanced, and relevant curriculum that many of our school now use and one we would highly recommend.

One of the issues that the students highlighted in both the column giving advice to adults on the previous two pages, and the E-Safety assembly discussion, is that there is an automatic initial focus on the negative when educating students. This is something that was a key stimulus for our expert guest Amy Blankson when conceptualising the Digital Wellness Institute with her co-founder Nina Hersher - to drive a more positive approach towards digital agency. Instead of starting by looking at the harm technology can cause to various aspects of our lives (physical health, mental health, productivity etc), they began by focusing on how it could enhance these things, how could it be linked with wellness.

This is visually represented below as the 'Digital Flourishing Wheel':



Linked to this, is a validated adolescent survey called the Digital Flourishing Scale, which is designed to measure positive digital communication behaviours in adolescents (11-20 years of age) across devices, applications and channels of communication. Co-Founder of Digital Wellness Institute- Nina Hersher, explains that it was created to 'supplement and counterbalance the growing research base of unintended consequences from our digital device use and their negative impacts on our lives'. A range of students from the Youth Advisory Panel completed the scale before our interviews and found the nuanced and positive tone of the scale helpful and refreshing, thinking it would lead to productive and empowering conversations around their own tech use. The link to this scale can be found in the references section.

Finally, the effectiveness of peer-to-peer teaching is well documented. Sarah Jayne Blakemore is always keen to highlight that peer influence can lead to prosocial behaviour, and that studies document its efficacy in anti-bullying and healthy eating campaigns; indeed, it was something the students felt would work especially well with this topic. Involving students in the design and implementation of education programmes around digital agency would reinforce the key principle that students themselves need to take ownership of their own digital habits. The learning should not be a passive process, but one where students are confident in applying what they have learnt to their day to day lives.

Involving students in the design and implementation of education programmes around digital agency would reinforce the key principle that students themselves need to take ownership of their own digital habits.

KEY THEME 5

Disappointment in technology's prioritisation of profits over wellbeing for children and young people

A frustration with social media and technology companies for their lack of ethical and moral consideration for the wellbeing of children and young people during the persuasive design process

- The age verification system is 'a joke' – but if it could be made a little less easy to circumnavigate, then this would delay access to sites that are unsuitable or unsafe for many (acknowledge not all) children
- Students felt that they are blamed for mistakes they make online and tech companies bear no responsibility for their carefully targeted, extensively funded systems that promote impulsive posting and sharing.
- There was open and honest acknowledgement of the difficulties students themselves have in moderating the amount of time they spent online. This was in stark contrast to the lack of transparency by the big tech companies about how fundamental adolescent neuroscience is in their persuasive design process
- There was an unease about the role of AI in media manipulation and targeted advertising, accompanied by a helplessness and confusion about how to challenge it

Age verification

The students had no sense that technology companies were concerned about their wellbeing at all, and indeed would always look to blame them (the child) when things went wrong –'It's our fault for lying Miss'. They said that there was no way back once they'd lied about their age when they first encountered social media, as a 10/11-year-old, as the platforms would not allow you to change your age and so you would continue to be exposed to age-inappropriate content throughout your teens, but be helpless to do anything:

'Age restrictions are a joke - it's just a tick box. No-one reads the T&C's and then you can't change your date of birth once you've lied about your age on TikTok and Insta'.

We discussed the difference between the accountability for checking a child's age online, versus in a shop selling alcohol or cigarettes for example. The child must take responsibility online, but in a store, it is the shopkeeper's responsibility to check that a child is old enough to drink/smoke. Almost 100% of the panel members had signed up to a communication platform before they were officially allowed. Their justification was clear – it was the main way everyone their age communicated. Not joining would have been socially isolating, which we know is hugely damaging for adolescent development.

Impulsive posting and its consequences

If we revisit the key features of adolescent neuroscience, one of them is an increased propensity to risk take and another, a higher sensitivity to reward. These are not always bad things, although can often be portrayed as such in the media and linked only to dangerous risk taking, rather than for example, setting up your own business, or expressing a different view to the status quo. However, when we consider that the amygdala, our emotional response centre in the brain, develops far earlier in childhood than the pre-frontal cortex, which controls our executive functioning, rational decision making and impulse control, it is not difficult to see how having the power to share instant emotional thoughts online with thousands of others in one's hand, 24 hours a day, may not be in the best interests of adolescents.

Several of the students recounted experiences when they had posted something online that they regretted, feeling that it led to being left out - 'it's like cancel culture' (when students feel ostracised from their peers following some online activity), or 'you're just excluded if you say something you regret – there's no way back'. These examples chime with those from our experts' book - Behind Their Screens: What Teens Are Facing (And Adults Are Missing) Chapter 7.

