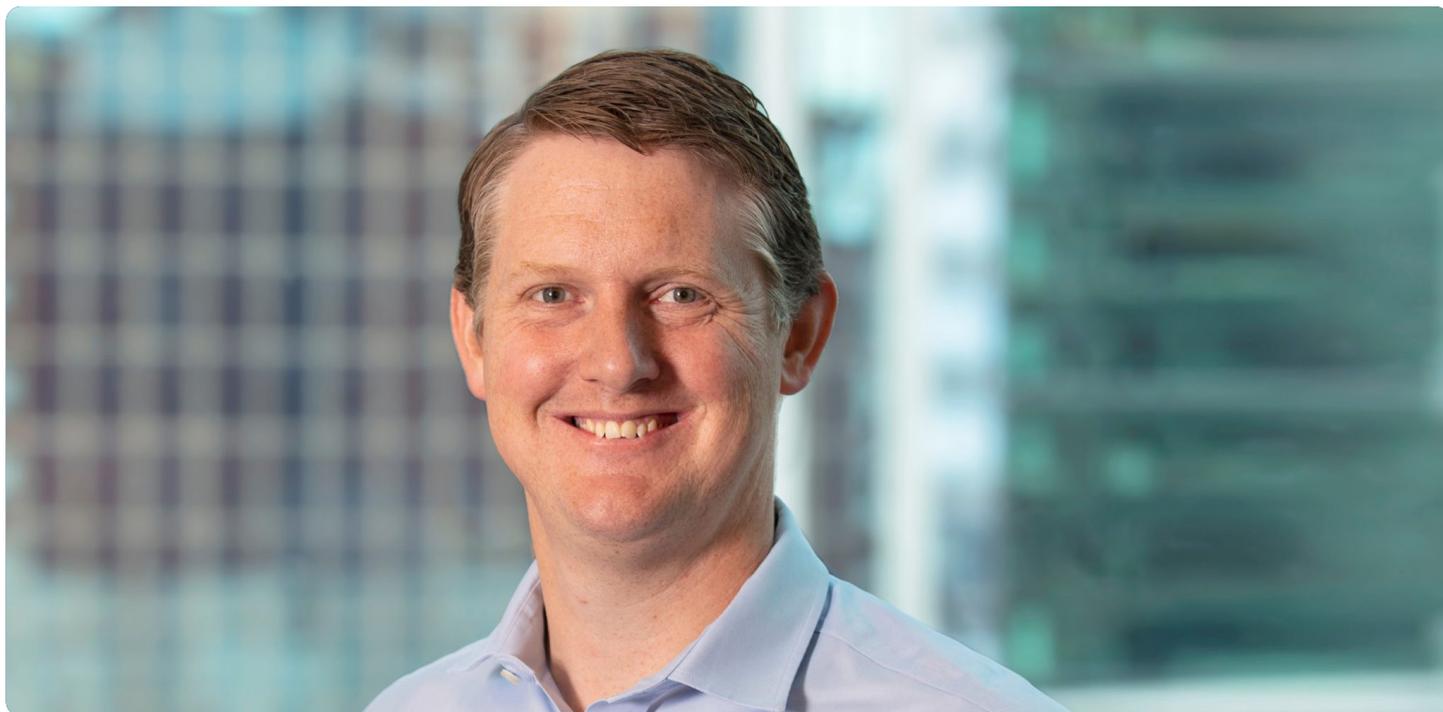




Digital skills for life in Aotearoa

2022

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We live in a digital world where our lives and our work are increasingly online.

Simple tasks are automated and the tools and services we depend on are available at the click of a button.

This move to digital was always on the horizon, but COVID-19 accelerated its adoption and brought with it more opportunities to connect, collaborate, and conduct business online.

Responding to the pandemic has been challenging, but despite it all, we have used digital technology to address issues of access and availability; increase efficiency and effectiveness; and strengthen connections both locally and globally.

Much of the innovation has been borne of necessity. Even as we continue to chart a path in an uncertain world, the glimpse of a brighter, more productive and sustainable future supported by digital tools and services should give us all hope.

However, despite the promise and the opportunity ahead, there are those that are still being left behind.

Connectivity and access to technology is one thing, but without the skills to embrace digital technologies, many people risk being left behind - losing connection with their communities, and being unable to participate in our new, digitally-shaped society.

BNZ is one of many organisations at the forefront of this change. Although many of our customers are already online and able to conduct their banking digitally, we are working hard to support those customers who are not currently digitally active. We are doing this through education, dispelling fear, and giving people a comprehensive range of skills to be comfortable in an online world.

Work to increase the digital skills of New Zealanders is broad in scope and we all have a role to play. It requires both the public and private sector to collaborate to build a digitally savvy Aotearoa. Our second Digital Skills Report shows where change is happening and where more focus should be applied.

What is clear is that more needs to be done if, as a nation, we are to reap the opportunities of a more productive and sustainable digital economy. We have everything to play for and must work together at pace to deliver for all.

Dan Huggins
CEO, BNZ



I am pleased to see that BNZ has continued their valuable research into digital capability in New Zealand.

