

# Digital Citizenship

Research findings and  
recommendations 2017

Yes

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## This paper set out to answer three research questions:

**1**

What are the major issues in the digital citizenship space? Are there issues attracting major attention even though they are not critical, and/or are there critical issues being overlooked?

**2**

What are the major gaps in the current approaches to building digital citizenship? Are certain approaches particularly effective, and/or others particularly ineffective?

**3**

What could be done better if we wanted to enhance the quality of our impact?

# Key findings

The research uncovered many interesting and insightful answers to the above questions, as well as many areas worthy of further exploration. This paper presents six key findings:

1

## Digital Citizenship is still a critical issue

Despite the focus and attention it is receiving, there is data that suggests it is getting worse.

2

## There is evidence to suggest building the right skills in young people changes their behaviour

The right interventions could protect students from some of the problems they face online.

3

## There is a general over-reliance on knowledge-only resources

Websites, apps, or resource hubs which people are expected to access alone and without guidance are typically under-utilised and fail to create ongoing engagement.

4

## There are gaps in evaluation

Program impact and which methods of intervention are most effective are not well understood.

5

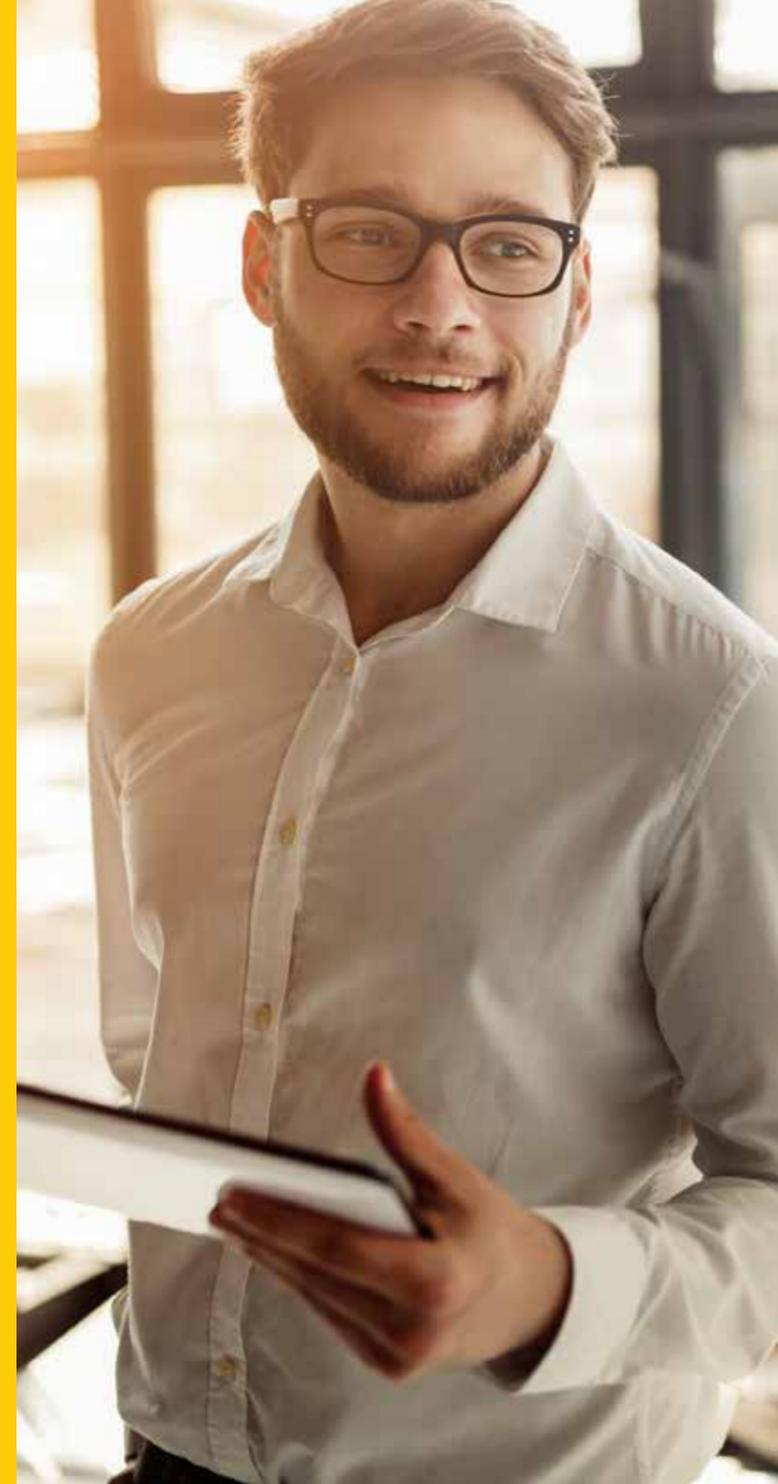
## Parents acknowledge the importance of the issues and want to engage

However, they don't necessarily feel equipped to have the right conversations with their kids in the right way.

6

## Fear-based education is common

It is also generally ineffective.

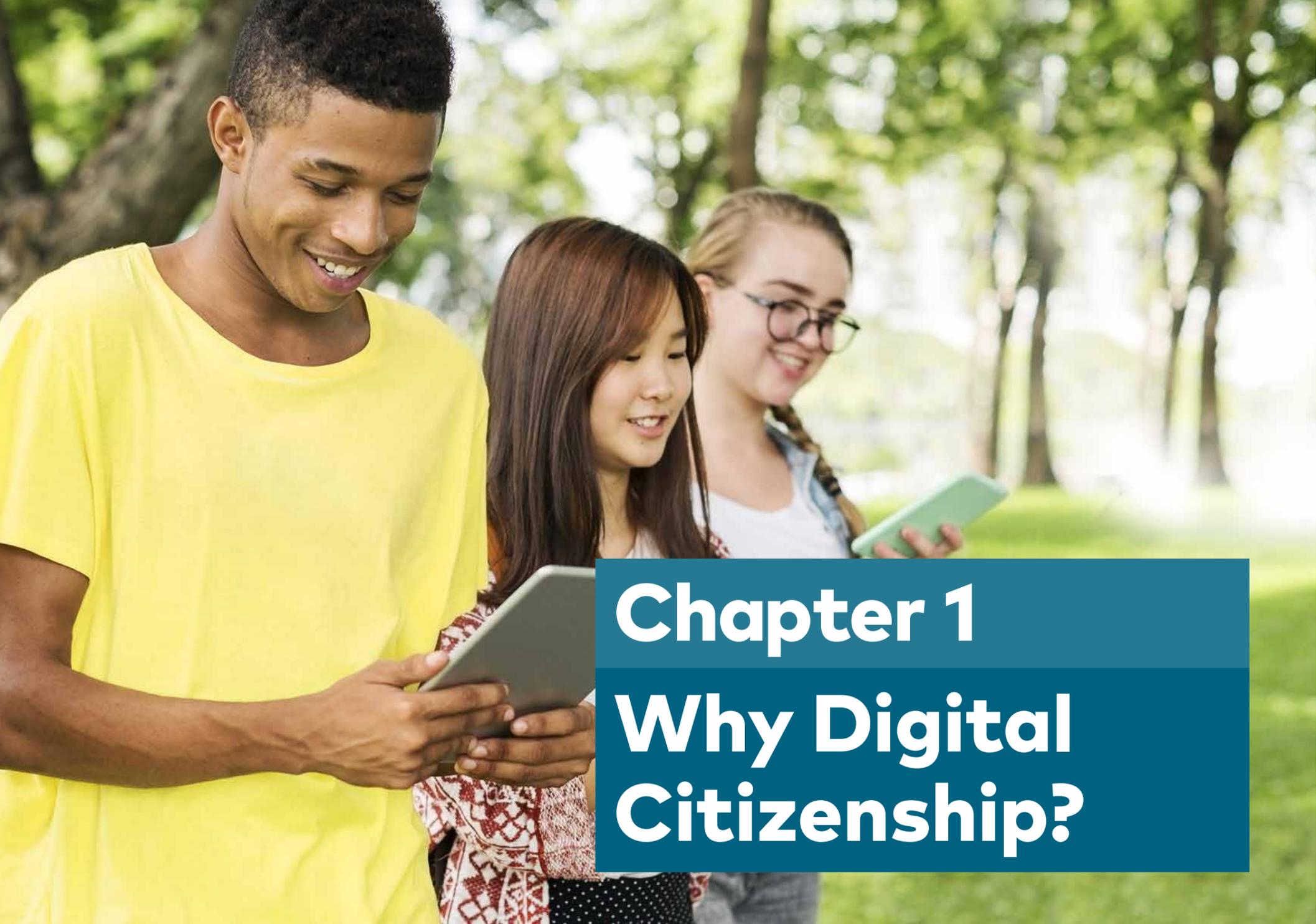


# Research Approach

## Methods

A combination of primary and secondary research was conducted to investigate the above questions. Insights were gathered from:

