



GROWING UP DIGITAL

Australia:

PHASE 2 TECHNICAL REPORT

"I feel like this is such a guinea pig generation, and I so hope that in the end the positives outweigh the negatives".

Australian parent



UNSW
Gonski Institute
for Education

Acknowledgements

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Phase 2 of Growing Up Digital Australia was conducted using Global GUD methodology developed and implemented by the Digital Wellness Lab at Boston Children's Hospital/Harvard Medical School and the Alberta Teachers' Association. We are grateful to have been included in the Global Growing Up Digital (GUD) longitudinal research and look forward to collaborating with them on Phase 3 of Growing Up Digital Australia.

"The children of today's world are growing up in a pervasive and powerful digital environment, an environment that affords great potential for educating, empowering, and democratizing their world. But, used in undirected ways, it also has the power to affect their physical, mental and social health. Global Growing Up Digital (GUD) has the potential to be the world's largest and most meaningful study of digital technology, learning and health influences on children, adolescents and the adults they will become. Global GUD has been reframing issues surrounding children's consumption of media, establishing an evidence-based examination of the influence of media on the social, emotional and cognitive wellbeing of the world's young people. We look forward to using the important findings from GUD Australia to guide policy decisions and future research on emerging technologies, teaching, learning, and the wellbeing of children and youth".

Michael Rich, MD, MPH – Digital Wellness Lab, Boston Children's Hospital
Philip McRae, PhD – Alberta Teachers' Association

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Foreword

BY JULIE INMAN GRANT



As Australia's eSafety Commissioner, I'm frequently told by parents that their main concerns as their children navigate the online world are maintaining their privacy, managing their digital footprints and how to protect them from unwanted approaches from strangers. And as this research clearly shows, children are navigating the world in increasing numbers.

This report, Growing Up Digital: Phase 2, shows just how much access children have to digital technologies: with 4 out of 5 children having at least one device for their own personal use, and an average of 3 devices.

This research explores the perceptions of parents, carers and grandparents about the effects of digital media and technologies on children and youth over time. The findings mirror some of eSafety's own research findings 2020 in our report 'Parenting in the digital age'.

This report shows that the positive side of access to digital technologies is tempered by negative aspects, which can have an impact on children's mental health and wellbeing. This was highlighted in one of the themes of the research – 'the dual power of technology'.

While parents felt that digital technologies are enhancing their children's maths, reading abilities and social skills, 83% of parents felt that their child have been negatively distracted by digital technologies.

Of note, the research found that 37% of children and young people have been anxious or depressed because of their time online or because they were not allowed to use their device.

And while technology can be a great equaliser, this research shows that inequalities persist - these have become particularly evident during the COVID-19 pandemic, with socio-economic factors coming into play.

Starting the conversation early is paramount to ensuring online safety as our children get older – building good habits early on and continuing throughout their maturation and growth. This research highlights the importance of education about safe and responsible use of digital technologies and that parents and carers play a critical role.

eSafety has a range of online safety resources to help empower parents and children to have safer and more positive experiences in navigating the ever-evolving digital world, these are all available at www.esafety.gov.au.

I commend this research to you.

Julie Inman Grant
eSafety Commissioner

Key findings

CHILDHOOD HAS CHANGED

- More than four in five children own at least one screen-based device that belongs to them. The average is 3.3 devices owned by each child.
- Personal ownership of gadgets starts as young as four years old.
- Less than half (46%) of parents felt that their child spends a day without digital technology.
- Parents were significantly concerned about the negative impacts of digital media and technologies on their child's physical activity levels (73%), attention span (62%) and time for, and interest in, playing (62%).
- Parents believe that the impact of digital media and technologies on their children has been more positive than negative on a child's mathematical abilities, reading abilities, and social skills and friendships.

PARENTING IS HARDER THAN IT USED TO BE

- Most (73%) parents and grandparents think it is harder to control their child's digital habits since they have got their own screen-based device.
- 83% of parents, carers and grandparents felt that their child was negatively distracted by digital technologies. 13% of these respondents felt that this distraction was experienced to 'a great extent'.
- Families believe that being on a screen displaces their child's opportunity to do other activities, like being physically active or playing outside (15%), being creative (12%) or spending time with friends or family (10%).

PARENTS KNOW THEY ARE ROLE MODELS, BUT ARE DISTRACTED

- 72% of parents recognise that their own habits using digital media and technology influence those of their children.
- Over 90% of Australian parents felt that they themselves were negatively distracted, at least to

some extent, by digital technologies. Three in four believed that this distraction is growing.

- 54% of parents feel that parents and schools share an equal responsibility in helping a child to develop the skills and habits that they need to grow up in a digital world.

COVID CHANGED EVERYTHING

- More than half (53%) of parents indicated that their attitudes towards digital media and technology have changed during the COVID-19 pandemic.

THERE IS A THIN LINE BETWEEN LEISURE AND LEARNING

- The problem lies in the widespread parental perception of digital media and technologies as an entertainment device, rather than a learning tool.
- More than half of parents and grandparents primarily allow their children to use digital media and technology for entertainment value. Comparatively, only one in five predominantly use it for learning purposes.
- Almost four of five respondents felt that their child's use of technology when at school was 'about right'.

CONNECTED AND DISCONNECTED

- Parents believe that the impact of digital media and technologies on their children has been more positive than negative on a child's mathematical abilities, reading abilities, and social skills and friendships. 90% of parents felt that digital technologies make it easier to stay in touch with family and friends.
- 37% of children and young people have been anxious or depressed because of their time online or because they were not allowed to use their device.
- 65% of parents felt that when their child is bored, using digital devices to distract them is their first choice.



THE DIGITAL DIVIDE

- Lower-income parents and lower-achieving students are most at risk of problematic interactive media use. This is compounded by these same groups of parents being less likely to act as positive role models and implement monitoring strategies at home.
- 30% of families allow their children to use their devices in their bedrooms after bedtime every single day. This climbs to 47% when families are in the lowest income bracket, and 59% when their child is experiencing educational struggles.

CHILDREN ARE FACING SIMILAR ISSUES GLOBALLY

- Australian parents and grandparents have similar concerns about their children growing up with digital gadgets as their Albertan peers. The presence of digital gadgets limits physical activity, threatens mental health, and increases anxiety in young people.
- Approximately 70% of parents in Australia and Alberta think that their child's use of technology at school is balanced and appropriate.
- Some differences between Australian and Albertan findings can be due to the fact that the former are affected by the COVID-19 situation.

Introduction

Young children today are growing up in a digital world, led by adults who had a childhood much different from theirs. Digital media and a wide range of digital technologies are shaping young people's lives, learning and wellbeing. The digital environment is global, but countries and cultures have adopted and used digital media in ways that have affected child health and development differently, in positive and negative ways. With this research, Australia is at the forefront of Global Growing Up Digital (GUD) in studying how digital media are being used and how these uses may be influencing human health and development in positive and negative ways.

It is well established in both Australian and international research that children can learn from digital media and that extensive use of digital media has been associated with mental health issues, poorer sleep, declining engagement in physical activities, and difficulties concentrating on complex cognitive tasks.

Notwithstanding this, parents, carers and grandparents will always play a central role in young people's lives and the impact that they have is not only immediate, it is long-lasting. The importance of parents and homes in educating children about digital control and wellness cannot be over-emphasised. Being role models to children in responsible, safe and healthy use of digital media and technologies is particularly influential. On the other hand, parents who find it difficult to control their own behaviours with their digital gadgets often find it difficult, or impossible, to help their children to find a balanced way in their use of digital media.

To support children to grow up healthy and happy with their digital devices, we need more comprehensive

information about the actual situation our children are living in with all these gadgets around them and how their lives are being affected. That is exactly the purpose of this study. We need to know what teachers see in their schools and classrooms related to children using digital media and technologies for learning and entertainment. We also need to understand what parents' think about these issues and what they are grappling with. Then we should know more about children's own perspectives to the worlds they are living in that are so much influenced by different technologies. This is what Growing Up Digital Australia aims to do.

As with any complex topic, there are many perspectives about how constant engagement with digital media and technologies might have an impact on children's lives. One aspect of that complexity is the directional association between the use of digital media and technologies and some of these inconvenient phenomena teachers and parents see today in the lives of children. From the outset, we want to be clear that we are not trying to show here that the growing time we see young people spending with their digital gadgets would be a cause of those changes that teachers, parents and grandparents have observed in children. But it certainly needs to be better understood through ongoing, up-to-date research like this.

It is increasingly challenging to measure the time that young people spend on devices and how they use digital media and technologies. Screen-based devices are portable, multiple, pervasive, and integrated as essential gadgets in young people's lives, and what counts as 'screen time' is challenging to define and measure. It is also questionable whether focusing on this adds value. We believe a better collection of data comes from understanding the how and why that drive young people and their parents to make the decisions that they do. In the end, the most important question is: What are children NOT doing when they spend more and more hours each day in front of the screens of their digital devices?

Understandings about children's interaction with screens is a critically important area of research because of the increased exposure children have to these devices and the ambiguity of their impacts (McDool, Powell, Roberts, & Taylor, 2020). Through Global Growing Up Digital, we steer



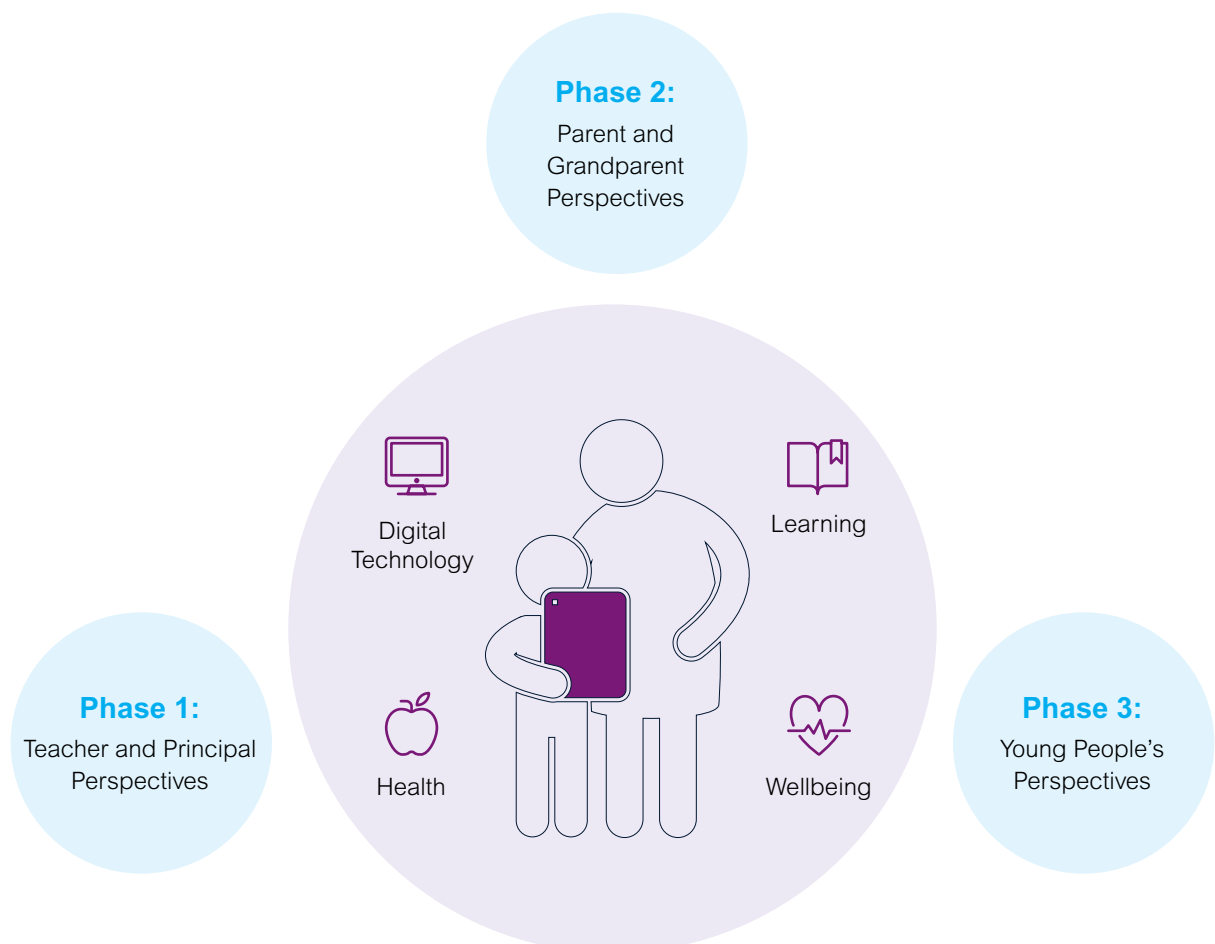
away from the narrow concept of screen time, which often dominates academic and health debates. We focus instead on broadening the conversation. Time spent on digital screens is less important than what is being done on them, and at what cost to health, wellbeing and opportunities to live a balanced life.

We need to keep in mind that what is harmful for some, can serve as a creative revelation to others. All children are different. They live with different

parents and family settings. Their communities and schools can vary greatly from one another. That is why we need to avoid simple solutions to complex social and human challenges. The only way to more sustainable solutions the grand challenge is to kick off informed conversations in schools, homes and communities about how to help our children to grow up as responsible, healthy and balanced individuals in a world that is increasingly shaped by digital media and technologies.