- 'If you post one thing on social media, you can't get it back. If you mess up, you can't get it back (16-year-old)
- 'Things I've said in the past don't define who I am now' – (high school student)

Discussing examples like this with the students highlighted how much they could relate to them. There was a palpable sense of empathy as I recounted experiences from one group of students to another, with lots of nodding, rueful smiles, and comments like - 'totally get that', 'been there!'.

Although there are attempts by leading figures in technology to change the system that is, in their words 'designed to capture and monetize our attention, creating disastrous consequences for our wellbeing, our relationships, democracy, and our ability to solve important problems;' - Tristan Harris (Center for Humane Development), as yet their influence has not penetrated sufficiently to see real changes in the design of platforms aimed at adolescents. One tech entrepreneur recalled creating a piece of software that was able to pick out phrases or words that may be damaging to either the young sender or young recipient on a big social media platform. It acted by delaying the post by a few minutes and asking if they wanted to reconsider sending the post, to temper the very natural adolescent tendency to be more impulsive (especially in the presence of peers), but still allowing the freedom to write what they wanted. They offered this technology for free, but the tech company did not want to engage with anything that might introduce friction into the user experience – regardless of their age.

This principle of adding in friction builds on the science of habit building, which we know is so effective at making desirable habits and breaking undesirable ones (James Clear – Atomic Habits, Chapter 12. Tristan Harris and Frances Haugen (an American data engineer and scientist, product manager and whistle blower) in a recent podcast, wondered in exasperation why, when Facebook's own research showed that simply taking away the share button would decrease mindless and impulsive posting and allow users to be more thoughtful and intentional, they did not consider it. Instead, they opted to continue to spend 'a billion dollars on content moderation and other trust and safety initiatives', which speaks volumes about the value of the attention economy.

Attention and peer approval

The key area that almost all students identified as problematic, was their inability to moderate the amount of time they spent on various social media platforms. Tik Tok, YouTube, Instagram and SnapChat streaks were highlighted specifically, but it is worth considering whether vilifying any one platform is something of a red herring. Instead, if we look at what the platforms have in common, it is how key developmental changes in the adolescent brain informs the way they maximise engagement with their product.

We have already described the innate drive to pursue independence during adolescence, and that seeking approval from and belonging to peer groups is of fundamental importance. Mobile phones as the conduit for communication via a range of platforms, are the gateway to adolescents' social worlds. This helps explain the panic students feel when they are away from their phones – 'It is not the phone so much Miss, as it's our life – all our friends – how we talk to them, how we know what they like, how we know what's up'. Technology has convinced students that they must connect via their platforms to be a good friend, to belong to social circles and it has re-written the rule book of communication. Students feel overwhelmed by the expectations around online communication, as these quotes from students in Behind Their Screens: What Teens Are Facing (And Adults Are Missing) Chapter 3, highlight:

- 'There are so many people I text on a regular basis' one fourteen-year-old explained, ' and I feel pressure to keep communicating'
- 'Oh, you didn't comment on my post'...'Okay, um like, I'm thinking of something. And I get really nervous about it too, because I have to think of something quick, and it has to be something really good'

These sentiments were echoed time and again across the Youth Advisory Panel discussions in all regions. Concern was raised about the viral nature of dangerous challenges, which feeds on the needs of adolescents to gain the approval of their peers. Students could not understand why online challenges, which were clearly risky at best but a serious risk to life at worse, were not prevented from circulating immediately. This is an excerpt taken from the Center for Humane Technology's Ledger of Harm:

'Several self-harming videos have been circulating on TikTok, from the "Skull breaker" challenge to the "Cha Cha Slide" challenge (which involves repeatedly swerving a car across a road in time to music). Videos that contain the tag "#passoutchallenge" had over 233,000 views on TikTok as of February 2020.'

Addiction

Nomophobia (the fear of being without a mobile device, or beyond mobile phone contact) is often derided and dismissed as a sign of weakness in young people. However, technology firms need to be accountable for their role in this dependency, which was very much an intentional and desired outcome of their persuasive design process.

The experiment below by Professor Adam Alter, and described in his own words, highlights just how urgent this accountability and the need for a collaborative approach between technology, educators, and young people themselves is.

'I ran a study at one point where I asked young people, a whole lot of teenagers, a very simple question. I said to them: "Imagine you have this very unpleasant choice. So, you can either watch your phone tumble to the ground and shatter into a million pieces or you can have a small bone in your hand broken." Now, that seems to people of a certain age and older like a fairly straightforward question with a straightforward answer. It seems ridiculous. Of course you choose to save the integrity of your hand and let your phone break. You can always replace a phone, but for young people this is actually a very difficult question. In my experience, about 40% to 50% of them will say, "Ultimately, I think it probably makes more sense to have a bone in my hand broken than it does to have my phone broken.'