1. Undertaking a review of published data relating to digital citizenship issues from various community and government organisations, as well as peer-reviewed academic articles.
2. Undertaking an investigation of digital citizenship activities, including a review of available materials and phone conversations with program representatives.
3. Conducting structured interviews with subject-matter experts in the area, including policy makers, researchers, internal Optus subject-matter experts, and practitioners in the not-for-profit space.
4. Reviewing our student (n = 5069) and teacher (n = 2196) survey data from Digital Thumbprint program participants.
5. Conducting primary research with parents (n = 200) and students (n = 100) via online surveys delivered by our quantitative research partner, PureProfile.
6. Conducting focus groups with young students 10-18 years old (n = 32) in partnership with our qualitative research partners at Ekas Marketing Research Services.



# Chapter 1

## Why Digital Citizenship?

### What is Digital Citizenship?

#### How might we structure our behaviour in the digital world to harness its potential while minimising its harms?

'Digital citizenship' refers to the attitudes, skills, knowledge and behaviours that enable people to enjoy the full benefit of digital devices whilst minimising danger to themselves and others.

Just as citizenship describes being part of a society, 'digital citizenship' describes being part of a digital society.

As such, digital citizenship is a broad concept. It encompasses the opportunities that the digital world has created, and also considers the potential pitfalls this world entails. In doing so, it proves a comprehensive and balanced construct through which to view the online world.

This is an important consideration that is often ignored in the research.

*Digital citizenship describes being part of a digital society.*



### What makes a good Digital Citizen?

**Just as a good citizen can be thought of as someone whose participation in society enhances the wellbeing of themselves and others, a good digital citizen is someone whose participation in the online space enhances the wellbeing of themselves and others.**

There is potential for an exciting project to create a precise and shared understanding of what makes a good digital citizen, and we suggest this as an area for further consideration.

There is much to be celebrated and embraced about the online world. The combination of mobile devices, the internet, and social media create unprecedented opportunities for individuals to create content, engage in creativity, build connections with people, access news and information, learn about the world and each other, and participate in the great project of humanity in new and interesting ways.

Despite this, researchers, program designers and policy makers in the space frequently focus solely on the issues faced by people online, such as cyberbullying, 'sexting', gaming addiction and information security.

While these are all genuine problems (and discussed in this paper), considering only the negatives of the digital world ignores the bigger discussion about how we should behave in the online space to safely harness its full potential.

*A good digital citizen is someone whose participation in the online space enhances the wellbeing of themselves and others.*





**Young people don't really 'go online', they're just always there**

## What is a Digital Citizenship Program?

**Most programs would not self-identify as a 'digital citizenship program'.**

For the purposes of this paper, a 'digital citizenship program' encompasses any program designed to enhance the safety, security, and productivity of people in the digital space. They may include programs focussed on just one issue, such as cyber safety, or programs that encompass a broad array of digital skills and behaviours.

*A digital citizenship program encompasses programs designed to enhance safety, security and productivity.*

## Are we sure there is not just 'Citizenship'? Why do we need the 'Digital' part?

**The line between 'digital' and 'the real world' is increasingly blurred, particularly for young people.**

A core theme identified in our research is that students don't think in terms of 'life' and 'life online' (or 'citizenship' and 'digital citizenship'); for them there's just life, which seamlessly incorporates both the 'real' and 'digital' world.

Because young people don't really 'go online' (they're always there), one might conclude we don't need cyberbullying education, just bullying education; we don't need to talk about online ethics, just ethics.

This is an intuitive claim, but one not supported by the research.

*For students, 'life' and 'life online' are the same.*

Whether or not students conceptualise a distinction between life online and life in general, the reality is that the behaviours of people when behind a screen, or on a phone, are different from their behaviours face-to-face. People act differently online.<sup>1</sup>

This disconnect occurs for a variety of reasons: the feeling (true or otherwise) of anonymity; the absence of immediate feedback on the impact of their actions; and the amplification of peer pressure, to name just a few.<sup>1</sup>

Thus, when talking to people about the various opportunities and dangers present in the digital space, the distinction between real and digital is of practical utility.



# Chapter 2

## The Issues

### Context: The rise and rise of the digital native

**To understand the issues surrounding digital citizenship, one must understand the remarkable degree to which digital devices have become core to the lived experience of young people.**

We present a snapshot of the ubiquity of digital device usage by young people.

It is worth noting that these numbers are changing at lightning speeds. As illustrated above, the change over just a few years in some of the figures is profound, suggesting that even since publication these numbers would have likely continued to rise.

#### Smartphones



In June 2011, smartphones were used by less than a quarter of teens. By 2015, usage had risen to 80%.<sup>2</sup>

#### Internet



83% of teens access the internet three or more times every day; 88% go online more than once a day, up from 64% in 2011.<sup>2</sup> The number of young Australians who felt that the internet was at least “very important” significantly increased between 2009 and 2013. Amongst 8-11 year olds, the number nearly doubled.<sup>3</sup>

#### Screen time



Australian teens aged 15-17 are spending on average 18 hours per week on the internet<sup>4</sup>, and children aged 12-13 are spending an average of 3.3 hours a day on screens.<sup>5</sup>

#### Internet access



Digital citizenship is becoming core to education, with almost two-thirds of students accessing the internet during a regular school day in 2015.<sup>2</sup>

#### Multitasking



Multitasking is the new norm; only 13% of 14-25 year olds say they “always” or “almost always” do nothing else while watching TV.<sup>6</sup> Instead, young people multitask while they watch: 49% of 14-25 year old Australians use social media; 39% text; 24% play video games; and 47% surf the web while watching television.<sup>6</sup>

#### Accessing devices



According to internal Optus research, youth are accessing devices at a younger age, with over half (54%) of 10-12 year olds owning a smartphone.

#### Communication



Digital devices are a key means of communication. By age 11, more than 92% of students have used social networking; by age 17, this increases to 99%.<sup>3</sup> Asking young people to turn their device off is not simply asking them to change activities, it's asking them to cut themselves off from their friends.



## Issue 1: Bullying and harassment

### **Bullying and harassment are the most common problems faced by young people in the digital space.**

While encountering harassment online is by no means a universal experience (according to ACMA, just over half of 12-17-year-olds report that the internet “makes them always feel good”)<sup>3</sup>, evidence suggests that bullying and harassment is a common problem faced by young people in the digital space.

Research conducted for this report has revealed that around 40% of young people say that they’ve seen their friends behave badly online, and 22% report having felt unsafe online. Research suggests that roughly one in five young Australians – an estimated 463,000 – are victims of cyberbullying.<sup>7</sup>

As alarming as these numbers are, it is possible that the actual prevalence of cyberbullying is much higher.<sup>7</sup> Accurate and reliable data on the actual experience of young people online is hard to come by. High quality research is conducted only occasionally, and even many well-known government and community organisations cite data from almost 10 years ago – which is out of date in the world of technology. Moreover, there is evidence that young people under-report their experiences with cyberbullying.<sup>3,8,9</sup>

Researchers have found that the more time adolescents spend online, the more likely they are to bully<sup>10</sup> and be the victims of bullying.<sup>6,9</sup> This makes a degree of sense – the more time spent online, the more chance of being exposed to both the good and bad sides of the online world.