Background

To inform better practice at homes and policies in the governments, we have joined an internationally collaborative research project, Growing Up Digital, to shed more evidence-based light to this situation. The Growing Up Digital project originally started at the Harvard Medical School and Boston Children's Hospital in 2011 and then was first conducted in Alberta, Canada, in 2015. One great benefit of international research is the potential for comparability of findings. Indeed, we have comparative data from Alberta that allows us ask how common teachers' and parents' perspectives in Alberta and Australia are when it comes to children growing up digital in these two places. We can also observe the presence of trends over time, given the length of time that this worldwide research has spanned. For Australia specifically, the current set of results can be triangulated with the Phase 1 and forthcoming Phase 3 to establish a unique and reliable set of baseline data that can be compared to for further research this topic.





We now present a report of the main technical aspects of the Phase 2 of Growing Up Digital Australia study, presented in a similar format to what we reported about Phase 1 in 2020 (Gonski Institute for Education, 2020). Data for Phase 2 was collected by online surveys between August and November 2020. We received responses from across the country from almost 2,500 parents, carers and grandparents. In a year like no other, digital media and technologies were a saving grace to many parents and students by offering a form of connectivity to work and study from home, do shopping, keep up social contacts, and entertain themselves and others. But it also made many people wonder whether connectedness really led to greater togetherness or actually advanced disconnection from one another.

As with the Phase 1 survey, this instrument was designed to investigate perceptions of the scope of the physical, mental and social consequences of digital media and technologies on children and youth. The survey also gathered data on how parents, grandparents and guardians perceive the effects of digital media and technologies on their children's reading, speaking, mathematics, social skills, behaviour, emotional health and levels of anxiety. We also expected that in light of the restrictions and disruptions caused by the COVID-19 pandemic, it is likely that some attitudes and behaviours around usefulness of digital interactive media may have changed.

In our Growing Up Digital Australia project, we are interested in understanding whether parents' perceptions the impact of digital media and technologies that we have investigated vary between families of different socio-economic backgrounds. As such, we stratified the data collection by family income and young people's educational attainment to better understand the digital divide as it relates to children's habits of using digital devices. There are important reasons for examining digital media and technologies use across diverse socioeconomic and demographic groups: to understand how to best reach different groups with education, health and wellbeing messages, and to further inform public policies on issues like the digital divide or education about digital literacy.

Despite collecting almost 4,500 responses to our two phases of this research so far, it is not possible – as mentioned above – to ascertain whether increased time spent using digital devices is actually causing some of the negative things in children's lives, or the direction of the relationship at all. What is clear however is that the issues being faced that relate to increasing time most young people spend on digital media technologies, and the impact of this on young people, are not confined to a single context. It is not something facing only teachers, or only parents. We are all in this together.

What did we learn from Phase 1?

The Phase 1 data was collected with 1,876 Australian teachers and principals in 2019. The results from Phase 1 shone a spotlight on the kinds of issues being faced in classrooms (Graham & Sahlberg, 2020; Sahlberg & Graham, 2020). Distraction, lack of focus on schoolwork, lack of interest in learning, coming to school tired, online bullying and harassment, exposure to inappropriate content, and as a consequence, increased number of students in our schools who are not ready to learn. Phase 1 suggests that all of these, according to teachers, are occurring in Australian classrooms in growing rates every day.

Some Phase 1 key findings include:

43% believe that digital technologies **enhance their teaching and learning activities, rather than detract.**



83%

believe that students' socio-economic circumstances has at least some impact on their access to technology they need for learning in school

84% of educators in Australia believe that digital technologies are a *growing distraction* in the learning environment.



60%

of teachers believe technology is positively impacting the learning experience for students with disabilities.



78% say that students' abilities to focus on educational tasks has decreased.

59%

of respondents observed a decline in students' overall readiness to learn in the last 3–5 years.

To read more about the Phase 1 technical report, this can be found [here](#).

Ultimately, it has become abundantly clear that we all have a problem, and we all must take responsibility for helping young people grow up healthily, happily and responsibly.





What do we know so far about growing up digital?

Before reading this report any further it is necessary to admit that most of us adults are affected by those very same challenges caused by digital media and technologies that this research is exposing about our children. In order to be able to help children to understand the power of their digital gadgets and then learn to regulate their own behaviours, many of us parents must change first. It makes only a little sense to expect that our children will listen to our warnings and obey adults' orders if they see us adults – including teachers, parents and grandparents – behaving against our own advice. What we do know from good parenting and impactful teaching is that the power of an example is often the most effective way to change.

Exposure to digital media starts early, and children are often coming to school with steeply ingrained habits. Most children now engage with digital technologies from a very young age, and it often starts as entertainment on a handheld tablet or their parent's smartphone. As the years go on digital gadgets become increasingly common part of daily lives of children, often with diminishing parental supervision. The Royal Children's Hospital (RCH) Child Health Poll in Melbourne revealed that 94% of teenagers, 67% of primary children, and 36% of pre-schoolers have their own screen-based device (Rhodes, 2017).

The data becomes murkier when we explore exactly how much time young people spend on their screens. According to parents in the RCH 2017 poll data, the majority of Australian children are spending at least three hours using screen-based devices at home on a typical day, with an average of 4.6 hours on a weekday and 4.5 hours on a weekend day (Rhodes, 2017). In the most recent data collected by the eSafety Commissioner in Australia, they reported that teenagers spent an average of 14.4 hours a week online on a range of diverse activities (Office of the eSafety Commissioner, 2021). Given that these figures are less than international PISA data, it seems clear that we don't really understand exactly how much time young people are on their devices because of the multitude of

purposes and contexts that digital media are now used for across every aspect of their lives. In any case, we make the point in this report that screen 'time' does not add much to the understandings of this complex issue and the conversations in homes must be broader.

Causal research in this space is rare because it is difficult to establish directionality and cause and effect, but one direct consequence of increasing time spent on digital media and technologies declining quantity, and often also quality, of sleep. A cogent body of work shows that exposure to digital screens before bedtime results in poorer sleep quality for children (e.g. AAP Council on Communications and Media, 2016; Cheung, Bedford, Saez De Urabain, Karmiloff-Smith, & Smith, 2017). Evidence indicates this could be due to a range of factors including blue light emitted from screens influencing the release of sleep hormones (like melatonin), time spent on screen-based digital devices displacing time for sleep, and digital media content being overly arousing for children when they are trying to settle to sleep (LeBourgeois, Hale, Chang, Akacem, Montgomery-Downs, & Buxton, 2017).

Melatonin is a hormone that influences circadian rhythms in our body and this can be suppressed by any kind of light. But it is blue light emitted by smartphone and computer screens at night that does it particularly powerfully. So, is blue light any more harmful to us at night than any other colour of light? In a recent experiment, Harvard Medical School researchers exposed 6.5 hours blue light and green light of similar brightness to people to see what happens to their melatonin levels. They found that blue light typical to digital screens suppressed melatonin almost twice as long as the green light and shifted circadian rhythms by twice as much (Harvard Health Publishing, 2020).

Parent distraction on their smartphones and other screen-based devices while around their children has become increasingly common. Recent research and passionate opinion-based debates in media reveal the prevalence of this issue (Hiniker, Sobel, Suh, Sung, Lee, & Kientz, 2015; McDaniel, 2019). In research exploring parent smartphone use while caring for their children at the playground, 35% of caregivers spent at least one out of every five minutes on their device to the extent that it became a source of parental guilt (Hiniker et al., 2015). Further research showed that 65% of mothers reported technology intruding upon parent-child interactions during playtime with their young child (McDaniel & Coyne, 2016). Emergent evidence also suggests a number of concerning outcomes from parents using devices in ways that interfere with family time. These include less attentiveness and sensitivity to children's needs, fewer verbal and non-verbal

Parent distraction on their smartphones and other screen-based devices while around their children has become increasingly common.

interactions, dissatisfaction with time spent together, and impacts on children's behaviour (Mc Daniel, 2019).

Parental role modelling, and how they introduce digital devices to young children, is a critical factor in shaping children's own digital habits. There is little concrete research suggesting that screen time, in and of itself, negatively impacts children's psychological outcomes. However, the broader family environment and the extent to which they are involved in setting limits and actively engage in exploring the digital world with their child are significantly more impactful than screen time alone (University of Oxford, 2017).

A strong relationship has been noted between parents' digital screen-based device use and that of their children in the Australian Child Health Poll (Rhodes, 2017). In the same research, it was also found that 85% of parents use digital media and technologies to occupy their children so they can get other things done. However, to date no authoritative body has published clear recommendations or evidence-based guidelines for parents to follow in relation to their own use of digital devices (Hiniker et al., 2015).

It goes without saying that parents play a critical role in keeping their children safe online at home. Yet they may not be confident in limit setting and have very real concerns about their capacity to deal with online safety issues. According to a report by the Office of the eSafety Commissioner, *Parenting in the digital age*, less than half their sample of 3,520 Australian parents of children aged two to 17-years-old feel confident that they could help their children deal with online problems, including cyber bullying, sexting and predatory behaviour. On the other hand, 94% of parents regarded their child's online safety as important and more than half of parents report their child's school as the most frequently accessed source of support for online safety information (Office of the eSafety Commissioner, 2018).



Parental role modelling, and how they introduce digital devices to young children, is a critical factor in shaping children's own digital habits.

Despite growing societal concern, evidence of how much growing time spent on digital media and technologies actually affects young people and their health remains a topic of debate among researchers. While some scholars argue that without watertight studies that would verify directional association between increased 'screen time' and concerning trends observed in our youth, like higher levels of anxiety and depression, the most probable factor can be found in the ways young people engage with their digital devices (Oswald, Rumbold, Kedzior, & Moore, 2020; Twenge, 2017). However, Twenge's research was correlational and used secondary analyses of data. In response to that, one Oxford University study concluded that technology use explains only a very minor part on adolescent wellbeing (Orben & Przybylski, 2019). Media headlines reporting this study read that teenager digital screen use is about as harmful as eating potatoes (Baron, 2019). With such divergent views, gathering more data, including anecdotes, observations, and personal impacts on young people, become even more important. Understandably, many parents find it difficult to navigate within these confusing debates and find the

best ways to guide children in safe and healthy living with their digital gadgets.

One thing that is abundantly clear is that parents are very concerned about their children's use of screens and digital media and technology. Current 2021 RCH poll data points to the ongoing level of concern that parents feel about these issues, with parental concerns about their child's use of digital devices topping the list. The researchers surveyed almost 2,000 parents across Australia in 2021 and found that over 90% of parents are concerned about excessive screen time (Danchin, 2021). This has remained unchanged since the 2015 poll data, perhaps reflecting a feeling by parents that nothing is improving in relation to children's use of digital media and technology.

The release of documentaries such as *The Social Dilemma* and *Are You Addicted To Technology?* have shone a spotlight on these issues and made many parents realise that they must take responsibility for setting limits in the home around the use of devices. In addition, the COVID-19 pandemic and associated increase in the use of technology has changed the place of screens in the lives of young people and their impact on physical and mental wellbeing has increased. This is true both in a positive and negative sense (Sheen, Zackarim Pinheiro Dos Santos, Kagadkar, & Zeshan, 2020). Hence, there has never been a better time to understand these issues and suggest solutions of how to help young people and their families to balance their use of digital media.



Phase 2 Methodologyⁱⁱ

Research instrument development

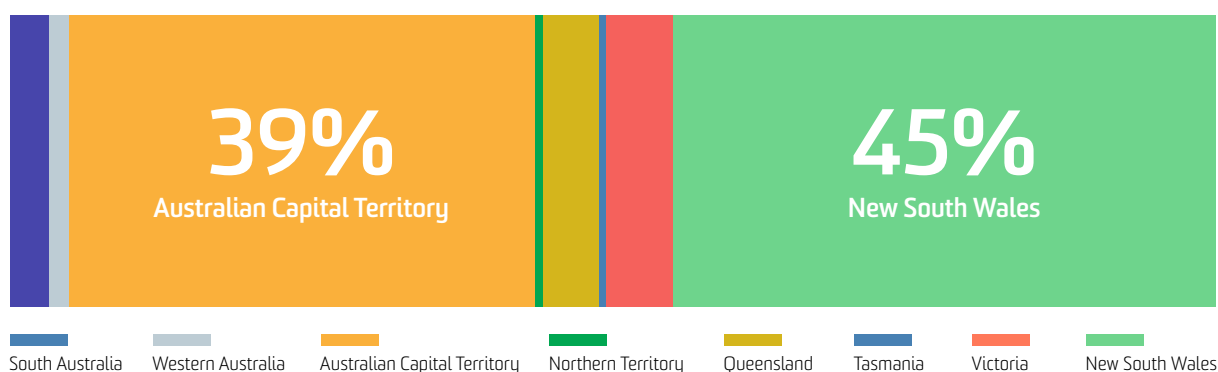
The questionnaire is based on that developed by researchers at Harvard Medical School and the University of Alberta. This survey was tested and first conducted by the Alberta Teachers Association in Canada in 2017. Several questions in the original Phase 2 survey were modified to ensure relevance and application to the Australian context. Furthermore, items focusing on equity aspects were added in our survey to allow better interpretation of results across different equity groups. These included questions about the changes in attitudes and behaviours before and after the COVID-19 pandemic and related restrictions. Because data were collected during the COVID-19 pandemic, some questions provided the option to respond according to how things were during the pandemic and how things are now. The survey items were designed using Likert scales, checklists, as well as open-ended questions to allow respondents to speak freely on issues they felt were pertinent.