The use of AI to target advertising and news

Although it was welcome news to read that from February, Meta announcing that advertisers will no longer be able to see a user's gender or the type of posts they have engaged with as a way of targeting adverts to adolescents, it is a tiny step to improve what is currently a blatantly unethical misuse of data of children and young people.
We know that fake news travels six times faster than truth, and that undermines students' ability to make sense of what they read online, especially when they are keen to engage with the social and political issues that really impact their communities.

This topic came up consistently in the panel discussions. Students are mindful of the concept of fake news and targeted advertising, but confused about how to circumnavigate it. It is also worth noting that given students were candid about using their phone late at night, and in the middle of the night, it is likely that their decision-making skills were not at optimum levels to be able to evaluate the authenticity of incoming stimulus online.

METHODOLOGY

Sources of evidence

Contributions to this report came from (i) discussions with students and parents from around the global Cognita community, and (ii) was further informed by the work of subject matter experts, some of whom partnered with us to help answer the students' questions.

See Appendices 1-3 for further detail on this.

Limitations

This report was designed as an authentic listening exercise as opposed to a piece of academic research. At no point in the process of gathering data or producing the report was it considered that the outcomes were generalisable, but rather of interest to schools in evaluating their own approaches to managing digital use with their students.

The aims of the project were to:

1. **Contribute to the discussion about empowering digital agency in adolescents**
2. **Highlight and share the excellent work of our partners Dr Amy Orben, Dr Carrie James, Dr Emily Weinstein and Amy Blankson in this field**
3. **Encourage schools to increase student voice and involvement in the design and review of education related to digital wellbeing**
4. **Amplify the calls to technology companies to employ a more ethical and moral approach to their design principles for children and young people - being mindful of, rather than manipulative with, the science of adolescent neurodevelopment**

The report acknowledges that the panel members are diverse in culture, language and experiences, and were selected at random.

The views expressed are those of students between the ages of 13-18, but not all students had equal time to discuss the questions, depending on the allocated time and number of participants. For the talks in Brazil and Chile, although the vast majority of the students spoke English, additional time was required to translate some terms.

While the students were encouraged to express their views openly, there is a possibility that some may have felt reluctant to be completely honest in the presence of a teacher and given what we know about the importance of peers, the presence of other students.

The views expressed are those of the students, and our global experts, and do not necessarily reflect the views of Cognita as a company.

APPENDIX 1

Background information on use of students to generate data

- Youth Advisory Panels were established in eight countries, spanning four geographical regions – Asia, Europe, Latin America and the Middle East.
- Students ranged in ages from 13-18 years.
- Length of discussions were all between 35 minutes to 55 minutes.
- Countries that are shaded in the table on the following page had more than one Youth Advisory Panel making up their total number.
- Regional Wellbeing Leads from within Cognita selected the students for the panels with their school leaders (i.e. purposive sampling), and had the autonomy to select fewer students to have a more in-depth discussion in the allocated time, or more to have a broader discussion.
- Permission was sought before all discussions with students, ensuring that they were content for their views to be included in the final report.
- Students were told that their names would not be published in the final report
- All students received certificates for their contribution to the discussion, report and video resource
- All students were given same initial briefing – see text below.

Text used to brief students

Feedback from student council discussions, previous youth advisory panel discussions, anecdotal staff reflections, parent communication and the media, suggests that digital technology can be a contentious issue in families, can divide student opinion (across student populations and within individuals themselves) and is something that schools are eager to better understand how best to support their students with.

Common Sense Education (many of you might already be familiar with it) is a good source of information for schools, children and families, and it was through this that we connected with Dr Carrie James & Dr Emily Weinstein from Harvard Project Zero, to see if we could contribute to their research on this topic, which is expertly synthesised in their book - 'Behind their screens -what teens are facing and adults are missing'.

In particular, we are trying to help answer this question from their project 'Reimagining Digital Wellbeing':
'How can young people inspire their peers to use technology in healthy ways and make digital spaces better for everyone?'

With this in mind, we will ask you three questions:
1.What do you value the most about digital technology?
2.What do you find challenging or wish you could change about digital technology?
3.How can the adults in your lives could better help you navigate and manage your use of technology?

We will use these questions as a base, but if our discussion veers more in one direction, that is fine – it is your opportunity to share your lived experience. There is no 'wrong answer'! We will collate all answers and a representative Youth Advisory Panel will scrutinise the responses and collate a range of questions for our global experts, which will be presented in a series of student videos, to stimulate discussion and increase digital agency. Your responses will also be collated in a report, along with key research and evidence from a range of global experts in the field. Thank you in advance for your help in our endeavour to learn more in this field – I cannot overemphasize the importance of your voice in this debate. Any questions?