Given the negative consequences of cyberbullying, one might hope that students would actively intervene to help friends experiencing online harassment. However, the data suggests that this is not always the case. According to one US study, although 80% of young people report having defended a victim of online cruelty, only one in four do so frequently. Conversely, 90% of young people report having ignored an incident of online cruelty, with more than one in three doing so frequently.<sup>11</sup>

In Australia, the data is similar: 25-34% of young people report that when witnessing cyberbullying they frequently “told the person to stop cyberbullying” or “defended the person who is being cyberbullied”; while 13-21% reported that they frequently “ignored the cyberbullying”.<sup>3</sup> This may suggest that people only occasionally assume the role of an active bystander (ignore bullying) in cases of cyberbullying.

Our understanding of cyberbullying is also increasing. Research has defined robust and nuanced categories of cyberbullying. This promising development may help groups in the digital citizenship space add depth to their interventions. Willard, for instance, discusses seven distinct types of cyberbullying: flaming; harassment; denigration; cyberstalking; impersonation; exclusion; and, outing and trickery.<sup>12</sup>

Similarly, researchers have described six unique roles that people may play in cyberbullying: entitlement bullies; targets of entitlement bullies; retaliators; victims of retaliators; bystanders who are part of the problem; and bystanders who are part of the solution.<sup>13</sup>

Understanding these roles may help students develop more sophisticated conceptions of their own identity and behaviour in bullying situations, and ultimately help them to build strategies to minimise bullying for both themselves and others.

# Around 40% of kids say they've seen their friends behave badly online

**To avoid a cyber bully, students must disconnect from their entire digital social group.**



### **How is cyberbullying different?**

The line between cyberbullying and ‘regular’ bullying is somewhat blurred, so much so that some question the need to distinguish between the two. People who are bullied repeatedly at school are almost 7 times more likely to be cyberbullied.<sup>14</sup>

However, there is a critical distinction between cyberbullying and more traditional types of schoolyard harassment: cyberbullying is more difficult to escape. Research by Müller and colleagues has found that with access to the internet in their bedrooms, cyberbullying victims experience a world where bullies can follow them home, park in their bedroom, and continue their torment 24 hours a day.<sup>15</sup> Most teens are vulnerable to this level of harassment: one in four reporting being connected to social media “constantly”,<sup>16</sup> and over 80% of teens have a smartphone.<sup>2</sup>

The establishment of the digital domain as a major social space makes cyberbullying even harder to escape. A student disconnecting from their digital life to avoid a bully effectively must disconnect from their entire digital social group. In this context, the traditional parental response to bullying – ‘just ignore it’ – simply doesn’t work.

# 45% of 13-18 year olds have sent sexually explicit images to another person

## Issue 2: Sexualisation of content and behaviour

**The sexualisation of young people is a charged and emotional topic, about which many people feel deeply. Its consequences, and their apparent severity, are informed by individuals' beliefs, morals and value systems.**

As such, discussion about the sexualisation of young people, particularly in the popular media, is often sensationalised and hyperbolic. Consider, for instance, two contrasting headlines presenting and commenting on the rise in sexual assaults committed by young people, but taking entirely different positions:

*"Experts warn easy access to hardcore pornography is behind a surge in teen, pre-teen sexual assault offenders"*  
www.news.com.au<sup>17</sup>

*"Kids who watch porn won't necessarily turn into sex offenders"*  
www.abc.net.au<sup>18</sup>

Stepping away from issues of morality, the data is clear from a behavioural perspective: young people are creating, accessing and sharing more sexual content now than ever before, and at younger ages.

In 2008 (notably prior to the rapid proliferation of social networking and smartphones), 93% of males and 62% of females had been exposed to pornographic material by the age of 18 (and mostly between 14 and 17).<sup>19</sup> Another 2007 study found that the average age of first exposure to pornography was 12.2, with researchers also finding that the age of first exposure was decreasing.<sup>20</sup> In a 2016 submission to parliament, the Australian Psychological Society recently argued that pornography exposure for young men "is at saturation point".<sup>21</sup>

Perhaps more striking, children aren't just exposed to sexually explicit content online, they are also creating and sharing it.

A 2015 study supported by the Australian Institute of Criminology found that 45% of 13-18 year olds had sent sexually explicit images to another person ('sexting'), with nearly 40% sending sexual images to more than one person in the last year.<sup>22</sup> There is evidence that some young people are unduly pressured into sending sexually explicit images: 13% of female teen sexters, over one in ten, report being pressured into it.<sup>23</sup>

Importantly, however, this would suggest that the majority of people sexting do so consensually. The authors also found that only 6% of people sent an image on to a third-party for whom it was not intended, though one in five teens had shown a sext to someone else who was not meant to see it.<sup>22</sup>

Primary research conducted for this report also highlights the pervasive sexualisation of behaviour amongst young people, as well as issues of consent. In our survey of 100 12-19 year olds, 31% report having received unwanted sexual comments. Focus groups with teenage students revealed that sexting is a pervasive social norm among this cohort, with people reporting feeling significant pressure to participate in the activity, despite knowing it is risky (and in some cases, illegal) behaviour.

The high prevalence of behaviours such as sexting presents a digital citizenship issue to be understood, addressed and solved.

## Percentage of adult internet users in each age cohort who say these details about them are available online

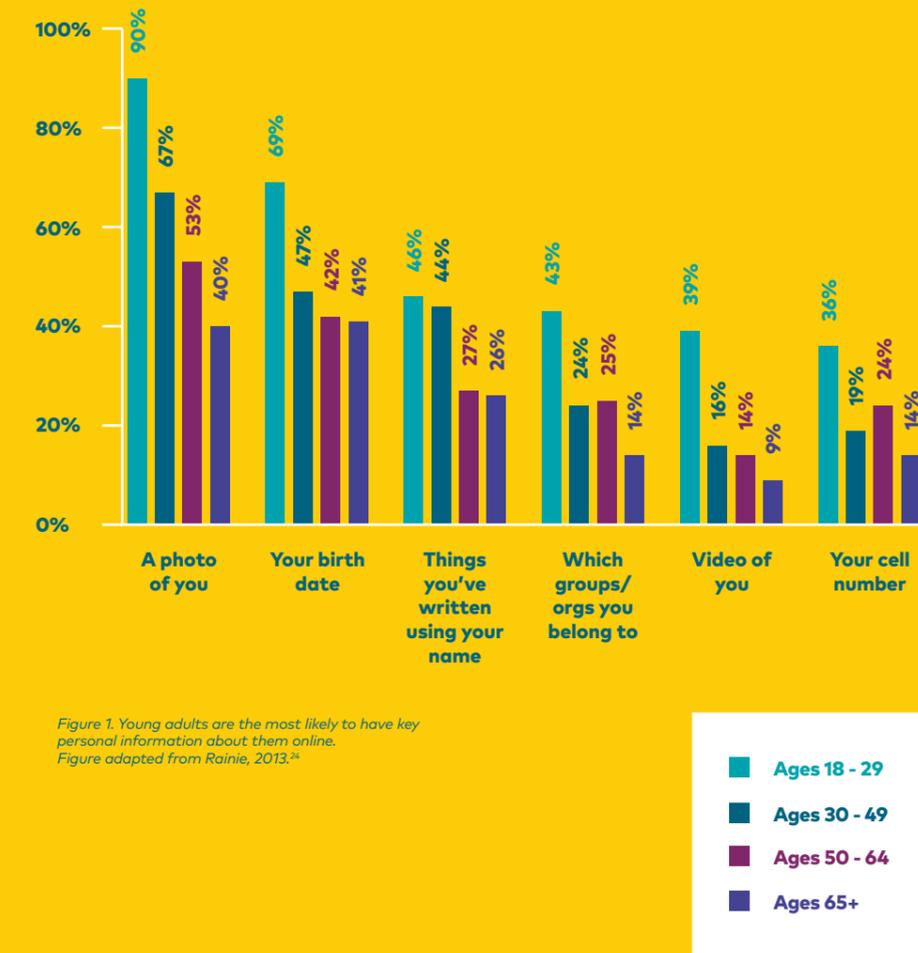


Figure 1. Young adults are the most likely to have key personal information about them online.  
Figure adapted from Rainie, 2013.<sup>24</sup>

## Issue 3: Privacy and personal security

**The world is rapidly becoming aware of issues of privacy and personal information security that have arisen in the 21st century.**

Breaches in information security can be costly. Last year, in Australia alone, over \$83 million was lost in over 155,000 cases of scams related to fraud, identity theft, hacking, phishing and other methods.<sup>25</sup>

Misuse, interference and loss of personal information isn't just costly, it can also lead to a loss of privacy. 21% of all internet users have had an email or social network account hacked or taken over by someone without their permission<sup>24</sup>, and 16% of teenagers have been spied on by someone logging on to their email account, Facebook, Twitter or other internet account without their permission.<sup>26</sup>

While it would be tempting to think younger people are more net-savvy and therefore at lower risk, expert interviews and focus groups conducted by Optus suggest that younger generations tend to be more at risk than any other cohort because they are more likely to share their passwords with peers, and share information (e.g. birthdays)

that can be used to access their data online. Young people also typically have more social media accounts, and more types of data stored online across their various accounts<sup>24</sup>, increasing their individual risk levels. Put simply, just like your chances of winning the lottery go up the more tickets you buy, the more data you have online, the more likely that any one piece of data will be hacked.