The key terms, 'digital media and technologies', were used consistently throughout the survey and were operationalised as the things that a parent or child

watches, listens to, looks up or reads, interacts with, on different digital devices. It could be the internet, computer programs and software, digital imagery, digital video, digital music, social media, video games, television, and/or other forms of digital media and networked technologies. We defined the 'internet' as going online, to access websites, use social media, be entertained, buy things online, or look for information. Finally, the term 'digital devices' was explained to be electronic gadgets, including mobile phones, computers, laptops, tablets, gaming consoles, smart TVs, and so on. These terms were clearly explicated in the introductory preamble of the survey.

We were interested in finding out about parents' and grandparents' views of children of all ages. In an attempt to cater for families with more than one child as well as randomise the age of children that parents responded about, we asked informants to complete the survey about the child whose birthday is coming up next.

We undertook a small-scale pilot with colleagues to ensure the modified tool is valid, accessible, and user-friendly, and changes were made based on the feedback received. Overall, the survey was deemed easy to complete, fit-for-purpose and comprehensive.



Data collection and analysis

The survey was hosted on the Qualtrics platform, using a secure link. Analysis was conducted within Qualtrics and also SPSS (version 25). Descriptive analysis of the data forms a large part of this report and was carried out in order to report on frequencies and percentages around key survey indicators and across sub-sample groups.

Sampling and participant demographics

The survey went live in August and remained open until late November 2020. At this time, many Australian schools had students learning remotely from home to minimise the risk of the COVID-19 virus on their health and that of their communities, and to maintain continuity of education. However, there was no uniform position across the country and policy decisions to physically send students to school, or not, varied at federal, state and territory levels, and changed rapidly in this time. Parents also made their own decisions about how to educate their children in this period, and more students than usual times were kept home and using digital media and devices more than usual. We speculated that this abnormal situation where digital media and devices were used more than usual may have some consequences.

All parents and grandparents of children aged 5 to 17 years of age were invited to take part in this survey. A total of 2,450 respondents answered the survey, and

they represented parents, carers and grandparents from every Australian jurisdiction. This data set yielded data about more than 5,000 children, however, not all questions were answered by all respondents. 78 per cent of respondents were living in metropolitan or urban areas and 22% from regional, remote or rural areas. The graph on this page shows the jurisdictional breakdown of respondents.

Respondents of which 83% were female, were drawn from people aged 25 right through to over 65, the most common age range being 41 to 45. The mean number of children in each family was 2.12, and the mode was 2. The mean completion time of the survey by participants was 26 minutes.

Of all those who took part in this survey, 95% had completed some training post-secondary school, with 75% of these people completing university at an undergraduate or postgraduate level. About three in four respondents had an annual household income over \$100,000. These figures indicate that the survey captured the views of well-educated, high-earning Australians and do not represent Australian normative attitudes and behaviours. Low-income earners were defined as those earning less than \$50,000 annually. Educationally disadvantaged children were defined as those whose grades were below or significantly below what is expected of this age (D's and E's). Given the small numbers of respondents in these categories, caution should be taken in interpretation of the findings as this could have skew the data.

Results

In this section we give an overview of the main results of Phase 2 of Growing Up Digital Australia. More findings will be reported in specific articles and publications as this research project progresses.

AUSTRALIAN FAMILIES ENJOY A BALANCE OF ACTIVITIES

Digital media and technologies have changed the ways most of us spend our time each day. Time spent with digital technologies is away from doing something else. It is not uncommon to see family members all concentrating their own gadgets while at home. It is therefore interesting to find out, in general, how Australian adults like to spend their time together.

So, when they are together, most Australian families are enjoying being outside together or cooking and eating just as much as they are watching television or films. Comparatively, only 3 per cent of the sample selected

‘using a computer or smart phone’ and 3.3 per cent said they like to play video games as a family. Almost seven in ten (69%) children also eat meals without the presence of digital technology. This, of course, does not tell us anything about how much time goes daily with digital media and technologies.

Many parents did claim that time spent on smartphones and social media is away from healthier activities, like sports, music and play. Parents and grandparents felt that the impact of digital media and technologies had most negatively impacted on their child’s physical activity levels (73%), time for, and interest in, playing (57%), and behaviour (54%). This parent made it very clear regarding her child, saying:

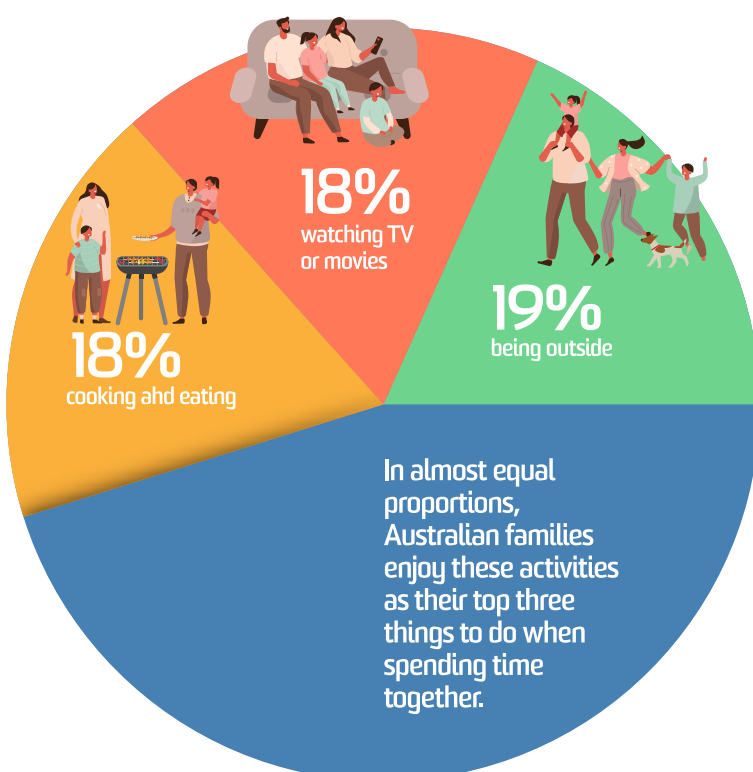
“I am concerned at the amount of time my daughter spends on her phone. She is no longer interested in the activities she used to enjoy before she had a phone”.

LIVING WITH DIGITAL GADGETS STARTS EARLY

More than four in five children in our sample own at least one screen-based device that belongs to them. On average, Australian children own 3.3 screen-based devices each. Our data show that 92% of children were allowed to use these devices once they were over the age of four. This is consistent with the current Australian guidelines on age of exposure, who recommend no screens before the age of two (Australian Government Department of Health, 2019).

Ownership of a digital gadget appears to be given at a young age, although this was not clearly operationalised in the survey as to what ownership means for a child. In this sample, children as young as four were provided with their own mobile phone, according to parents in this sample. Reasons that parents provided their child a phone were chosen from a list provided:

- To contact my child when they are school or on public transport **(64%)**
- Because my child felt left out and kept asking me **(8%)**
- To keep in contact with his or her friends **(5%)**
- To do schoolwork **(4%)**



3 of 4 parents

think it is harder to control their child's digital habits since they have got their own screen-based device.



One parent explained that “we got our son a phone so we could keep in touch with him at his afterschool job he could use the GPS and we knew where he was”.

FAMILIES GIVE CHILDREN DIGITAL DEVICES FOR MANY REASONS

Participants were asked why, other than remote learning, the principal reasons for letting their child or grandchild use smartphone or other mobile digital devices. More than half of parents and grandparents primarily allow this for entertainment value. Comparatively, only one in five predominantly use it for learning purposes. Of greatest priority, 8% of parents use it primarily as a digital babysitter, nominating that they allow use “to allow me (or another parent) to get something done, like a shower or cooking” as one mother responded.

For smartphone ownership, the sample was split in relative halves in relation to how many parents have bought their children their own device (51% yes; 49% no). No obvious differences existed in metropolitan versus regional, remote and rural respondents in relation to mobile phone ownership.

When the first smartphone arrives in a child's life, things change. Many parents have reported dramatic new behaviours in their children after being granted a smartphone, and this time also places a new, sometimes unexpected pressure on parents to negotiate this shift (Shin & Kim, 2019). This study supports these findings. Most (73%) parents and grandparents think it is harder to control their child's digital habits since they have got their own screen-based device. Not all these observed changes are necessarily negative but based on our data, many parents seem to struggle in effectively enforcing limits on their children's use of digital media and technologies.

Responding to open-ended questions, parents nominated a range of other, more nuanced reasons that could not be easily categorised into themes. These reasons were varied and ranged from feeling social pressure and the need to keep up with peers like, “I thought all kids had it, and we had to get it as soon as possible”, as one parent put it.

Some other parents also felt that their children would benefit socially from a smartphone or digital gadget of their own. One parent said: “He had become socially isolated - no friends could contact him if he didn't have a phone, so he was not included in outings etc. As a result, he has become very insular and now has very few friendships because he was seen as odd not having a phone until he was 14 in year 8 at school”. Others expressed concerns about their child's safety and wanting to prepare their child for responsible use, like a parent who wrote that “He would go riding after school and weekends with friends, especially in the bush, and I wanted him to be safe”. Parents often put practical aspects first when judging whether a smartphone is a good idea for their children. One parent reasoned these benefits by saying she bought it “so he could book a NSW Transport on-demand bus through an app to come home from school”.

Some parents felt that they had no choice at all, as evidenced by comments such as “it was given to him as a birthday present from his godmother. I allowed it because he had an after-school job and needed to be contacted by them plus he could now pay his own bill”. Peer pressure at school to have a smartphone when everybody else has one can be a big challenge for many parents.

The responses indicate the breadth of considerations that go into parental decision-making around phone ownership. It also makes clear that until we address the societal expectations around community safety and tracking children, and the busyness of schedules, current behaviours will be difficult to change.

We were also interested to investigate the mechanisms through which children access digital media. Overall, digital media consumption among young people is mostly mobile. At home, children are most likely to access the internet on their tablet (34%) and a

"It is addictive, I yearn for more time away from it for me and my family".

smartphone (29%) rather than a desktop computer. This is a finding that is supported by other research in the United States (Common Sense Media, 2015). It is likely that mobile handheld gadgets are usually used for entertainment purposes, such as gaming, social media and listening to music whereas desktop and laptop computers might give way to more schoolwork-related tasks and desk research. Furthermore, internet access via tablets has been associated with fewer hours sleep per night in children (Cain & Gradisar, 2010).

PARENTS SEE DIGITAL MEDIA AND TECHNOLOGIES AS A GREAT DISTRACTION IN FAMILY LIFE AT HOME

Over 90% of adults who responded to this survey felt that they were negatively distracted, at least to some extent, by digital technologies. Furthermore, 74% believed that this distraction is growing. Respondents were allowed to select from however many applied to their lives. The three most problematic areas were nominated as:

- Information seeking online (such as Google searches): **28%**
- Social media usage: **26%**
- Emails: **23%**

Other areas commonly suggested in the additional free-text responses included accessing news, online shopping, work, on-demand television streaming services, text and What's App messages and online games. Among the drawbacks that were noted almost entirely centred around time-wasting, distraction and addiction as well as potential effects on sleep and mental health. One parent wrote: *"It is addictive, I yearn for more time away from it for me and my family"* and another one shared similar sentiments, saying that *"It sucks time, I find myself wasting time looking at stupid stuff online, and it makes my neck sore!"*

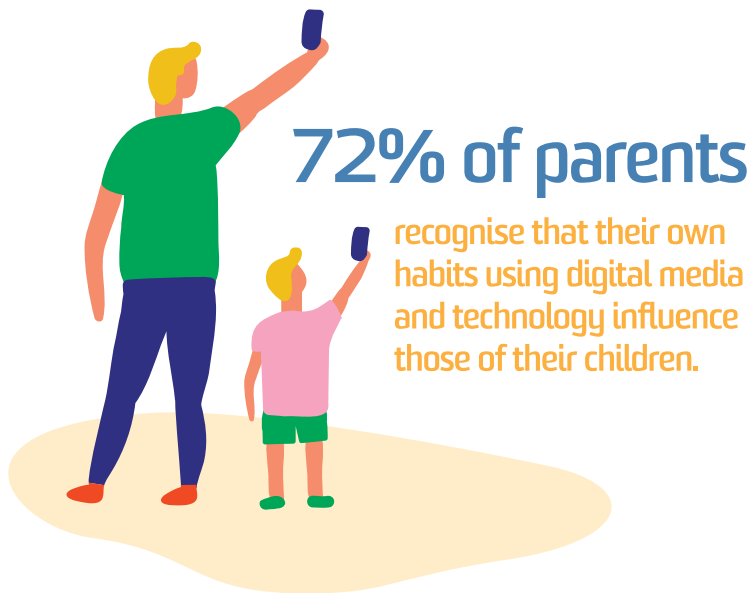
Many parents and grandparents seem to feel that their time on digital gadgets is not time well spent at home. Their comments like *"I could be doing other things ...*

like being outside", *"It is time wasting and I can have negative feelings about my life because of the social comparisons made evident on social media platform"*, and *"I am checking the phone too often for non-existent updates. It is an interruption to my train of thought. Temptation to check the phone instead of finishing a task"* illustrate the common sentiment that parents have about their relationship with their digital devices.

Others explained their frustration to what some consider as external expectations to be present 24/7 and how that steers some parents' life at home. One parent said that *"Always available to people who can just send me their expectations with a click and think that is my only priority"*. There were several responses like *"I get sore eyes and sleep disturbance from working on a computer in the evening"* that suggest extensive time on digital screens negatively affects their wellbeing. Some answers indicate that digital devices at home are becoming an increasing issue in family relationships when one of the adults is suffering from Problematic Interactive Media Use (PIMU): *"We can work and play together, but my husband is addicted to his phone and disconnects from family, me, and tasks that he could be doing"*.