Demographics of students involved in Youth Advisory Panel discussions

Country	Number of Girls	Number of Boys	Total number of students
Brazil	32	27	59
Chile	3	4	7
England	12	10	22
Singapore	4	4	8
Spain	11	20	31
Switzerland	5	4	9
UAE	3	8	11
Wales	2	3	5
Total	**72**	**80**	**152**

APPENDIX 2

Background information on use of parents to generate data

We asked a smaller number of parents to share their views on the opportunities and challenges of digital technology for their children, and family.

Parent Demographic

We asked three parents from the UAE, three from England and two from Spain to share their views on the opportunities and challenges of digital technology for their children, and for their families in four separate discussions.

The parents had children spanning an age range from 3 years old to 16 years old.

APPENDIX 3

Background information on engagement with subject matter experts

1. Initially, we interviewed Dr Amy Orben to try to understand what the research currently told us. After explaining her interest and research in this field, she went on to answer the following questions:

- When we think about adolescent neurodevelopment, what two or three things are especially relevant in terms of influencing digital wellness? Are there things that teens themselves should be aware of that can help steer them towards healthier digital habits?
- Tell us about the research – what does it tell us and what does it not?
- What are the fundamental problems with current research, and could schools play a role in gathering better evidence?
- Please can you explore the term 'evidence' with us – does it always have to be an official study for example, or could it involve schools or students setting up their own investigations?

2. Once the Representative Youth Advisory Panel had reviewed the feedback from their peers and synthesised the responses into categories of questions, we shared these with Dr Carrie James and Dr Emily Weinstein, and Amy Blankson in advance of the video interview that will be used as educational resources for our students.

Intro

- How did you get into this line of work and research and why is student voice so important in this debate?

Relationships

- 'One of the key topics that came up as challenge, was navigating relationships on social media! Was this something that you also found in your research and if so, what advice could you give to our peers to help them?
- Is social media good or bad for you?

Digital Design

- What are the key brain developments that tech companies target when designing platforms for teenagers that are very hard to put down?!
- Does our tech use have an impact on our productivity/focus? How much time is too much time online?
- Several of our fellow students feel uncomfortable at the way tech can track and target them based on what they say, or search, and know that this can manipulate the information they are exposed to (give example – right wing). How/why does this and is there anything we can do guard against this?

Problematic Internet Use

- What advice would you give to a student who enjoys gaming, but wants to manage their time effectively and ensure it is a positive experience?
- We hear the term 'addicted to tech' a lot. Do bad habits cause addiction, or does addiction cause bad habits?

Digital Flourishing – including Sleep

- We did the Digital Flourishing Survey – can you explain this and how it can help students…well… 'flourish'?!
- Sleep came up a lot as something students associated being negatively impacted by technology. Is this true? And does it really matter?

Digital Habits

- Many of our peers identified habits that they themselves wanted to change 'A top one from the panels were less TikTok time, and mine is….give personal example'. What advice would you give to a teenager wanting to build better digital habits?
- You talk about digital agency in your book, but can you help us understand what it is?

Parents/Adults

- What differences have you seen between what parents and students are worried about?
- What would be some tips to parents/adults to engage in better conversations around digital technology with children?
- Almost all the Youth Advisory Panels have sat through an 'E-Safety' assembly that was ineffective and boring at some point! How do you think education around digital technology should be structured?

Call to action

- When this video is produced, it will be shown in many of our schools around the world – what questions would you ask the students and parents to think about as or after they watched it?

ABOUT COGNITA

Cognita is a world leading global system of over 100 interconnected schools, with a shared commitment to providing an outstanding holistic education that prepares students to thrive in a rapidly evolving world.

We take our responsibility to educate and nurture each student very seriously, striving to ignite their passions and empowering them to make a difference in the world. Our ambition is for our students to have Agency, Adaptability and positive Attitudes – this is our A3.

We recognise that in education, there is no 'one size fits all' solution. We take pride in the diversity of our schools and our students, recognising that a tailored approach is required to adapt to local or individual needs. We facilitate global learning opportunities for our students and colleagues, encouraging a global mindset and sharing innovative ideas and expertise.

With 15,000 staff working across 16 countries, we are committed to providing the best possible education for our 75,000+ students. We are stronger together.

REFERENCES

Our global experts' work and guidance permeate this report. This is where you can find more information about their work:

Dr Amy Orben

- Dr Amy Orben
- Digital Mental Health

Dr Carrie James and Dr Emily Weinstein

- Dr. Carrie James
- Dr. Emily Weinstein
- Behind Their Screens: What Teens Are Facing (And Adults Are Missing)

Amy Blankson

- Amy Blankson
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