Figure 1 demonstrates this relationship: the younger the user, the more likely they are to have stored or shared data online.

**Young adults are most likely to have some key personal information about them available online.**



# The internet and mobile phone has driven an explosion in data that is accessible at our fingertips

## Issue 4: Critical thinking and discernment

**There has perhaps never been a more important time for people to be able to tell fact from fiction - or 'facts' from 'alternative facts'.**

With the increase in accessible information (and misinformation) that has come with the digital world, individuals must be increasingly critical and discerning of the content they consume. To truly understand this issue, it is important to appreciate the huge amounts of content people are now exposed to, daily.

### Information Overload

The internet and mobile phones have driven an explosion in data that is accessible at our fingertips, near-instantaneously, and on-demand. In 1986, humans were exposed to roughly 40 full 'newspapers-worth' of information every day, when considering all their media access. By 2007 (ten years ago!) that number had leapt to 175 newspapers.<sup>27</sup>

Today, a combination of digital versions of traditional newspapers, online-only news sites, content aggregators, blogs, social networking sites and other sources combine to create a veritable sea of 'stuff' that alone exposes us to more content in a day than our recent ancestors were exposed to in an entire lifetime.

But of course, it is not only what we access that creates the flood of information, it is what we create.

**For instance, according to the data and analytics firm, DOMO in every minute of every day:**

### Facebook

Users 'like' over 4 million pieces of content (up from 2.5 million in 2013).<sup>28</sup>



### YouTube

Users upload 400 hours of new content (up from just 75 hours in 2013).<sup>29</sup>



### Snapchat

Users watch nearly 7 million videos.<sup>29</sup>



# Seven factors that make assessing information online difficult

1

## Anonymity and pedigree

The identity of people on the internet is often hidden or easily faked, making it hard for users to identify true experts in the field.

2

## Absence of gatekeepers

Content on the internet is often published without the checks and quality control of more traditional media (such as peer-review and editors).

3

## Generational divide

Parents are typically the main guardians of information for their children, but their supervision is often absent from content accessed on the internet.

4

## Pseudo-sites and propoganda

Biased and agenda-driven content is often disguised as trustworthy and credible.

5

## Use of imagery

Images can be manipulated, and information can be attractively packaged. Decisions about information quality are often based on site design.

6

## Echo chambers

Internet content is increasingly mediated by algorithms that calculate the content users most want to see. This leads to customised online experiences where users are exposed only to content they agree with, rather than diverse viewpoints.

7

## Skittering and bouncing

Users typically engage with content on a surface rather than deep manner, reading only a few sources and skimming content.



## "It must be true, I saw it on..."

Easy access to information and content is one of the biggest benefits of the digital age, democratising access to knowledge and providing new avenues for learning and development. However, research suggests that the rise in exposure to information is not being met with a corresponding rise in the higher order evaluative and critical thinking skills required to make sense of it, and tell fact from fiction. This is particularly true for young people.

Research on how children consume information online has revealed that most lack the critical skills to discern quality from non-quality information. For instance, 31% of children believe that if a search engine lists a result then it must be true, and 15% don't consider the veracity of the sites that they are on but will simply visit the sites that they like the look of.<sup>30</sup> Consistent with this trust of digital sources is the finding that internet users rate the accuracy and reliability of content they find on the internet ahead of that from TV, radio and newspapers.<sup>31</sup>

One 2016 Stanford experiment found that over 80% of middle school students could not reliably tell the difference between a native advertisement (an advertisement in the form of a news story) and factual content.<sup>32</sup>

Further, 87% of 12-15 year olds believe that information on news sites is mostly true.<sup>30</sup> This is particularly concerning given the recent rise of the fake news industry. This industry is so lucrative that last year, separate investigations by BuzzFeed and The Guardian identified more than 100 fake news sites run by teenagers in the small Macedonian town of Veles, which in some cases earned their makers tens of thousands of dollars.<sup>33</sup>

We should not be too quick to judge people for their inability to critically analyse the information to which they are exposed. Miller and Bartlett have described seven factors that make assessing information online particularly difficult (see left).

Clearly, any intervention designed to make a meaningful difference to this issue must address these factors.

# People's ability to accurately evaluate the veracity of digital information is important for individuals and society

## The real-world need for critical thinking

The ability for people to accurately evaluate the veracity of digital information is important, both individually and for society.

At a societal level, an engaged and discerning population is more likely to make good decisions about important issues than one influenced by misinformation. Uncritical consumption of information has led to serious consequences such as individuals spending \$420,000 on books and apps sold by a wellness advocate who claimed (falsely) to have cured terminal brain cancer by eating wholefoods.<sup>34</sup> In even more extreme cases, individuals have targeted and attacked a pizza place with an automatic rifle because they believed fake rumours about its involvement in a child sex ring.<sup>35</sup> While these examples may represent particularly extreme responses to fake news, they illustrate the real societal harm that the spread of misinformation can cause.

More positively, research has shown digital literacy education (that is, increasing an individual's ability to think critically and to assess the veracity of digital information) can increase political engagement and consumption of diverse viewpoints.<sup>36</sup>

On an individual level, people cannot be expected to avoid scams, keep their personal information out of the hands of those who would abuse it, or make informed decisions about their health or financial matters, if they cannot make sound judgements about the information to which they are exposed.

Whilst this issue may not have the immediate news appeal of causes such as cyberbullying, sexting or information security, the evidence suggests it is no less important, and arguably a more far-reaching component of digital citizenship.

## Issue 5: Managing access

**There are two separate Digital Citizenship issues relating to access. The first relates to digital inclusions and ensuring fair and equitable access to technology and its benefits. The second relates to managing the usage patterns of those with access.**

### Digital inclusion

Internet access is now so important that the United Nations has identified it as a human right.<sup>37</sup> With the rapid proliferation of digital devices and internet use amongst young people it's easy to forget that a small number of people who do not have access to the internet run the risk of being left behind, with extreme consequences.

The 'digital divide' (the term used to describe the gap between those who have access to technology, and those who do not) is a significant problem, albeit smaller in Australia than elsewhere.

A recent snapshot of digital inclusion in Australia found that although inclusion on the whole is improving, some communities lag behind. For instance, amongst Indigenous Australians internet access is nearly 8% lower than the national average. People with lower educational attainment and those with lower incomes are also populations with lower digital inclusion.<sup>38</sup>

There is a perverse side effect of the progress made towards universal digital inclusion: as the number of people excluded grows smaller, the disadvantages of being excluded grow larger. For instance, as the percentage of the population with internet access increases, business and governments may increasingly invest resources in providing services and information online at the detriment of other users. So, as the digital divide gets narrower, it also gets deeper.<sup>39</sup>

Given that the benefits of being digitally engaged are rapidly moving from 'nice to have' to 'must have', it has never been more important to ensure that people are given access to the internet and mobile technologies.

### Appropriate technology use

In a survey of 200 parents, conducted for this report, 23% cited issues related to overuse of digital devices as their biggest concern about their children's use of technology – more than any other issue.