Overwhelmingly, parents, carers and grandparents recognise that they are a critical influence on their child's use of digital media and technology – in good and bad. 72% of parents recognise that their own technology habits influence those of their children. 90% of participants agreed with the statement, *"I need to be a responsible user of digital technology for my child to learn from"*. A comment that reflected a common view was: *"As a parent I need to know how to work the programs and sites the kids access to be able to protect them. I do not assume they are safe"*. Indeed, it is unrealistic to expect that children will improve their digital media habits unless they see their parents at home behaving accordingly.

Another way to look at the possible impact of digital media and technologies is to see how parents believe their own use of digital media and technologies impact on their child's digital device usage. Just about one in ten parents think that the way they use digital media and technologies has an impact on their child's digital behaviour.



Similar proportions of parents felt that their child is in control of their digital media habits (36% in control/33% not in control). Interestingly, almost half of parents and grandparents do not trust their children to regulate their own usage and do so responsibly, implying they see themselves as having a major role in the development of digital wellness and self-regulation.

COVID-19 CHANGED THE WAY THAT TECHNOLOGY IS PERCEIVED AND USED

For 18% of respondents, they were subject to pandemic-related restrictions, such as their children learning remotely at home due to school closures, at the time of completing the survey. Learning at home was a positive experience for some children, but not others.

We asked a series of questions to tap how behaviours and attitudes might have been impacted by the COVID pandemic. Participants did not feel like their reliance and usage, as adults, on technology changed all that much. When asked how often they spent a day without using digital media and technologies, 68% selected that they never or rarely do this now, whereas 74% felt this during COVID. But it is possible that the way these technologies are used might have changed. In COVID times, the number of parents and grandparents who used digital technologies *with* their children or grandchildren significantly increased (82% compared with 74%).

Furthermore, young people's reliance on using digital media and technologies increased exponentially during the COVID-19 pandemic, as emergent research has also revealed (Drouin, McDaniel, Pater, & Toscos, 2020). In response to the same question about how often their child spent a day without digital technology in the present project, 46% felt that their child never or rarely does this now, whereas 63% of young people never did that during the COVID-19 isolation period.

Over half our sample (53%) indicated that their attitudes towards digital media and technologies have changed because of the COVID-19 pandemic. This proportion was higher in the lowest-income families (57%) than any other income bracket, and lower in respondents from regional, rural and remote areas (49%).

More than half (53%) of parents indicated that their attitudes towards digital media and technology have changed during the COVID-19 pandemic.

57%

This was higher in the lowest-income families than any other income bracket

49%

This was lower in respondents from regional, rural and remote areas

"I think COVID has exacerbated both the positive and negative feelings that I initially held about the impact of technology. The complete removal of person-to-person teaching I think does our students much harm. If this continues long-term, I believe it will dehumanise students".

The vast majority of respondents indicated that their views have changed in a positive way, that COVID has forced them into a world they were perhaps previously sceptical of.

The COVID-19 pandemic changed the way that parents perceive the role of digital media and technologies in general. Learning remotely from home with interactive digital devices was seen as an incredible opportunity for the education system as a whole. One parent described how impressive this experience was:

"Seeing the process in action was eye-opening. The capacity for evolution within the sphere is huge. Covid-19 triggered the fast tracking of the process. It would be incredible to see this process continue, developing interactive platforms that are engaging and age appropriate. The downside is that now my children are glued to their screens from the moment they get home, with homework and gaming and socials, instead of using the time to be creative or active".

A large number of respondents talked about being more "open" to using technology since the pandemic, for example, thinking that *"I discovered a lot of great digital resources that I wasn't previously aware of"* and

"I am more convinced that digital technologies can be an enabler of learning". In general, disruption caused by the pandemic opened their eyes to the potential of digital media and technologies for staying in touch and keeping connected and be able to work and continue schooling remotely.

One parent thought that *"I am less critical of technology. I view it more as a tool for learning. How is used depends on the way we engage with it"*. Other parent saw the benefit in video calling saying that *"technology such as seesaw that can give verbal feedback and ways to blend home learning and class learning by giving greater access to how feedback is shared"*. Mostly, parents now seem to recognise digital technologies more as a purposive learning tool, and less as an entertainment source and prompted a re-think of how a balance can be sought. One respondent summarised it by saying: *"It was a great opportunity to use technology for learning at home. My son gained heaps of digital skills. It was all trial and error and rushed but still had benefits"*.

Being able to maintain social contacts and thereby keep up wellbeing during the time of physical distancing and increasing loneliness has been a common factor behind shifting parental perceptions of digital media and technologies. There were several parents who experienced a full turnaround in their own views to the role of digital media and technologies. *"I have been reluctant to allow my children to network online with friends"*, one parent said. Another elaborated in saying that, *"During home lockdown the ability for the children to connect with friends via SMS, chat groups and Zoom were invaluable for their wellbeing"*.

Some parents had high expectations for their child's increased remote learning time during the pandemic and felt disappointed with the brief foray they had into the online learning environment. A common sentiment was that, *"It wasn't as successful for schooling at home as I expected it to be"*. This may have also changed the way some parents will see the role of using digital learning platforms more after the pandemic. One mother argued that *"I am less likely to support distance learning for my child as they found this to be very difficult"*.





The following story illustrates the challenges some parents experienced when children have had less exposure to digital devices in early years:

"My 5-year-old was in Kindy when the lockdown happened in NSW. We allow her limited screen TV/ games each week, but the online learning was new. She didn't know how to use a computer and didn't know how to read, so I basically had to do all her online learning with her. She got bored/ frustrated with screen learning quickly, and we got into lots of fights about her having to do the work. She also had to read books online instead of the physical home readers she would normally take home, and she had little interest in online reading. In short, I felt she was too young to do distance learning – it negatively affected her mood. I ended up trying to squeeze all her homework into 1 hour in the morning, and by 10am or so I would let her play for the rest of the day".

Parents also expressed their understanding of the unexpected transition that schools had to make from in-person schooling to remote learning through digital devices and the Internet from home.

"I do not believe that the education departments were prepared for this and it was a mad rush to get lesson plans done and distributed to the children who had the use of a computer. Some schools had to lend equipment to students so they could complete their tasks. I also think this is where

mental illness has come into education causing more problems for students and parents/ grandparents alike".

Some families were able to see the benefits of being able to continue learning remotely, but also how this had to be balanced with the possible side effects. *"There are definitely opportunities and increased access in relation to learning online from home but the increased screen time is definitely a concern",* was a rather common thinking among parents. The benefits and possible harm caused by living intensively with digital media and technologies is often hard to balance, which was also concluded in this survey. Parents and grandparents rarely simply praise nor condemn the digital devices as part of their children's lives. This is clearly expressed in this parental perception:

"I can see some benefits and resources on sites and YouTube that I wasn't aware especially for history, art, science that I wasn't aware of. However, I am now really questioning the schools use of apps like mathletics, Reading Eggs for maths and English as the core learning did not seem to 'stick' using online as much as pen/paper".

Some other parents went further when considering children's increased technology usage for children due to the pandemic by saying that *"My children got addicted to technology and various websites, hence the view due to increased screen time geared more towards its negative effects".*



"I didn't particularly have views before, whereas now I see the benefits, but also I can see how it's just as distracting as it is for any adult to have all the internet available while you're working".

A small number of parents actually felt more concerned about the potential drawbacks since using devices more during COVID, especially for their child. Many parents had doubts about how much sense it makes to expect young children to rely on their digital devices all the time. One mother thought that *"I don't like media devices for children and having to rely on them was horrible. I restrict media exposure even more now and wish to have less online and digital interactions"*. Another parent felt more strongly about putting some limits to using digital devices and apps for all learning all the time by saying that *"Many programs (like Reading Eggs) replicate gaming with similar sounds/music and collecting rewards. It is easy for children to leave their task and end up on other sites"*. Many parents and grandparents in our survey expressed similar concerns about overreliance on educational technologies when their children already spend significant part of their free time on their digital devices.

A number of parents and some grandparents expressed their serious concerns about the long-term impact of the extensive use of digital media and technologies by their children during COVID. Some of them believe that increased digital consumption by children during lockdowns and remote learning is going to be here to stay after the pandemic. *"My child's screen time during lockdown was difficult to monitor and limit. And this now continues even after*

lockdown", one parent suggested. Another parent stated, *"My daughter always on iPad and no friends around, can't go anywhere. The virus lockdown had made her mental health bad"*.

Finally, and perhaps most importantly, the pandemic and how it changed the ways digital media and technologies were used made some parents question the place of digital devices in their home and deeply consider what this means. *"I didn't particularly have views before, whereas now I see the benefits, but also I can see how it's just as distracting as it is for any adult to have all the internet available while you're working"*.

This may be one silver lining in this global health crisis that has been so harmful in many other ways. One parent put this aptly, saying that *"I didn't really think of it before but since being online so much, I know I don't want my kids sitting in front of screens all day"*, many parents may want to think again how extensive time their children spend on their digital gadgets every day affects their wellbeing, health and learning.

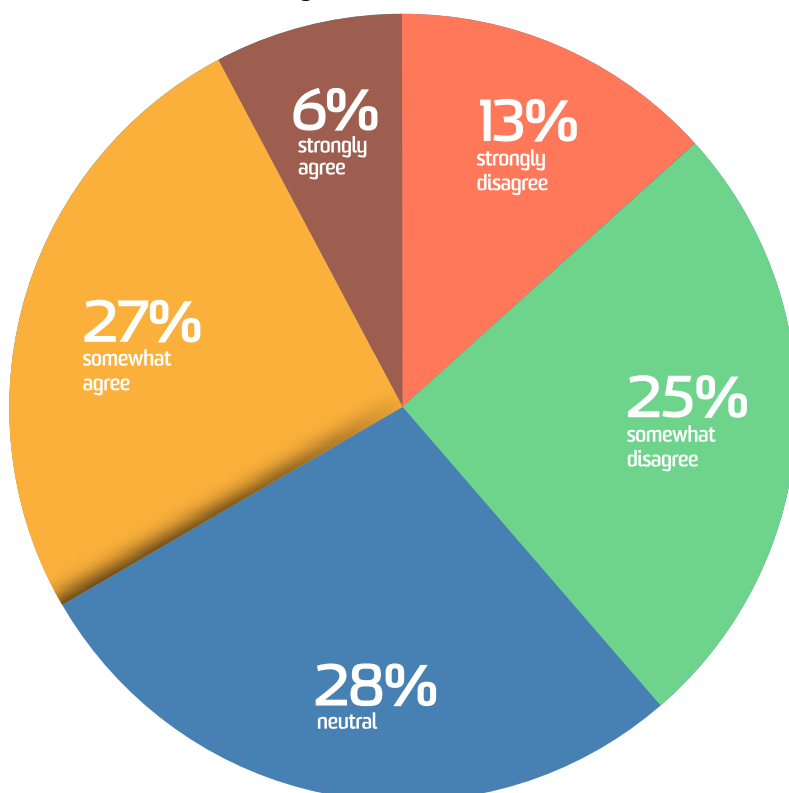
"Our dependence on technology for connection and schoolwork has increased, therefore the requirement for screen time after school has increased. It has forced us to have more conversations about striking the right balance between technology and off-line schoolwork".

DIGITAL TECHNOLOGIES AFFECT CHILDREN'S EDUCATION, AND MUCH MORE

Parents are quite divided in their views about whether being online offers more benefit or risk overall, as can be seen in Figure 1 below.

Overall, parents were significantly concerned about the negative impacts of digital media and technologies on their child's physical activity levels (73%), attention span (62%) and time for, and interest in, playing (62%). On the other hand, parents believe that the impact of digital media and technologies on their children has been more positive than negative (or no impact at all) on their mathematical abilities (45%), reading skills (37%), and social skills and friendships (34%), as can be seen in Table 1. 90% of parents felt that digital technologies make it easier to stay in touch with family and friends.

Figure 1: The benefits of being online outweigh the risks



Parents were asked to respond to free-text questions recording the main benefits and drawbacks of digital technology to their child. Similar numbers of benefits and drawbacks were listed, and the main benefits listed included:

- Accessing information and resources worldwide that they may not have available otherwise
- Connecting and communicating with others socially
- The ability to learn remotely and collaborate with others
- Independent learning and research skills.

On the other hand, the drawbacks they noticed in their child when using digital media included:

- Addiction, distraction and an over-reliance on devices for entertainment, particularly to games
- Moodiness, anger and attitude and behaviour problems
- Time wasting and the opportunity cost: their child's time spent online outweighed their time spent on other activities
- Lack of creativity and ability to sustain concentration at tasks
- Disconnection from the people around them
- Lack of self-regulation to set limits on devices.

While these issues are complex and cannot be oversimplified into a good or bad dichotomy, it is clear that the drawbacks are very concerning and must not be ignored.

DISTRACTION CAUSED BY BEING ONLINE MAKES PARENTING HARDER THAN EVER

Successful parenting always requires hard work and determination. Digital devices that most children today own have made it even harder for many parents and carers. In our survey, over half the sample (52%) disagreed that "digital technologies make childrearing easier". Furthermore, 65% of parents agreed that

Table 1: Parent perceptions of impact of digital media on learning.

	Positive impact	Neutral	Negative impact
Reading skills	37%	32%	31%
Speaking skills	18%	50%	32%
Writing skills	17%	35%	48%
Maths skills	45%	37%	18%
Social skills and friendships	34%	27%	39%
Physical activity	4%	23%	73%
Attention span	6%	32%	62%
Creativity	28%	26%	46%
Behaviour	5%	34%	61%
Sleep	1%	46%	53%
Emotional wellness	5%	42%	53%
Anxiety	4%	52%	44%
Time for, and interest in, playing	5%	33%	62%
Quality of family time	4%	38%	58%
Critical thinking abilities	26%	40%	34%

“negotiating digital technologies use causes conflicts in our home”. It is promising to note that 70% of parents believe that they usually agree between themselves when it comes to making decisions about our children’s digital technology use. Similarly, 60% of parents seem to share equal responsibility for setting limits around their child’s use of digital media and devices.

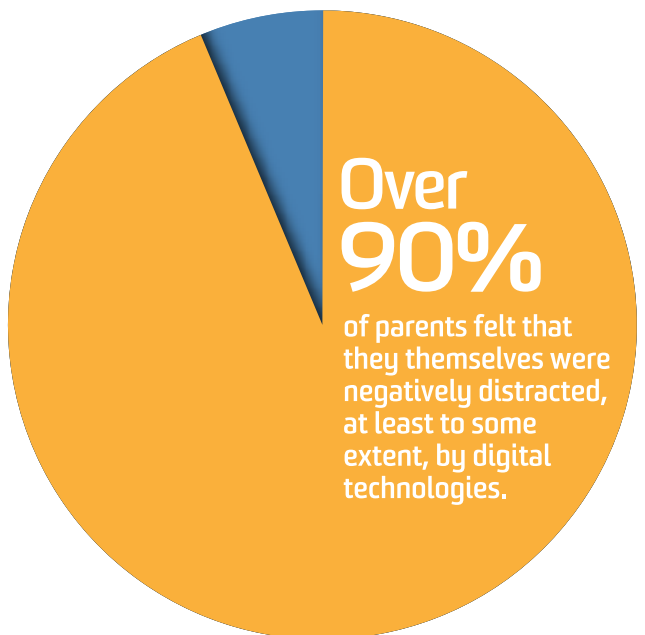
The majority (83%) of parents, carers and grandparents felt that their child was negatively distracted by digital technologies. 13% of these respondents felt that this distraction was experienced to ‘a great extent’. Two of three parents felt that when their child is bored, using digital devices to distract them is their first choice. In Phase 1, almost an identical observation was made by teachers with 84% agreeing that digital media and technologies are a growing distraction in the learning environment.

Young people now have a plethora of choices when it comes to media-related activities, and these are used to varying extents. Yet, for a generation often described by its reliance on social media, it is interesting to note that these platforms do not raise the same concerns as video-based content. Parents perceive that the most problematic areas for children and young people in our survey are watching videos (47%) and playing video games (32%).

According to parents, 30% of families allow their children to use their devices in their bedrooms after

bedtime every single day. Yet when asked about their thoughts on the impact of digital technologies on sleep, 50% of Australian parents believed that devices had no impact.

Of great concern is that 37% of children and young people that were the subject of this survey have been anxious or depressed because of their time online or because they were not allowed to use their device.



Three in four believed that this distraction is growing.

37% of children and young people

have been anxious or depressed because of their time online or because they were not allowed to use their device.

Most worryingly, this increases to over half (52%) when exploring low-income earner respondents and even more (66%) prevalence of these mental health concerns in children who are performing poorly at school. Yet when asked the degree of impact that they believe digital media has on anxiety levels, over half (55%) of parents believe there is no impact- a view that is not supported by empirical research.

STRATEGIES THAT FAMILIES USE TO MAINTAIN DIGITAL WELLNESS

Parents, carers and grandparents try to regulate and often restrict children's digital media and technologies use for different reasons. Understanding why they do that helps to address where policy attention needs to be directed. It also points to where the gaps between parent efforts and children's behaviour change might be and what would be the most effective ways to foster healthy and responsible living and growing up digital.

It is encouraging to note that parents and grandparents seem to be well-informed about strategies that they can put in place to help their children lead safe and responsible use of their digital devices. Most parents

use multiple strategies to secure purposeful balance in how children spend their time at home. Most commonly, parents set rules about when their child can go online and have conversations about what children are doing on their digital devices. Table 2 outlines the most common strategies employed by parents in an effort to set limits around their child's media use and promote digital wellness at home.

When asked why they set limits around their child's usage, most commonly it is because of opportunity cost. That is, families believe that being on a screen displaces their child's opportunity to do other activities, like being physically active or playing outside (15%), being creative (12%) or spending time with friends or family (10%).

Sometimes parents feel that they just do not know what to do with their children's PIMU. The next thing then is to seek help from experts. Our survey shows that 12% of families at some point sought expert help because they were worried about their child's digital device usage. A further 7% of all families felt that they needed help but were unsure where to go. These figures clearly indicate that some parents have serious difficulties in handling their children living with digital gadgets.

Open parent-child communication about their use of digital devices and potential concerns relating to their use of digital media and technologies is an important buffer that helps to keep young people safe (Office of the eSafety Commissioner, n.d.). In our research, it is

Table 2: Strategies used by parents to manage their child's digital media usage.

Parental strategy used with child	%
Make rules about how long or when your child is allowed to go online	15%
Talk to your child about what they do on the internet	15%
Suggest ways they can use the internet safely	12%
Talk to your child about who else can see what they do or post online	11%
Suggest that your child uses particular websites or apps	10%
Promise that your child can use a digital device as a reward for good behaviour or remove its use as a consequence for poor behaviour.	10%
Use parental controls or apps to block or monitor your child's access to some websites or apps	9%
Encourage your child to explore and learn on the internet	9%
Do shared activities together with your child on the internet or on a device	9%
Total	100%

"The computer creates a disconnection with the task required. Technology for homework is another thing on top of all the other digital distractions in my life. For parents, it is like a blind spot where it's hard to tell what they are doing".

clear that parents have had many important conversations with their children on a range of topics that relate to their digital devices.

The following topics have been covered by parents, ranked in order starting with the most commonly discussed:

- 1) How much time he/she is allowed to spend online
- 2) Which types of media and online sources he/she is allowed to consume
- 3) Cyberbullying and how to handle it
- 4) Online privacy and safety
- 5) How online content you post can be shared by others in unwanted ways
- 6) Appropriate online behaviour

THE THIN LINE BETWEEN LEISURE AND LEARNING

One common challenge that parents have is the fact that digital media and technologies are a powerful enabler of more interesting and powerful learning, while at the same time it clearly distracts and is a potential contributor to illbeing. Parents understand that children need to learn about the technologies that are

available, and they should feel confident when using them in their lives for work, learning and pleasure. Our survey reveals that four in five parents believe that children need to be skilled in digital media and technologies in order to succeed in life.

As we have learned from Phase 1, teachers strive and work hard to take advantage of digital media as a learning tool in school. We asked parents, carers and grandparents questions about their child's use of digital media and technologies for learning and schoolwork in general. Almost four of five respondents felt that their child's use of technology when at school was 'about right'. Furthermore, 19% felt that it was 'too much' and 65% thought that the impact of digital technologies on their child's learning was mostly positive. One in five parents thought that this impact was mostly negative.

When asked whether children needed to be online to do homework for school, parents' views were evenly in favour and against homework being completed online. For 23% of the families who did need to access the internet to complete homework, this posed a problem. Common challenges were related to:

- child's lack of self-regulation and control when needing to manage work online
- a lack of access, especially with multiple children sharing a device, and intermittent and expensive internet access
- the impact on handwriting and lack of effort and deep thinking when completing homework
- the impact on younger siblings and the interference with their own family's boundaries around the use of screens
- reduced willingness to complete other learning tasks that are not on a screen
- the increased distraction when online and inability of parents to know when children are doing homework and when they are off-task
- the challenge faced by parents to closely supervise when children are online while also managing work and other children.

Parents spoke often passionately and forthrightly about the challenges that they face as they try to ensure that their child is keeping up with schoolwork, yet still live a balanced and healthy life. One parent had this story to tell:

“From year 7, a device was required at school. This took away our control of the children’s use of technology. Prior to that, we were able to limit computer usage. They could only use it when we were there. Since year 7, they have a laptop with them constantly, so we can’t regulate their computer usage. I can’t guarantee that he’s doing homework when he’s on his computer. Schools are so focused on children’s digital learning the kids rarely write. My son’s handwriting looks like it belongs to someone 8 years younger. This is just lack of practice and skill. When pointed out to teachers in primary school, the response was always ‘that’s not important’ and ‘I don’t have time for that’”.

Some parents had a hard time guiding their children to find a good balance between using digital media and technologies for leisure and learning. For one thing, it is much more difficult to know exactly what children are having on in their digital gadgets at home. Many parents also felt that doing homework online made their children rush through it so they can get onto other things, rather than engaging in deep thinking and focus on the task. One parent elaborated on this, saying that *“their research and critical skills are very limited. Research*

basically consists of the top 10 search results in Google!”, while another said that doing homework online *“encourages token effort”*. Parents also saw their children becoming easily become distracted by other temptations. A common strategy by young people was having multiple screens open that children could easily flick between when they were checked on. One parent thought that her child was doing homework on her laptop but had to frequently check that she was not on YouTube. She explained how she has to watch over her daughter’s screen constantly while she is doing her homework. *“I can’t get anything done like dinner as she is in high school and has a lot of homework”*, she said. As a consequence, *“we eat too much take out and are all too fat”*, this mother concluded.

Another parent said that *“ever present technology and apparent homework is a convenient excuse for him to withdraw from family activities and conversation”*. Some parents missed old paper-and-pencil homework that was more visible to them and harder to hide by children. They saw it as a good way to balance already excessive use of digital media and technologies at home. There were also those parents who thought that homework should primarily be assigned so that it wouldn’t require digital devices, as this parent explains:

“I think the devices should stay at school - as they are supposed to be for schoolwork. Or they should not require interaction with the device at home (i.e. homework). This battle rages in most households. I have been a parent representative in a school classroom and all of the parent reps met with the school principal and the overwhelming (multiple parents from every classroom) complaint was the ongoing battle with devices. The lack of information with how the device was being used, the lack of planning (every teacher used them differently), the inability for parents to access exactly what was supposed to be being done on the device and the expectation that all parents would supply a \$1500 device in a public school to support student learning. The principal’s reply was to suggest upset parents relocate to a nearby school that prides itself on wi-fi free learning with only limited digital access in the classroom. I found it incredulous that the voice of the masses was so easily dismissed by such a powerful figure”.

It has become obvious that technology-assisted learning has become a norm in all schools in Australia. Schools are increasingly providing children with a gadget, to use at both school and home. It is a new normal of schooling. That is why some the parents' concerns voiced above are probably here to stay – at least until there are better ways to teach all children how to self-regulate their digital behaviours. On a positive note, just 4% of children were reported to have missed school because their digital device usage interfered (i.e. too tired to attend school because of being on a device late at night, or school refusal as a result of online activity).

PARENTS LOOK TO SCHOOLS FOR SUPPORT

In our Phase 1 survey on teachers' perspectives to growing up digital, a common view was that parents were expected to do more in educating their children about healthy and responsible use of digital gadgets. In this survey, it has become clear that many parents and grandparents look to school for support in their child's interactive digital media and technology use. The majority of respondents (54%) feel that parents and schools share an equal responsibility in helping a child to develop the skills and habits that they need to grow up in a digital world. This was closely followed by the view that families alone should accept this responsibility (45%).

About half of parents, carers and grandparents agreed that they would welcome more support from their child's school to help them and their child to manage digital media and technologies use at home. A further 47% of respondents would like more support when they specifically ask for it. Only 6% of families said that they would find getting more support from their child's school to be intrusive. Most commonly, one-third of parents requested that schools host more presentations by experts followed by 28% of parents who hoped more evidence-based emails and information on specific issues about growing up digital.

When parents elaborated on the support they are seeking, it is clear that more collaboration and a shared

approach between home and school is front of mind. Many parents feel out of their depth in managing issues that face their children and think that schools can help them "set limits" through explicit education for children and parents. The need for consistency of messaging to both parents and teachers was commonly noted, as is evident in this parent's opinion:

"I strongly believe there needs to some kind of discussion/presentation/workshop directed to the students (perhaps in line with something for the parents) in the negative effects of using too much or sharing too much on the internet especially with social media. They can read all of the information and be told by people how bad it is but they need it in their face the actual negative effects of this kind of thing. It could be a talk by someone who has been directly impacted or a victim of sharing too much information online. It needs to be direct and confronting because the mentality when they hear these stories is that it won't happen to them. They need someone local it has happened to, I think".

Many parents were hoping schools would focus more on digital wellness and cyber safety. "The school should be sharing what safe screen use is - amount of time, risks in the online environment etc.", one parent said and continued in saying that, "They do it for drugs, stranger danger etc so I am surprised it isn't in the

"As schools require children to use digital devices, they also have a responsibility to educate the children about appropriate use of the devices and also to educate them in ways to disconnect from devices, like the importance of time in nature".

curriculum". Many parents thought that it would be helpful to inform all children at school about how extensive time on digital devices can have a negative effect on their wellbeing, learning and identity. *"Some real-life examples and what the long-term effects are on the brain. If this were to come from the school it may have more impact than the constant parental 'nagging'",* one parent reasoned.

Another respondent voiced a similar wish by saying that *"Explicit, research-based lessons delivered to students on appropriate digital media use from the perspective of good health (i.e. most things are okay in moderation)"*. She also suggested that these lessons should also be shared with parents, so they are on the same page with similar messaging. Parents stresses the importance of starting this information sharing to children early on, no later than Year 3 or 4. *"I would like to see the children given expert presentations on online behaviours & what is illegal like bullying, inappropriate behaviours with a carriage service. Waiting until year 5 is too late",* a parent said.