This concern is likely not unwarranted. 83% of Australian teens go online more than three times a day.<sup>2</sup> 15-17 year olds spend an average of 18 hours on the internet a week<sup>4</sup>, while the median time that Australian 14 year olds spend on screen-based media is 24.8 hours.<sup>40</sup> Australian children aged 12-13 spend an average 3.3 hours on screens a day, while 4-5 year olds spend an average of 2.2 hours on screens a day.<sup>5</sup>

Research suggests that issues related to technology use are caused not just by how much young people are using technology, but when and where they are using it. 74% of teens access the internet between 5pm and 10pm, and 28% access the internet between 10pm and midnight. The number of teens using the internet between midnight and 6am doubled to 8% between 2011 and 2015.<sup>2</sup> In addition, in 2012, just under half of young Australians had at least one screen-based item in their bedroom.<sup>41</sup>

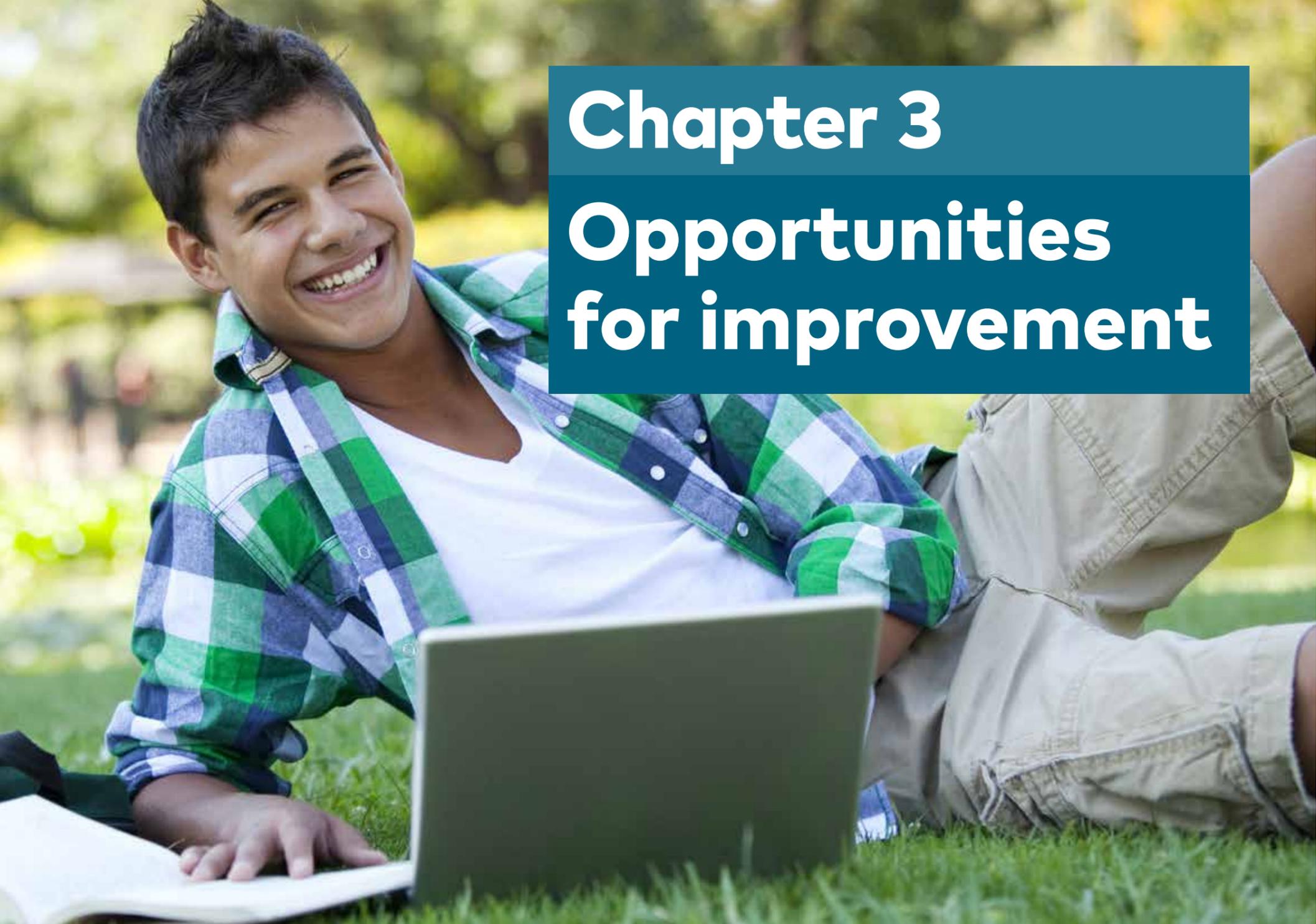
Blue light emitted by digital devices (such as phones and tablets) has been shown to disrupt sleep patterns<sup>42</sup>, and there are many studies that demonstrate increased screen time decreases quality of sleep in school-aged children and adolescents.<sup>43</sup> For instance, the presence of a television in a child's bedroom has been associated with greater sleep disturbance<sup>44</sup>, while the presence of either a television or computer in the bedroom was correlated with later bedtimes, later awakenings, and less sleep overall.<sup>45</sup>

The increased use of screens in the bedroom and late at night may contribute to the finding that nearly one in five Australian school-aged children and adolescents don't meet sleep duration guidelines.<sup>46</sup>

It is likely that part of the increase in digital device usage stems from a fear of missing out (FOMO) on content, news or opportunities if not online. The 2015 Psychology Stress Society's Stress and Wellbeing report found that 63% of teens report feeling "worried or uncomfortable" when they cannot access their social media accounts.<sup>16</sup>

**Part of the usage glut stems from a fear of missing out on what is going on while you're not online.**





# Chapter 3

# Opportunities for improvement

## Opportunity 1: There is potential to improve the rigour of evaluation

**The issues of digital citizenship (especially cyberbullying and sexting) have prompted an explosion of programs and activities in the space. Many initiatives here and overseas have been created out of a desire to affect positive change.**

Our review of 54 Australian domestic and international digital citizenship activities found most of these programs are united by the quality of their intent: well-meaning (and often well-funded) groups representing government, community and corporate interest have created interventions designed to improve digital outcomes and reduce harm.

Unfortunately, these programs are also united by shared deficits in the quality of evaluation and research (see right).

This is not to say that no evaluation of programs occurs.

Almost all programs survey participants to assess their satisfaction with program materials and delivery. Many also evaluate participants' experiences with the program, including their engagement and learning.

Some programs also invite independent third-party evaluators to review their impact, which can lead to more robust findings. For instance, the large government program in Australia, Cybersmart (run by ACMA), was evaluated by Griffith Institute for Educational Research in 2011.<sup>47</sup>

The main gaps in program evaluation are twofold. Firstly, there is a lack of well-designed studies with proper controls that measure program impact. Secondly, there is a lack of evaluation of program methodology.

In other words, the current evaluations do not rigorously answer the questions: 'did this program have an impact?' and 'what is the best way to have an impact?'

This does not mean that existing evaluations have no use. On the contrary, many provide valuable insight about the quality of delivery, relevance of content, and student engagement. It is important to be realistic about what evaluation will look like for most Digital Citizenship programs. The truth is that, just like in other social spaces, controlled and well-designed scientific evaluation is time-consuming, expensive and hard to design and execute.

Nevertheless, improving the evaluation of program impact and methodology represents the area of reform with the greatest potential to affect positive change in the space. The professionalisation of intervention design and delivery has been applied with great success in other sectors. See, for example, the work conducted by Young and Well Research Centre in mental health<sup>48</sup>; or the growing field of research on best practice in financial literacy programs.<sup>49,50</sup> Well-conducted evaluation will both inform program design, and create an evidence-base on which others can draw.

### Limitations in current program evaluation Our review of Digital Citizenship programs found:

**No randomised control trials have been used on any program reviewed to measure its impact.**

**Program evaluations tend to focus only on immediate outcomes rather than the effects of the programs over time.**

**Few groups published their theories of change or logic models, and so are not clear about what success looks like.**

**Few studies evaluated the impact of different types of program delivery (for example, comparing face-to-face and digital delivery).**



## Opportunity 2: Move beyond 'giving information' to focus on things that create change

### If you build it, will they come?

The quality of your program can never exceed your ability to get people to adopt it.