There was a common view among many parents that it is important that the whole school engages in a positive digital awareness and wellness campaign. *"With the use of digital technologies - how to identify and negate the negative aspects and enhance its positive attributes",* one parent explained. He also thought that *"Emphasis on social media use & students to develop critical thinking with regards to its use. Cyber safety lessons in the school curriculum"*. Another parent argued that *"As schools require children to use digital devices, they also have a responsibility to education the children about appropriate use of the devices and also to educate them in ways to disconnect from devices, like the importance of time in nature"*. These parents' perspectives indicate that schools have a critically important role to play in teaching children about how to find a healthy balance in using digital media and technologies. Establishing a common ground with each and every family within a school community can be complicated though, as this parent explains:

"We have quite strict controls in our family, but we are impacted by the different limits in other families. Therefore, it is in all our interests if parent education generally goes up and children are given support and limits they need in relation to digital usage".

Teaching children the notion of a balanced day with and without digital devices was considered important to many families and something that schools could

support. One parent thought that *"Schools need to foster a culture of responsible and proportional digital use so young kids talk about tablets and the internet as only one part of education: like sport and arts and reading and maths and digital media and science"*. From our Phase 1 survey we know that most schools already have well-developed regulations and guidance about how to use digital gadgets, especially smartphones, at school. But there are big differences between schools in how these are enforced in daily practice. Similarly, families have wide range of ways how they regulate or put limits to their children's use of digital media and technologies. Comments like the one below by parents are not uncommon:

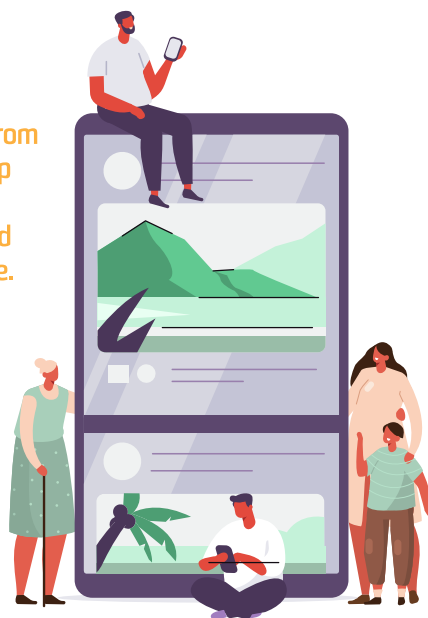
"I think from the time children start school, there should be a strong emphasis on very strict daily usage of technologies. Technology free days at school. Emphasise the importance of filling one's day with a variety of activities with technology only being a small percent of that time".

Some governments in Australia have already banned or significantly restricted students' use of mobile phones and gadgets in school. These decisions are clearly supported by some parents' calls to action in this issue. Indeed, in our survey a number of parents did request that schools implement more bans on phones while at school or enforce the current bans more strongly and that digital devices are not used for schoolwork. Some parents expressed these expectations forcefully as in the following comment:

"Digital technology is taking over our children. Public schools MUST enforce a no phone policy in class and start to work out how to enforce it all the time. My daughter can sit in class for a whole 1hr 10min period on snapchat and the teacher will not do a thing. This is hard to regulate as a parent when she is at school. She spends a lot of time at home on her mobile phone using it for social media, in particular, snapchat and every parent I speak to says their children are the same. I have no idea how best to regulate it because the argument is 'I'm just looking at pictures' or 'all of my friends are online why can't I be?' and many other excuses. I am sure my daughter has photos on her phone I would not like her to have whether they be of herself or other people but I have no way of accessing that or regulating it to ensure she is safe. And at the end of the day we just want her to be safe".

About half of parents

agreed that they would welcome more support from their child's school to help them and their child to manage digital media and technologies use at home.



This is another forceful example:

“Schools need to enforce that mobile phones stay out of the classroom. Laptops are available if students need the internet. Each student owns a calculator. Phones are disruptive and students are allowed to retain them simply to keep the peace in the classroom. It’s all backwards”.

Many of these parents also believe that from an educational perspective, learning should be more often be completed using books, paper and pencil rather than “relying on everything going into the iPad”, as one parent argued. Other parents suggested that the use of laptops should be clearly “limited to specific activities and situated so that teachers can see all students’ screens constantly”. It goes without saying that the role of mobile digital technologies at school remains a controversial issue.

Other parents wondered why have schools become venues for smartphone usage and why are children expected to have a mobile phone and know how to use it responsibly. This survey shows that the most common reason parents purchase a mobile phone to their child at very young age is to contact their child during school day. One parent asked: “Why do some parents feel the need to constantly engage with their children during the school day via the mobile phone?”.

A SNAPSHOT ABOUT GRANDPARENTS

We received some responses from grandparents. Their views are an important part of the picture. Hence, a snapshot of the views of grandparents are presented here. An area of interest for future research would be to further unpack these and more deeply try to understand how grandparents see these issues. Some broad, and interim, findings are included below.

All families have some similarity in how they like to spend their time. The activities that families enjoy did not change when comparing parents and grandparents. They still love cooking and eating together, playing outside and watching television or movies.

Grandparents are more in control of their digital technology use than younger generations. Almost four in five grandparents feel that they are in control of their digital technology use, and most would choose to play sport rather than a video game.

Grandparents use digital media and technology differently. Grandparents most commonly referenced communication and connection to family and friends as well as easy access to information as the greatest benefits derived from digital media and technologies. The most problematic area for grandparents is checking emails, whereas it was online information seeking for the larger group.

Age and experience might lessen the impact. Many grandparents compared the constant presence of digital devices to their own experience as children watching television, as is evidenced in this grandparent’s experience:

“My generation grew up watching tv and although there are some areas of concern (like age-appropriate content and privacy issues), I don’t see a big difference with the new technology”.

Two thirds of grandparents felt that they were negatively distracted by digital technologies, at least to some extent. When considering that this was 90% of the broader sample, this is quite staggering. One grandparent thought that “Apart from inappropriate content and privacy, I am not concerned.

My generation were glued to the TV". Only half of grandparents felt that this distraction was growing (compared to three of four in the larger study).

Grandparents rarely share the digital space with their grandchildren. Being a co-user of digital media and gadgets offers an opportunity to be involved in the world that young people are ubiquitously a part of, and is known to be a protective factor. Yet, using digital technology with their grandchildren is most likely to be never done (12%), only done rarely (30%), or only sometimes (42%) rather than often (15%) or always (2%). Doing this more frequently will provide grandparents a view into what young people are doing online and build their capacity open up the discussion with them about what they are doing or viewing.

Grandparents care a lot about how the digital world is affecting their grandchildren. Some of the greatest concerns that grandparents have for their grandchildren are: How much time they waste online, especially on gaming platforms and social media; perpetual distraction and need for entertainment; the risks of being exposed to inappropriate content and cyberbullying; and the impact on social relationships and sleep. One grandparent wrote about his concerns like this:

"With all of my 9 grandchildren, ages 3 to 17, I see very negative effects on their behaviour when using devices, they become moody, argumentative, throw tantrums, they can't self-regulate their time and have to be told to stop. The ability to complete schoolwork on devices at home is positive, the ones of primary school age do that well, however their handwriting skills are not great and their ability to spell check makes them lazy and doesn't help with their spelling abilities".

There were some others who expressively shared their concerns for their grandchildren:

"I think smartphones should have a minimum age, and parents should be encouraged strongly to provide only a basic (calls and text) phone to children under 16. I think they are extremely damaging to children's emotional and mental well-being and we need to put protections in place because many parents won't or can't enforce it alone. Parents need help in the same way we don't allow young people to drive cars on the road without a licence and over a certain age".

They are more reluctant to change their views.

When asked about how grandparents thought about digital media and technologies, 57% felt that their attitudes had not changed because of the COVID-19 pandemic- much higher than the broader sample. One grandparent wondered how growing time spent on digital screens will eventually affect their grandchildren. She suspected that her grandchildren will have more time to watch the screen because of time spent away from school and that *"this could be negative"*. She went on saying *"I also suspect that some children will have more opportunities because of more screen time"*.

EQUITY: DIGITAL MEDIA AND TECHNOLOGIES ARE NOT EXPERIENCED EQUALLY

Our data supports a conclusion that digital media and technologies are used and perceived differently amongst diverse socio-economic groups. We also see how the impacts of these on children's wellbeing and health may differ for children who are struggling educationally. The digital divide has long been thought of as one of access and the difference between those who can, and cannot, access the internet and digital gadgets. However, we think that the contextual digital disadvantage that some children and families face is equally important to understand and address.

Inequalities go beyond the issue of mere access, which is how the digital divide has typically been defined. In the current sample, parents who provided their children a mobile phone was significantly higher in the lowest income bracket (62%) than any other group, and lowest in high achieving children (only 45% of children who received mostly 'Bs' as an average grade).

Furthermore, our data does suggest that ownership of a digital device does depend on the financial status of families, at least to some extent. While only 11% of respondents, on average, felt that their child or grandchild had more access to digital media than his or her peers, this jumped to 19% of the lowest income bracket. This suggests that children in lower-income families access digital devices more frequently than their peers. But money was not necessarily a factor in deciding how much their child can be online or which

device they own. Only 8% of respondents agreed with the statement, “If money wasn’t an issue, I would let my children/grandchildren have a better device and be online more”. For some families though, their financial position did dictate how much access they had, as discussed by this parent:

“I don’t have much data on the internet plan we use so M complains about it running out. I can’t afford to pay for more. There can also be issues if we both need to use the internet as it goes too slow. So then one of us has to wait for the other to finish”.

Parental role modelling, and their acknowledgment of the importance of their role in shaping their child’s habits, are also subject to socio-economic considerations. Parents who felt that their own digital media and technology usage impacted on their child

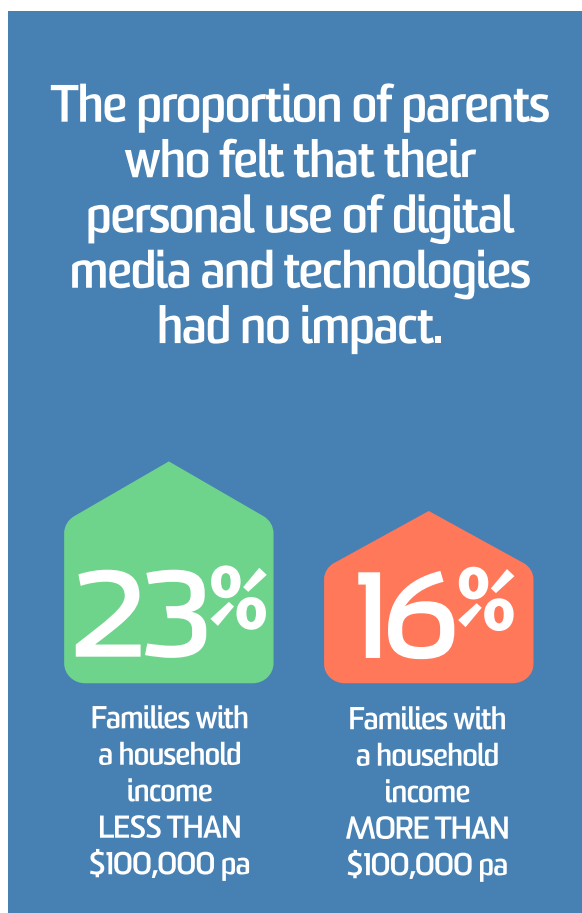
decreased linearly with household income, suggesting that the more well-resourced parents have a greater awareness of their position as a role model.

The need for external specialist support about children’s digital behaviours seems to be linked to the income level of families. In this study, a total of 16% of families in low-income respondents used specialist advice (as compared to 12% in the broader sample). When children experienced educational difficulties (e.g. grades significantly below what is expected of their age - D’s and E’s), more than one in four parents drew upon help from outside the home. Nearly 60% of those families in the lowest income bracket (less than \$50,000 per year) wished to receive more support from their child’s school.

The proportion of children who use their phones in their bedrooms every night climbs from one-third to almost half (47%) when families are in the lowest income bracket, and 59% when their child is experiencing educational struggles (Grades below what is expected of their age). This difference between lower-income and middle-class families is also supported by other international research (e.g., Common Sense Media, 2015).

Other studies have also reported similar findings that children of parents with low education attainment, few professional skills, and in lower socio-economic households tend to have less productive use of digital media and technologies at home, as compared to their peers with greater cultural capital. It may be that students in low socio-economic communities might be given less cognitively challenging activities than their more wealthy peers, which further widens the ‘educational value’ gap (Starkey, Eppel, Sylvester, Daoud, & Vo, 2018). A recent scoping review of 186 studies also argued that young people from low socio-economic backgrounds may be disproportionately affected by high amounts of screen time (Oswald et al., 2020).

The COVID pandemic highlighted the inequality of access to digital media and technologies for some parents and grandparents, and the digital divide was flagged as a real barrier during COVID times as shown in number of other studies already. Some parents voiced this by saying: “I am more keenly aware now of the inequity surrounding access (or lack of) to



technology by school students across the country, especially in regional areas". The others realised that this is a particular challenge in some public schools:

"The COVID landscape has highlighted an urgent need for public high schools to upgrade technology tools and staff training to keep pace. I feel our public school students, particularly those in high school are being disadvantaged".

One of the groups that are rarely considered in research about the impact of digital media and technologies is First Nations people. While indigeneity was not a variable considered in this study, it has been the subject of other important work by World Vision and The Australian Literacy and Numeracy Foundation (2021). Indigenous Australian children and families are about four times more likely to experience the prohibitive digital divide and be locked out of accessing the internet for financial and remoteness reasons (World Vision Australia and The Australian Literacy and Numeracy Foundation, 2021). Hence, they also may not have knowledge of appropriate safeguards, less opportunities for parental guidance, and as such, more at risk of the problematic elements that the digital arena can present.

Any intervention aimed at providing increased access to digital devices should also explore what else is needed to help children living in poverty and performing poorly in their education to manage the impact that these gadgets have on their lives. We need to understand how different groups are experiencing digital media and technology so we can shape the advice and guidance given to parents. If we understand that families do not start off on an even keel, we can be sensitive in providing additional support to them to mediate their children's online activities and maximise the educational value of devices at home.

Almost four in five

parents felt that their child's use of technology when at school was 'about right'.



Teachers also have a critical role in helping families to recognise the educational value of devices in low socio-economic contexts, through the setting cognitively challenging, autonomous learning activities. Finally, there is an additional impetus when working with families who face additional disadvantage to create alternative opportunities for a balanced life to ensure screens are not unnecessarily amplified in their homes.

CONCERNS FOR THE FUTURE

We asked parents if they had any questions or additional concerns to raise about digital media and technologies in their children's lives. Almost all participants expressed worries about how to manage the diversity of issues that come along with their children living more intensively with their digital gadgets. One parent was concerned that *"It's something that is affecting anxiety levels, social interaction, and especially concerned about the impacts of social media on young girls"*. Another one was worried that *"The children of today will grow up to be young adults and not know how to interact with each other in a face to face situation. Children will have posture problems, anxiety, and depression"*.

Discussion and recommendations

DOCTOR'S ORDER: TAKE AN INTEGRATED APPROACH TO HEALTH AND EDUCATION

The digital world is here to stay. Ensuring that world can enhance and not harm the health and wellbeing of our children and young people is a challenge that we are still trying to address. There are clear health issues that are important for which there needs to be real solutions. These range from issues of sleep with the importance of removing devices from bedrooms through to obesity with the combined impact of decreased activity and increased exposure to junk food advertising (Australian Institute of Health and Welfare, 2020; Carter, Rees, Hale, Bhattacharjee, & Paradkar, 2016). Perhaps the area of most pressing need to address is that of mental health; made more urgent by the public health restrictions as a result of COVID-19 (Golberstein, Wen, & Miller, 2020). The RCH National Child Health Poll completed in June 2020 showed that 46% of parents reported that their mental health had worsened, 36% reported their children's mental health had worsened, and 51% reported that their children's screen time (for entertainment purposes) had increased. At the same time, the Raising Children Network had over 43.5 million page views in 2020 (an increase of 30% from the previous year), with a particular peak in COVID-19 and screen time advice. The impact of the "long tail" of COVID-19 on parents and children is yet to be understood; but likely to disproportionately impact those most disadvantaged—these inequities already seen in this report. What's clear is that there is no single approach that is likely to be the "silver bullet". The findings from this report suggest that meeting the needs of parents, children and young people requires us to take an integrated approach to health and education with both families and schools/ECEC having an important role to play. The "road to recovery" will require a concerted focus on supporting parents and re-seeing schools as fundamental public health platforms that have the opportunity and capacity to meet the holistic needs of children with a focus on prevention and equity.

Professor Sharon Goldfeld
Paediatrician at the Royal Children's
Hospital Melbourne

Through considering the results from Phases 1 and 2 of this project, the relationship between young people's increasing use of digital media and devices and declining wellbeing is now well-established. We now turn our attention to some potential solutions that will help young people strike the right balance between the benefits, and pitfalls, of the digital world that they grow up in.

DIGITAL MEDIA AND TECHNOLOGIES ARE MOSTLY OFFERED TO YOUNG PEOPLE FOR CONSUMPTION RATHER THAN CONTENT CREATION

Australian parents are clear in their understanding of the many educational and social benefits that digital media and technology have to offer young people in being able to access information more effectively and communicate and collaborate with others. However, they also recognise the risks and problems that come with overuse. Yet, we can see from the data that parents are still providing these gadgets primarily for entertainment purposes, rather than purposively and with a clear purpose.

Historically, the calls for screen time limits are largely predicated on the consideration of digital media as an entertainment, or 'digital babysitter'. The introduction of digital media for this purpose early in life not only creates an expectation by young people that this is how they should be used, it also makes it difficult for schools to introduce the educational benefits of these devices and media forums.

Parents grapple with confusing messages about whether educational or learning uses of digital media and devices and recreational and entertainment use need to be treated in the same way. The time recommendation increases with a child's age and are based on the idea of media as a 'digital babysitter' and a source of entertainment, rather than recognising the educational, active and engaging purposes that digital media can provide. Clarifying the key point that there are better uses of screens than others, and the need for balance in a young person's day, is critical to seeing change in parental decision making.

Passively consuming digital content poses other risks, too. The content that young people absorb and consume from the digital world around them is filled with ideas and examples that shape their views of the world around them and how they fit into it. Some of these are inappropriate and unsafe and without sharing what they are seeking and experiencing online, parents have little leverage to intervene. For parents, it is far better to engage in a conversation *with* young people about their habits and share the digital world with them.

THE DIGITAL WORLD IS NOT A LEVEL PLAYING FIELD AND SOME CHILDREN ARE DOUBLY DISADVANTAGED

In our analyses, we can clearly see that children from low-income families and who are experiencing poor educational outcomes are not only owning devices more and using them in more problematic ways, such as in their bedrooms, they are also the least likely to receive effective parental role modelling. These are the same parents see their own usage as having no impact on their child. It seems obvious to conclude that this is where we must be targeting our greatest attention and investment.

For some children, they can access digital media in sensible, purposeful, educational, ethical and healthy ways that align with the values promoted by the guidance promoted by bodies like the Office

of the eSafety Commissioner. But for other young people, their lives are completely taken over by their phones or screen-based media and they are really prone to the negative consequences. Without being alarmist, we cannot sit back and be content to watch an entire generation of young people be put at risk by unregulated access to digital tools that they do not know how to manage.

THE OPPORTUNITY COST THAT COMES WITH PROBLEMATIC DEVICE USE IS A CONCERN FOR PARENTS

Time spent online is clearly the major concern of parents. It is also clear that this one-size-fits-all recommendation of minutage is extremely difficult for parents and educators to enforce, mostly because it does not take into consideration how and what children are interacting with and the purpose that they are using these tools.

Other research has also considered the potential opportunities lost from being on screens, particularly in the outdoors. McDool and colleagues (2020) tested a range of hypotheses to try and establish causation between wellbeing outcomes and internet use and found the greatest support for the 'crowding out' hypothesis, whereby being online reduces time spent on other beneficial activities. Of particular interest has been the increase in engagement with screen-based digital technologies and the concurrent reduction in time spent outside in nature (Oswald et al., 2020). Research commissioned by Planet Ark and Toyota Australia (2018), in a call for more 'green time than screen time', they reported that:

"Australians are spending just four per cent of their week immersed in nature yet almost three hours a day glued to their mobile devices, despite the majority of Australians (89 per cent) agreeing that time spent outdoors significantly helps reduce stress and increase levels of calmness".

We have already cautioned against a narrow focus on screen 'time'. Put simply, there is no easy metric to define

how much time spent on screens and digital gadgets is too much. This approach also does not reflect the dynamic and complex situation that we are facing. The American Academy of Paediatrics anticipated the generational shift and amended their guidelines to not only provide time-based recommendations, but also broader advice about forming healthy media habits and the quality of the screen-time. Yet, in Australia, we still have narrow and antiquated guidelines that only advise about minutage. Our time-based guidelines were developed prior to the explosion of mobilised screen-based technology and have been critiqued for being narrow, in that they do not reflect the educational purposes that digital media can be utilised for.

When we look at the data, this becomes crystal clear and something that we must not ignore. Parents overwhelmingly reported that digital devices took their children's time and attention away from other important things in their lives, including quality family time. We have also seen from Phase 1 that these gadgets pose a distraction in the classroom. Even when young people are engaging in beneficial or enjoyable digital media activities that do not pose immediate risk, such as listening to music, the sheer amount of time devoted to them is a concern for parents. When children are focused on their gadget, they are not reading a book, playing outside or having a real-time conversation with a friend or parent.

Parents' most common conversation with their children is about the time they spend online, without exploring the idea of balance or what they might be missing out on, or even how they might spend their time otherwise. This seems out of step with how we teach young people about other important life lessons. For instance, when we talk about healthy eating, we don't talk about 'food time'. We talk about components that make up the intake. For parents, if your child was not eating well, or not moving or sleeping enough, you may find yourself needing to look at food intake and exercise.

All of these things are often the result of too much time spent online, yet the only formal advice that currently exists around the use of screens and digital media is time-based. That is, we are told to restrict time, with little or no consideration of content or purpose. We propose that a better way to approach this area is by broadening

our understandings to consider digital media in relation to its purpose, intent, and the displacement of other activities that add balance to a child's day.

EVERYONE HAS A PART TO PLAY IN HELPING CHILDREN DEVELOP AND MAINTAIN DIGITAL WELLNESS

It is now clear that for young people to thrive in the digital world, they need to learn the notion of balance. This is not a problem that will go away, or that fits neatly into a school's or parent's responsibility. We all have a role to play in equipping young people to develop healthy, respectful, and balanced digital identities.

This is also a bi-directional relationship where parents also have a responsibility to ensure children are following similar boundaries at home as to school. One of the biggest issues facing teachers, and one they urged us to address with parents in the Phase 1 report, is where their jurisdiction and responsibility for these issues ends. Teachers felt the expectations on them to manage issues of screen time are not reasonable, saying that they were regularly called in to intervene in issues of bullying and harassment, even when the issues happened at home. Teachers are not specifically trained in managing these issues, and nor are parents. But allocating blame is not productive or helpful and if we all accepted responsibility, we could improve the supports we offer.

Parents often feel out of their depth and they do not have control of what their children are doing or viewing online. Parents can support what schools are trying to achieve by not allowing children to use devices late at night, so they are ready to learn the next day. There is clearly also a role for schools to better support families in these issues, as evidenced by the overwhelming majority of families who indicated they want and need more help and support in managing these issues. Schools are in a unique and fortunate position to reach a broad audience of young people and their parents, so consistency of messaging and broad dissemination can be achieved. Setting limits at home is made more challenging when parents feel that schools are not on the same page especially in areas such as homework. Schools could directly offer families support with these issues, by trying to find alternate ways to present work, keep devices at

school and hold parent information sessions to educate parents about the possible risks. Don't wait until there is a problem to start conversations with families.

A note of caution. While concern is clearly there, the parental spirit is weary. We know that this is not easy. There will likely be battles, arguments, tears, resentment and not a problem that will be easily solved. This is worth the effort and short-term pain, we promise.

TEACHING CHILDREN TO SELF-REGULATE ON THEIR DEVICES IS THE KEY TO BETTER LIFE

We have seen in the present data that parents are doing many things to try and help their children be safe and responsible users of digital media and technology. They are having many productive conversations and setting limits for their child to follow. Research supports the critical role that parents play. Gentile and colleagues (2014) found that when parents monitored their kids' media use through strategies like time restrictions; content restrictions or parental discussion about content, there were social, academic, and physical benefits. Children slept more, were less aggressive, had improved academic performance, and had lower body mass index. The researchers noted that parents may not notice the immediate effect of restricting and monitoring screen time right away, just as they may not notice a child getting taller day to day, but there is what he calls a "ripple effect" where the impact is cumulative and increases over time.

Time-based restrictions or strategies that are usually used in homes are based around parent restrictions, artificial limits, time-based considerations and compliance with what they are being told to do. Just like in schools, where the main tactic to manage these issues is to ban them inside the school gates- a decision clearly supported by parents in our survey data. But while some research supports these prohibitive measures, like claiming increases in school performance (e.g. Beland & Murphy, 2016), in some places of the world these bans have backfired and been overturned (City of New York, 2015). In any case, relying solely on these limits and restrictive

strategies are missing a key point. Education is more effective than prohibition and taking away young people's opportunities for learning how to manage these devices. There must be something more we can do to teach young people to discipline themselves without our intervention. The problem is not technology and digital media. It is our own inability to be able to understand the benefits and the perils of using digital devices safely and responsibly that leads to problems. So, what about getting children and young people involved from the outset?

We know that this problem is not going away, and indeed becoming even more prevalent, so there is a clear issue with how we are educating children and young people to manage themselves. Strong digital citizenship skills prepare young people to tackle current problems. Empowering students with a sense of digital wellness, and arming them with strategies and skills they can build upon as the devices and platforms they engage with change under their feet, might be the newest 21st century skill.

Education experts also identify the critical need for students to be able to self-regulate their technology use, both generally, and while learning online (Vincent-Lancrin, 2020). Even from a young age, we need to be teaching children to set their own limits and be responsible if they are to grow up in a digital age. Involving them in decision making, based on evidence, is important to their sense of agency when it comes to self-regulating technologies now and into the future.

There is a need for a suite of tools to inform and guide parents and schools about navigating screen use and developing students' self-regulation repertoire of skills so that they are able to make decisions about their use of devices, particularly mobile devices where there is access anytime and anywhere. Introducing a digital self-regulation curriculum in schools is an idea that is popular with parents, who feel out of their depth in managing these issues and that school is the best place to learn about this.

For parents, part of teaching self-regulation comes from giving young people a voice. Kids should have a seat at the decision-making table about this, and help to make the guidelines that every family member follows consistently.



Limitations and caveats

The topic of interest clearly gives rise to passionate debate about the place of digital media, and the as yet unknown impacts of children's excessive usage. On top of this, data was collected during the COVID-19 pandemic and at a time where digital media was glorified as a saviour to children's education and parents' ability to do their jobs.