Research undertaken by Optus suggests that a common problem with existing digital citizenship programs is that almost no-one uses them. Optus surveyed 200 parents and found that whilst 83% of parents say adults need more education around issues of digital citizenship, and 64% acknowledge that it is important for their kids to be online, less than 15% access any sort of resources in this topic area.

Similarly, focus groups conducted with students revealed that most were not planning to independently seek out resources to deepen their understanding of digital citizenship.

A major contributor to this phenomenon is that, at present, most digital citizenship interventions are characterised by passive information provision; they rely on users to seek out and access content, and engage with it in a self-directed manner.

Examples of common passive interventions include resource hubs, websites with stats and tips on cyberbullying, teacher resource packs sent to schools, and tip-based apps containing short videos for parents.

This is both understandable and problematic.

It is understandable because the cost of creating these activities is generally low – websites are cheap, the cost of creating digital content is falling, and post-creation there is relatively low cost of maintenance.

It is problematic because the evidence above indicates that passively provided content is relatively unlikely to be accessed by either parents or students.

### A better way: Deeper education and ethical media competence

Optus' review of digital citizenship programs also revealed that they fall into two broad categories: behaviour change interventions and knowledge-only interventions (currently the majority).

Knowledge-only interventions provide individuals primarily with information. Behaviour change interventions focus on, in addition to knowledge, building skills, changing attitudes and promoting behaviours that change the way people act in the online space.

This is the difference between telling a student "cyberbullying is bad" and actively building their ability to respond appropriately when they see or are the victims of cyberbullying.

Research suggests that knowledge-only programs are relatively unlikely to change online behaviour, and that greater emphasis needs to be placed on designing programs focussed on behaviour change.<sup>51</sup> Programs should be designed to reach students at multiple developmentally relevant points, and to take place in environments where it's possible to engage students in practical, participatory conversations.<sup>52</sup>

Research has begun to identify specific attitudes, skills and behaviours that behaviour change programs should target. For instance, there is emerging evidence that it is possible to build competencies in young people that both reduce their likelihood of perpetrating, and being a victim of, cyberbullying.

Typically, the more you use digital tools, the more likely you are to be a cyberbully or cyberbullied.<sup>9,10,14</sup>

However, a 2014 experiment by Müller and colleagues has demonstrated that it might be possible to break, or even reverse, this relationship by giving students a specific skillset that the researchers termed 'ethical media competence'.<sup>53</sup>

Ethical media competence encompasses three types of skills:

- **Professional competence**  
Knowledge about legal rules and norms online.
- **Methodological competence**  
Skills for socially responsible communication online.
- **Social competence**  
Motivation to adopt socially responsible behaviour online.

This construct is closely related to existing conceptions of digital citizenship, digital literacy and generally being 'net savvy'.

The research demonstrated that as ethical media competence increased, the likelihood of being a cyberbully decreased. Moreover, the greater the media usage of the subject, the greater the effect of ethical media competence on the likelihood of bullying (Figure 2).<sup>53</sup>

The research also found that as ethical media competence increased, the likelihood of being cyberbullied decreased. Although high levels of digital media use were still associated with higher levels of cyberbullying, this effect was smaller in students with high levels of ethical media competence (Figure 3).<sup>53</sup>

This is an exciting frontier of research that deserves further investigation. It supports the position that education and behaviour change programs that actively build targeted skills amongst their audience, are likely to be more effective than knowledge-only programs that passively provide information.

## Building competency reduces bullying and victimisation

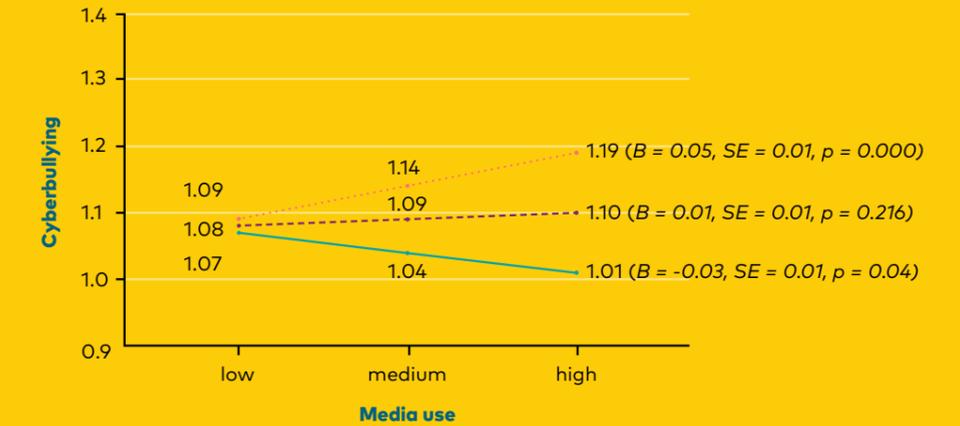


Figure 2. The effects of 'ethical media competence' on likelihood to cyberbully increase with media use. Figure inserted from Müller et al., 2014.<sup>53</sup>

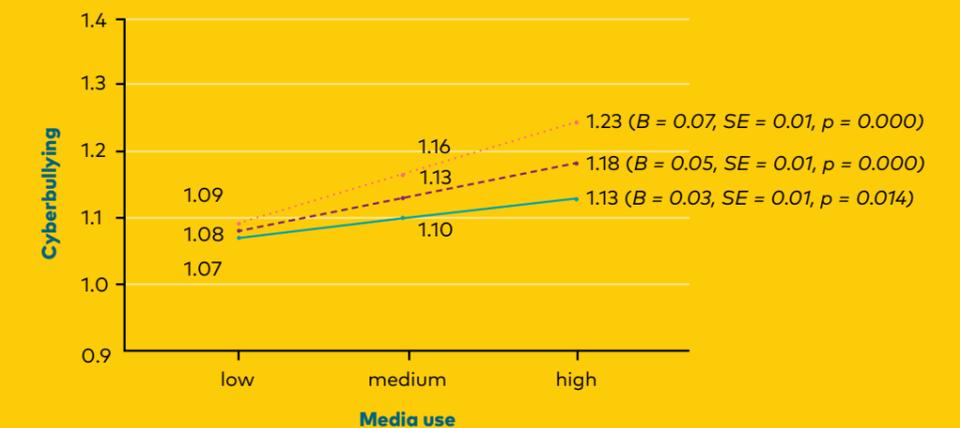


Figure 3. 'Ethical media competence' decreases the likelihood of being cyberbullied. Figure inserted from Müller et al., 2014.<sup>53</sup>



## Opportunity 3: Reduce the reliance on fear-based strategies

### Fear is not the best strategy...

Fear-based education programs – that is, programs designed to change people's behaviour by 'scaring them straight' – have been repeatedly shown to have at best, limited effectiveness.

In a comprehensive review of social marketing campaigns, Hastings and colleagues found only limited evidence that fear-based programs have positive effects on behaviour, and that such effects were generally accompanied (and sometimes surpassed in magnitude) by negative consequences.<sup>54</sup>

These findings have been replicated across many fields.

In driver safety programs, for instance, there is little evidence that fear-based strategies have much effect beyond grabbing attention, and have at best only limited effects on behaviour.<sup>55</sup> This is in contrast to highly relevant campaigns that focus on self-efficacy, which have been shown to be more effective at changing behaviour.<sup>55</sup>

Similarly, a 2000 meta-analysis of fear-based public health campaigns showed that fear has relatively weak and inconsistent effects on attitudes, intentions and behaviour, and that these effects have rarely been observed in the real world.<sup>56</sup>

In 2013, researchers argued that fear-based education in cyber safety is "less likely to resonate with young people".<sup>52</sup>

Even if fear-based programs are marginally effective, there is ample evidence to suggest that they also drive negative consequences. Fear-based strategies have been shown to produce stress and anxiety in participants.<sup>54</sup> It is difficult to accurately weigh these costs against the benefits that fear-based programs might create, but in any case, any strategy that creates such negative effects in its participants raises serious ethical questions.

Despite the limited evidence of its utility, almost all the programs surveyed included strong elements of fear-based content. Indeed, sometimes that fear-factor is the overriding design principle of the program (see right).

## Fear-based strategies inform many programs

The following story details an observation from a leading cyber safety academic of a typical in-school cyber safety program. The story summarised below was collected as part of the subject-matter expert interviews conducted for this report.

While we have not included the name of the program or presenter in this report, we chose to share this case study as a compelling illustration of the extent to which fear-based strategies inform the design and delivery of many existing digital citizenship programs.

*Imagine a group of year six students sitting through a seminar about cyber safety.*

*The program is being delivered by the local constable.*

*The stern, angry-looking officer paces back and forth in front of the class in full uniform and asks: "Who here is on Facebook?"*

*The class looks sheepishly at the presenter. A few kids reluctantly raise their hands.*

*After a long pause, the officer points his finger into the crowd at one of the terrified kids whose hand is raised and asks: "How old are you, son?"*

*"11", replies a bewildered student.*

*Almost before the reply has left the student's mouth, the officer retorts: "You're a liar! You're not thirteen!"*

*The 11-year-old student looks guiltily at the officer, probably wishing he hadn't come to class that day. The rest of the group looks quizzically at their classmate and the officer, a growing sense of dread filling the room.*

*After the appropriate dramatic pause the officer goes on to say: "You had to say you were thirteen when you signed up to Facebook, but you're only 11. So you're a liar and you broke the law."*

*...I'm not sure if any of those kids are going to change their social media habits, but I reckon a few would need to change their pants".*

### Getting it right: The commonsense program

An example of a thoughtful, balanced curriculum comes from the CommonSense program.

This program embraces a model of staged learning with a progressively expanding curriculum from K – 12, covering all aspects of digital citizenship.

Importantly, their curriculum model (Figure 4) shows a balance between risk-based and opportunity-based content themes.

## CommonSense Digital Citizenship curriculum

Digital Citizenship Curriculum	K - 2			3 - 5			6 - 8			9 - 12			
	Units			Units			Units			Units			
	1	2	3	1	2	3	1	2	3	1	2	3	4
Internet Safety	✓	✓		✓		✓		✓			✓		
Privacy & Security	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓
Relationships & Communication	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cyberbullying & Digital Drama		✓		✓		✓	✓		✓	✓		✓	✓
Digital Footprint & Reputation		✓		✓	✓	✓		✓	✓	✓	✓	✓	✓
Self-image & Identity				✓	✓	✓	✓	✓	✓	✓			
Information Literacy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Creative Credit & Copyright	✓			✓	✓		✓	✓	✓	✓		✓	✓

Figure 4. CommonSense Digital Citizenship Curriculum.  
Figure taken from [CommonSenseMedia.org/education/digital-citizenship](https://CommonSenseMedia.org/education/digital-citizenship)

# Advice given to children does not align with their lived experience of the digital world



## Opportunity 4: Minimise the gaps in parents' digital understanding

*Many (but not all) older generations don't understand how to use technology as well as children do.*



### A whole new world...

Digital citizenship programs are different to other social impact programs because the digital world is so new.

In most areas where youth face pressing issues (for example, drug use and mental wellness), there exist generations of people who have come before and who can guide the creation of programs using first-hand experience, personal insight and, of course, research. That is, the people creating and teaching the content have a lived experience of the issues that they are talking about.

Digital citizenship is different. No other generation has had to deal with the unique issues inherent to the digital world on such large scale. There simply is no adequate analogy older generations can use to understand the experience of having your entire social network available 24/7, and permanently in your pocket.

Further, many (but not all) older people don't understand how to use relevant technology as well as children do. It is not uncommon, for example, for parents to ask their children for guidance on operating and setting up their technology and accounts.

This knowledge and experience gap is so stark that as early as 2001, researchers in the digital education space were using the terms 'digital native' and 'digital immigrant' to illustrate the profound difference in understanding between people who have grown up exposed to the digital world, and those who have come to it later in life.<sup>57</sup>

This has created a counterintuitive situation: the people most familiar with digital tools (youth) are often those most vulnerable to digital issues; the people who would normally be relied on for guidance (parents, teachers, and older peers) often lack experience, understanding and good advice.

The result is that much of the advice that children are given does not align with their lived experience of the digital world.

For example, in student focus groups it was common to hear individuals lament their parents' 'solution' to being bullied or harassed online: "Just turn it off". For parents, this might seem like a reasonable response. For students, where the line between real-life and life online is increasingly blurred, who do most of their socialising online and who are effectively permanently online, the thought of disconnecting from the digital world is unrealistic and out-of-touch.

Even researchers are struggling with the extent to which technology has become central to students' experience of the world. Constructs and questions that were valid just a few years ago now fail to adequately capture the reality of students' experiences.

Consider, for example one research question that ACMA poses in their research: "How many times do you go online each day?"<sup>56</sup> Today most young people don't think about 'going' online. They simply are online, connected, via their device(s), all the time. They 'go online' every time they pick up their phone, look at a screen, take a photo or play a video game. Just a few years ago, that question would have had a clear answer to people taking the survey. Going online was like going to the shops – it took time, you did it in discrete blocks, and you were clearly online or not.

This disconnect can be thought of as a new 'digital divide'; a divide not between the 'haves' and 'have-nots', but between those that 'get it' and those that 'don't'.

# Gaps in parent understanding of digital issues

Some parents don't understand their children's digital world:

**9%**

While 9% of youth had received an unwanted sexual solicitation over the past year; only one in five of them told their parents about it.<sup>58</sup>

**11%**

While 11% had been the victims of online harassment; only 55% told their parents about it.<sup>58</sup>

**84%**

Optus' survey found that 84% of parents say their children follow the rules they set for using technology, however only 40% of students are aware that their parents even set rules. This suggests a real communication breakdown.

**44%**

44% of parents surveyed by Optus say they don't know how to, or choose not to, search for information about their children's activity online.

**36%**

36% of 9-16 year olds say it is "very true" that they know more about the internet than their parents; another 31% say it is "a bit true".<sup>60</sup>

**31%**

31% of 12-19 year olds have received unwanted sexual comments online; but only 7% of parents think they have.<sup>59</sup>

Many parents want more information, but don't know where to get it:

**35%**

35% of parents surveyed by Optus said that they want more information and advice on how to help their children use the internet safely.

**53%**

53% of surveyed parents would use an education offering provided by a specific business.

**83%**

83% of surveyed parents say adults need education about online safety, etiquette and bullying and 64% believe it's important for kids to have a phone and/or be online...

**15%**

Less than 15% of parents surveyed access information about online safety.

## 83% of surveyed parents say adults need more education about online safety, etiquette and bullying

As a society we need to do more to help and support parents as they navigate this challenging new digital environment with their children.



**Parents and children are on opposite sides of this digital divide, but do not know how to bridge the gap...**

Many, but not all, parents lack the skills and knowledge to effectively help their children navigate the digital world.

Clearly, as a society, we need to do more to help and support parents as they navigate this challenging new digital environment with their children.

Research conducted by Optus and others has highlighted that while some parents are highly engaged and knowledgeable, a large gap exists between parents' and children's views and understanding of digital issues (see left).

This data demonstrates two clear shortcomings in parents' knowledge:

- **Some parents don't understand their children's digital world:** Not only are parents unaware of their children's experiences online, many aren't even aware of how large the communication gap is between them and their children.

- **Many parents want more information, but don't know where to get it:**

While the majority of parents express a desire for information and resources to help their children safely use digital technology, only a tiny fraction – less than one in every six parents – have actually accessed information about online safety. This would suggest that most parents are hard to engage and access in this area.

Despite this, there is clear evidence that parents will take steps to protect their children online if they are given the tools and support to do so. 34% of parents surveyed by Optus say they feel the need to restrict access to a website or app, and 38% of surveyed parents would use a parental control tool provided by a telco.