While there were a number of differences observed between sub-groups within the larger sample, when items were stratified by demographic characteristics, these findings must be interpreted with careful consideration. The numbers within these sub-groups were relatively low, and hence, the results are heavily skewed, and the effects look stronger than they may actually be in a representative sample. Further, Socio-

Economic Status (SES) is a confounding variable and must be considered cautiously for its influence on results. Nonetheless, the findings presented are thought-provoking and present catalysts for future research.

As with every association observed in the present results, it is not possible to determine whether these are causal relationships. For instance, are young people who are struggling at school more likely to watch videos at problematic levels, or is the opposite true? Or is there some other variable that we have not considered that explains all of these phenomena, such as gender? This was beyond the scope of this analysis.

This survey does not offer an in-depth or highly nuanced measure of parent or child mental health or wellbeing, nor do we anticipate being able to draw robust conclusions in these areas. Notwithstanding this, the trends from the Growing Up Digital Australia surveys to date suggest that the world is a more complex place for children, young people, their parents and their teachers.

International comparison

In 2018, a similar survey was undertaken in Canada including over 3,500 Albertan parents and grandparents with detailed questions about the impact of technology on their own children and grandchildren. There are clear similarities in some areas, yet the trends also suggest that the problems may be different here and, in some cases, worse.

While in Australia over 90% of parents felt that they were negatively distracted, at least to some extent, by digital technologies, this was only 62% in Alberta. This could be, at least partly, explained by the unusual circumstances caused by the COVID pandemic when the data in Australia was collected. Social media was the area of greatest dependence in Alberta, whereas information seeking online (such as Google searches) is the most problematic area for Australian parents. Similar proportions of parents recognise that their own technology habits influence those of their children (72% in Australia; 76% in Alberta).

In children, there are both similarities and differences evident in the two datasets. In Australia, 13% of parents felt their children are 'addicted' to technology, whereas a higher 22% reported this in Alberta. An Albertan parent wondered *"how children are managing the process of growing up in a world of instant access to information about an adult world. Are adults prepared to guide children through this? I feel unprepared for the challenge ahead"*.

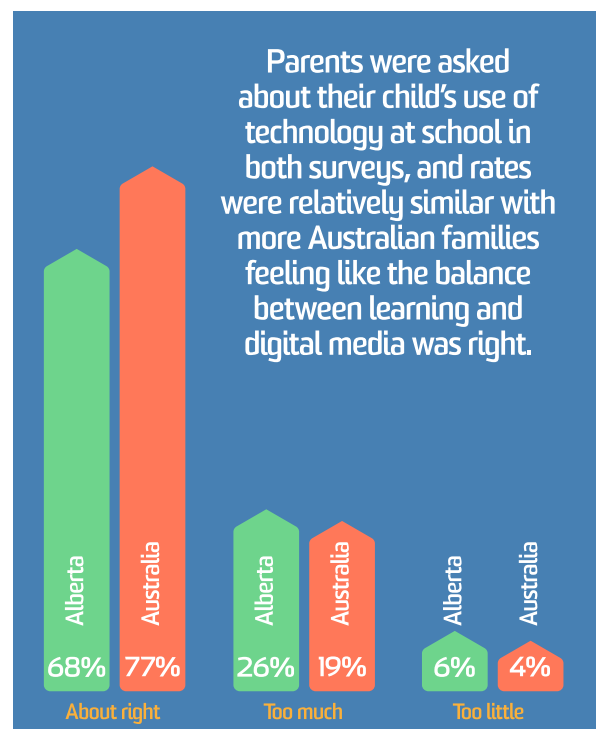
The areas of greatest concern (watching videos and playing video games) are the same in both jurisdictions.

In Alberta, 45% of parents reported that their children have a mobile device with them every night, yet in Australia this was 30%, on average. However, this rose sharply across different equity groups in Australia, which was not available for the Alberta data.

Furthermore, 60% of Albertan parents indicate that their child's use of technology has a negative impact on physical activity, whereas this was 73% in Australia. Nearly half (47%) of Australian parents suggest that it has a negative impact on emotional health compared

to 37% in Alberta. Finally, while 30% of respondents in Alberta suggest that technology increases their child's anxiety, 39% of Australian parents thought the same. Most notably in Australia, a larger proportion (55%) actually believe it has no impact at all.

Parents were asked about their child's use of technology at school in both surveys, and rates were relatively similar with more Australian families feeling like the balance between learning and digital media was right.



When comparing these findings between Alberta and Australia it is important to note that Canadian data was collected in 2018, two years before the COVID pandemic. Most Australian children were or had been experiencing remote learning from home often using their own devices or those offered by their school on a daily basis. Many parents were also working from home and spending most of their time with their computers. As our data shows, this has forced many parents to think about their own attitudes to digital media and technologies. These changes are probably also reflected in other findings regarding their perspectives to their own and their children's use of digital devices.



Conclusion

In this report we have presented the key findings of Phase 2 of the Growing Up Digital Australia study. Similar to Phase 1, we used a large-scale community survey to shed more light on how Australian parents and grandparents have noticed changes in their children and grandchildren over time.

As smartphones and other digital devices have become more and more common objects in Australian families, they also influence and often even determine family life and how families spend their free time at home. We have heard several stories from parents who feel that it is very difficult to control or put any limits to their children's consumption of digital media and use of digital gadgets. No question, as we concluded in Phase 1 of this study, that this new way of life has notable impacts across a broad range of domains of children's lives as they grow up.

Parents and grandparents offer important perspectives to better understand how young Australians experience their lives as well as how digital media and technologies might affect their wellbeing, health, identity and eventually learning. The main takeaway in the Phase 1 of this study was that children and young people are not who they used to be in terms of how they interact with the world around them, how they spend their free time, how they sleep, and what they worry about. All these changes that were clearly noted by Australian teachers have indirect, and often direct, impact on students' readiness to learn and succeed at school. Findings that we have reported in the Phase 2 of this study confirm many of the observations that teachers made earlier about children and youth. However, many of the findings made earlier in this report provide a more intimate and detailed picture of the lives and realities of children as family members.

The key conclusions fall under four broader themes similar to what we described in Phase 1.

Children are not who they used to be

It is difficult to know exactly how long young people, on average, spend time daily with their digital devices. Our Canadian colleagues found out that Canadian students, on average, spend approximately seven hours and 45 minutes in front of some sort of screen, such as a smartphone, tablet, television or computer each day. According to Lonergan (2017) research, Australians were spending more than one-third of their day in front of a screen, longer than they sleep. Presumably, teenagers today follow similar patterns. What statistics around the world suggest is that the time that children and young people spent in front of digital screens daily during the COVID pandemic has grown, often significantly.

Australian parents and grandparents confirm the message sent by their children's teachers a year earlier: Digital media and technologies are enhancing children's opportunities to learn and engage in the world around them by constantly connecting them to information and one another. At the same time, however, more and more young people are feeling disconnected, have fears of missing out, and increasingly distracted. As a consequence, almost one in five Australian families felt that they need professional help because of their concerns about child's digital habits with gadgets.

The dual power of technology

Digital media and technologies are powerful tools that enhance communication, work and learning in multiple ways. The global COVID pandemic has provided solid proof of that. Children's schooling and many parents' working would have dramatically suffered from forced lockdowns that caused school and business closures in 2020 without prevalent technological solutions that were available prior to the pandemic. This study shows, as was found in Phase 1, that these significant benefits brought by digital technologies often come with potential risks and harmful side effects if not used with care and caution.

On one hand, parents think that the impact of digital media and technologies on their own children's education has been more positive than negative

according to our data. This has been particularly true during the pandemic. On the other hand, 83% of Australian parents and grandparents think that their children are negatively distracted by digital media and technologies. Many parents and grandparents believe that this distraction is growing among their children. Almost three-quarters of parents and grandparents also find it harder to control their child's digital habits since they have got their own screen-based device.

Smart solutions to address complex challenges

Some school systems and many individual schools have simply denied children bringing their mobile phones and other internet-based digital devices to school. Families that are looking for ways to control their children's time with digital media and technologies at home often employ similar restrictions on their own children. A blanket ban on using digital devices during school days or at home may look like an effective solution to avoid some of the challenges caused by these personal digital gadgets when used without any control. But, the issue is more complex than this and calls for more creative solutions.

This study clearly shows that parents also often have difficulties in finding a healthy balance between living online and offline. Over 90% of Australian parents felt that they were negatively distracted, at least to some extent, by digital technologies. Importantly, 72% of parents also recognise that their own habits using digital media and technology influence those of their children. The key response to these observed problems and changes that parents and their children share at home when living with media and technologies should be to learn responsible, safe and healthy ways of living with these devices. The best solution to a complex behavioural and social problem is not to blame the technologies or try to prohibit them. Instead, a more effective way is to invest in purposeful education at home about how to use and live with digital technologies safely and responsibly. Our data suggest that families, parents and caregivers often look to school for support in doing that. The

majority of parents feel that families and schools share an equal responsibility in helping a child to develop the skills and habits that they need to grow up in a digital world.

Inequalities in growing up digital

Technology is a powerful equaliser by providing most people, regardless of their life circumstances, access to wider range of opportunities than what they have had without it. As we saw in Phase 1, this can sometimes turn into growing inequalities in education. The COVID pandemic has exposed these inequalities in schools and communities due to inadequate connectivity, lack of digital devices, or shortage of expertise to properly use all available technological solutions for teaching and learning. Two clear trends have emerged through the pandemic: Many more parents have been using digital devices in the presence of their children at home than before, and many more children have been spending longer periods of time for a wider range of purposes than before.

This study shows that growing up digital in Australia has a significant, and important, equity dimension. First, growing access to and extended usage of digital media and technologies often amplifies the differential impact on children across different equity groups. Second, based on this study it seems that a family's socio-economic status is associated with how children are allowed to use digital devices at home. For example, about one-third of all families and almost half of lower-income families allow their children to use their own devices in their bedrooms every night. Furthermore, 62% of lower-income parents gave their children a smartphone, which was significantly higher than in any other income group. Interestingly, just 45% of parents whose children did well in school had provided them with their own smartphone.

The data from this Phase 2 research emphasises the critical role of parents and grandparents in helping children to develop self-awareness in their use of digital media. It also shone a spotlight on their very real concerns about their children's habits, and the strategies that parents value and implement to help their children navigate the digital world that they live in. A world that is completely different to the one they grew up in.

Finally, we have provided insight into what support and additional information parents need, particularly from schools. By understanding the issues that young people are facing, we will be in a stronger position to support young people who are growing up digitally.

To triangulate our understandings, we still have much to learn from young people themselves about their habits and perceptions. Phase 3 will aim to complete this picture by providing a more detailed individual perspective with particular attention paid to the reporting of youth sleep issues, distractions and difficulties focusing during school and homework activities. We will analyse the visual data captured by young people themselves to identify the key situations of the digital distraction in their daily lives.

Children's perspectives are important

We can't expect to make much progress in helping our children to live healthier and happier lives with the digital gadgets that surround them daily unless we understand better how children use digital media and technology in their own lives. So far, our study has explored teachers' and parents' perspectives on our children growing up in the digital and technological world. Phase 3 of this study will amplify the voice of children and young people and help us to know more about how digital media and technologies are affecting them and what they think would be the best ways to more responsible and safe ways to grow up with these gadgets.

It is important that all solutions regarding how digital media and technologies should be used in schools and at home involve children's perspectives. They have often very different relationships with their gadgets and everything that come with them than we as adults do. Children often think creatively about how to solve some of the challenges that smartphones, social media and gaming platforms bring to their daily lives. As we have said earlier, good conversations between all those concerned, especially children, are the best way to make sure that we maximise the benefits of digital devices while at the same time, minimise the unintended consequences they have when not used wisely.

Global GUD Collaborators

Alberta Teachers Association

Representing certificated teachers and school principals in Alberta, Canada. the ATA promotes and advances public education, safeguards standards of professional practice, and serves as the advocate for all teachers and school leaders.

Digital Wellness Lab

A nexus of research, education, clinical care and innovation at Boston Children's Hospital/Harvard Medical School that focuses on the wellbeing of children, adolescents and society and provides information, strategies, and tools for raising children to be smarter, healthier, and kinder.

Gonski Institute for Education

We undertake quality research, policy and political advocacy, events, brief papers and training to help our most deserving Australian students succeed in education and beyond.

Joan Ganz Cooney Center, Sesame Workshop

An independent research and innovation lab that focuses on the challenges of educating children in a rapidly changing media landscape. JGCCe conducts original research on emerging education technologies and collaborate with educators and media producers to put this research into action.

More information

Australian Council on Children and the Media

An Australian not-for-profit peak body that reviews current apps, movies and digital content for its age appropriateness and impact on children. ACCM also shares relevant research taking place in the digital space.

Common Sense Media

An independent non-profit organization dedicated to helping kids thrive in a world of media and technology. CSM provides parent-oriented ratings of screen media from television to movies to apps and offers school-based digital citizenship lessons.

Office of the eSafety Commissioner

The eSafety Commissioner is responsible for promoting online safety for all Australians. They offer a comprehensive range of resources and information on e-safety issues.

Raising Children Network

The Raising Children Network provide easily digestible, evidence-based advice guides on a range of parenting issues, including a checklist for parents to manage screen time and screen use in children 0-18.

ThinkUKnow

This program is evidence-based that provides presentations to Australian parents, carers and teachers and students. It provides information on the technologies young people use, the challenges they may face, and importantly, how they can be managed.

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