# Process for engaging young people in the design of social interventions

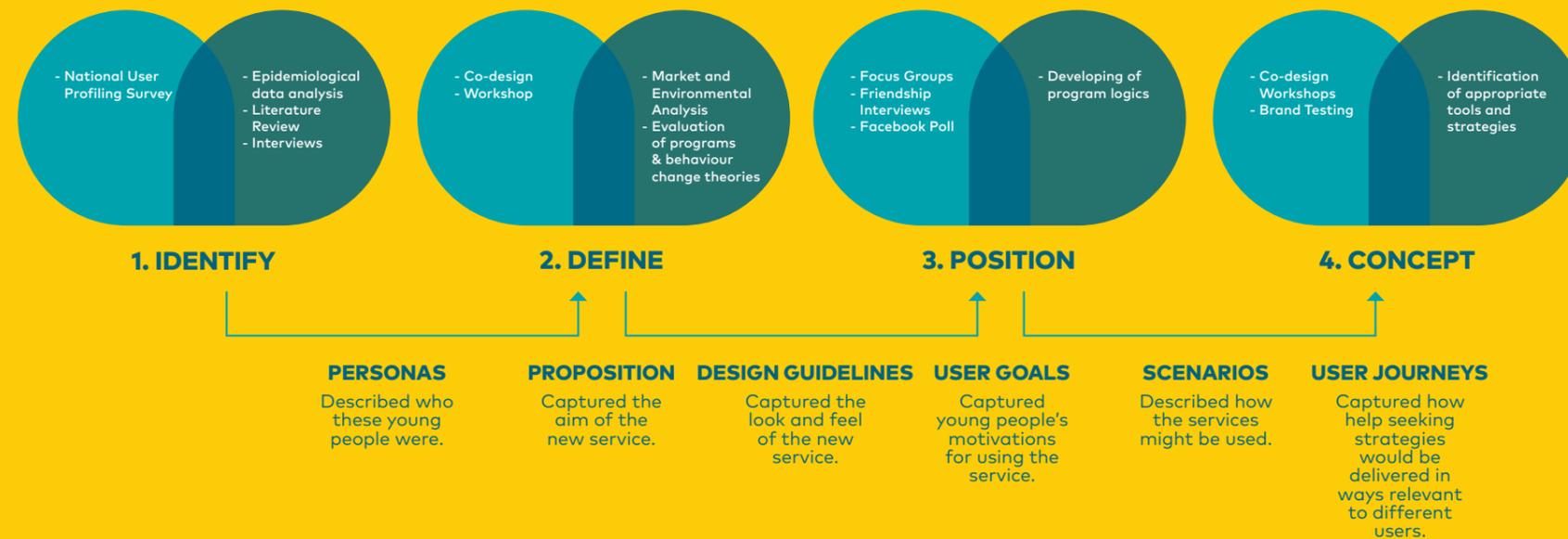


Figure 5. Co-creation of ReachOut.com by experts and young people. Evidence-based program design steps are shown in purple. Youth participation steps are shown in pink. Figure adapted from Hagen et al., 2012.<sup>61</sup>

## Opportunity 5: Give young people a place at the table

In 2005, a report by Livingstone & Bober noted that 30% of 9-19 year olds in the UK had received no lessons at all on using the internet.<sup>62</sup>

Over a decade on, this statistic has taken on an ominous significance: the very same group of people that did not receive digital citizenship education when they were young, may now be finding themselves as parents and trying to help young people deal with complex issues of digital citizenship.

The people that design and deliver digital citizenship programs often lack knowledge, experience and understanding of the lived experience of young people online.

An opportunity exists to more proactively engage young people in the design of programs and interventions. This opportunity follows directly from the discussion above, but given its importance, warrants consideration in its own right.

*"Working with young people in defining the problems and issues that affect them can lead to new understandings about the source of such problems as well as potential responses. Young people's involvement also helps to build credibility and rapport for the project and ensure that their values and attitudes are accounted for."* – Young and Well Cooperative Research Centre, *Participatory Design of evidence-based online youth mental health promotion, intervention and treatment.*

Digital citizenship programs, resources and interventions should be created in consultation with young people and informed by their real-world experiences to increase their relevance.

This design principle has been embraced with great success in other fields. For example, in the mental health space, the Young and Well Cooperative Research Centre partnered with the Inspire Foundation to build their ReachOut.com youth mental health service. Young people were actively engaged at every stage of the program design process, to shape language, positioning, content and ensure maximum relevancy of the final product.<sup>61</sup>

Young and Well have also published a useable process for engaging young people in the design of social interventions that is available to groups who are in the program design process (Figure 5).<sup>61</sup>

Optus believes that there is an exciting opportunity to improve the relevance and impact of digital citizenship programs by directly engaging the target audience in their creation. This could take many forms, but at the very least, designers of programs aimed at young people should be engaging young people in the role of advisors, contributors, consultants and ambassadors. Even more ideally, programs of the future should be co-created and regularly reviewed by their end-users to ensure that they remain relevant and engaging.

**Digital citizenship programs, resources and interventions should be created in consultation with young people.**



# Chapter 4

# Conclusion and Vision for the Future

## Summing up Digital Citizenship

**This research and position paper has identified the most pressing issues that exist in the digital citizenship space, and evaluated the opportunities to improve the quality of our response.**

There is increasing evidence that digital citizenship education, when delivered well, can have a real impact on behaviour and young people's digital outcomes. We can help young people harness the potential of the digital world in a positive, safe and powerful way.

There is much that can be improved in our collective response to these challenges. Five recommendations for increasing Optus' own impact on the digital lives of young Australians arise from this research

*When digital citizenship education is delivered well, it can have a real impact on behaviour and young people's digital outcomes.*



## 1. Go deeper with evaluation

**There is an opportunity to enhance the quality of digital citizenship programs by more scientifically measuring impact. Evaluation has been a cornerstone of Optus' own Digital Thumbprint program, and an evaluation report of the program was released at the beginning of this year. However, it is clear from both analysis of our own sector, and comparison to other sectors, that there is still work to be done.**

The research suggests that a more sophisticated approach to evaluation could be used not only by organisations to get a deeper sense of what works and what doesn't, but also to enable investigators to better understand and progress the field of digital citizenship research.

*A more sophisticated approach to evaluation can be used.*





## 2. Move away from fear-based strategies towards more balanced, positively-framed content

**Despite the relative ineffectiveness of fear-based strategies, they remain a common approach to affecting change.**

Digital Thumbprint was deliberately designed to take a positive approach to the field of digital citizenship, based on Optus' core belief that technology is a great tool for social good. Given that the research supports this approach, there is the potential to highlight and discuss the benefits of technology even further in future iterations of the program. This applies not only to Digital Thumbprint, but to other programs too.

***There is potential to highlight and discuss the benefits of technology even further in future programs.***



## Ethical media competence can act as a vaccination against cyberbullying

***Digital citizenship education plays an important role in protecting society from the dangers of an ill-informed population.***



## 3. Include content on critical thinking and ethical media competence

**In a world of 'alternative facts' digital citizenship education has an important role to play in both protecting individuals from the personal perils of making ill-informed choices, and protecting society from the dangers of an ill-informed population.**

Novel evidence suggests that building 'ethical media competence' can act as a type of 'vaccination' against problems like cyberbullying. This is not to claim that one single piece of content will ever be a panacea for all the issues facing students in the digital world. Rather, it highlights the promising progress that researchers are beginning to make in identifying specific and teachable skills that create a real, measurable difference to young people's behaviour and experiences online. Looking forward, Optus is excited to explore how Digital Thumbprint could adopt content and messaging that builds these skills.

# Young people are rarely involved as contributors to the design and development of digital citizenship programs

## 4. Find ways to creatively engage and provide support for parents in the conversation

**The disconnect between children and their parents on issues of digital citizenship is clear. Whilst certainly not universal, parental knowledge gaps in this space are common.**

We need to bridge this digital divide. This must transcend the "tips app" or resource sheet that is the go-to answer for most groups.

The evidence suggests that parents are unlikely to engage with passively provided resources. Instead, a creative approach must be taken to facilitate meaningful conversations between parents and children to create understanding of the issues and real change.



## 5. Engage end-users in program ideation, design and build

**Although young people are the target of most digital citizenship interventions, they are rarely involved as contributors to the design and development of those programs. Despite this, young people typically have the most real-world experience of the issues that they are facing.**

Whilst young people have been given a voice in Optus' Digital Thumbprint program through feedback, the opportunity exists to do more to engage them in the design of the program itself. The digital citizenship community must develop new ways to give a greater voice to digital natives.



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