COVID-19 emphasised the need to accelerate digital adoption in New Zealand. In both work and social environments, the utilisation of digital tools has enabled New Zealanders to stay connected and support our economy through a trying time. It is imperative that we continue this digital adoption journey to boost productivity, improve wellbeing, and create new business opportunities.

In striving for digital transformation, it is critical that we utilise the advanced digital skills available in New Zealand to innovate and boost our economy. Research such as this contributes to building a better understanding of Aotearoa's digital capability. With information, we can continue to make informed decisions and ensure initiatives contribute towards improving digital capability and increasing digital adoption for all New Zealanders.

Through our efforts to increase digital adoption in New Zealand, it is imperative we do not forget those who are disproportionately impacted by such changes. We must address digital inclusion challenges to ensure certain population groups are not left behind.

I am supportive of BNZ, as a Digital Boost Alliance member, and other private sector organisations in continuing this type of research and pursuing joint efforts to lift New Zealand's digital capability.

Hon Stuart Nash

Minister for Economic and Regional Development,
Forestry, Small Business and Tourism



As Aotearoa grapples with the COVID-19 pandemic, the crippling effects on our local economy and communities have magnified the digital divide. The launch of the 2022 report is a timely reminder of the digital inequity and exclusion that exists in Aotearoa.

The speed of technological change, the transition to digital services, and the widening digital access gap brings us to the precipice of digital exclusion. Cost to participate in the digital world creates further pressures that should not be understated.

It is easy to focus solely on access to affordable devices and affordable internet connectivity, but we must also be future focused. We must upskill individuals to not only meet the requirements of digital life today but also set them up to make the best of a digital future. Aotearoa cannot be a leading digital nation and leave a sizable percent of our population behind.

Bridging the digital divide needs to be woven into our education system, our workplaces, and our most affected communities through the support of localised solutions for local problems, designed and led by local people.

The Digital Equity Coalition Aotearoa (DECA) connects and supports the digital inclusion community in Aotearoa. Our mission is digital equity.

DECA sees digital inclusion as an indicator for broader equity issues. We wholeheartedly support the mahi BNZ has undertaken through this report, and the community-focused approaches they are committed to under the Digital Boost Alliance.

Kris Dempster-Rivett

Steward - Digital Equity Council Aotearoa



Key findings

- Twenty percent of the population of Aotearoa-New Zealand – or 800,000 New Zealand adults – have **Below essential** digital skills (Box 1).¹ Over 2021, 5% of the population – or 200,000 adults – improved their digital skills from **Essential** to **Essential plus**.
- New Zealanders with **Below essential** digital skills tend to be from low-income households, have less education, and be disabled. This highlights the point that weak digital skills risks compounding existing social and economic inequalities.
- There is a strong relationship between the extent to which people use their digital skills at work, and average incomes by industry. Having **Essential plus** digital skills increases the likelihood of working in an industry that pays relatively high wages.
- 94% of New Zealanders agree that the internet provides them with more benefits than disadvantages. Even 81% of people with **Below essential** digital skills agree that the benefits of being online outweigh the disadvantages.
- Almost everyone who has **Essential** or **Essential plus** digital skills can teach themselves new skills online, whereas only 75% of people with **Below essential** digital skills are able to learn online. This highlights the potential for workplaces to provide online learning to improve the digital skills of their staff, with benefits for productivity and wellbeing.
- For the first time, we measured the occurrence and impacts of digital harms, including spending too much time online, scams, and harmful personal messages or harmful content on public sites. More than half of the population (53%) experienced at least one of these digital harms in the last 12 months. Being scammed (including being defrauded or having personal information stolen) moderately to severely impacts one in 10 of us.
- For 14% of the population the impact of digital harms is severe. Across demographic groups, Pacific Peoples, Māori, and disabled people are 2.4 times, 1.6 times, and 2 times more likely to experience severe digital harm compared to the general population.
- Disabled people are less digitally included than the general population. More than half of the disabled population do not have **Essential** digital skills (52% of disabled people, compared to 20% of the total population). Given low digital skills and higher likelihood of experiencing severe digital harms, disabled people risk being further excluded from an increasingly digital society.
- People with **Below essential** digital skills are more than twice as likely to have low confidence in checking the accuracy of online information compared to the total population, as are disabled people. For a well functioning democracy this needs to be addressed so disinformation doesn't threaten good communication channels.

Box 1: Digital skills groups

The results in this report are derived from a survey that measured the digital skills of New Zealand adults. Our digital skill for life framework covers 34 specific skills grouped into six categories. The first category is foundational skills, which are entry level and without which a person would struggle with basic online activities (e.g. connecting to Wi-Fi). Someone is assessed as having **Essential** digital skills if they have all the foundational skills plus at least one skill from each of the other five skill categories. If they fail to meet that test, they are classified as having **Below essential** digital skills. If someone has all 34 of the digital skills tested for in the survey, then they are categorised as having **Essential plus** digital skills.

This gives three categories of digital skills: **Below essential**, **Essential**, and **Essential plus**. These categories are referenced throughout the report. More detail can be found in the **Methodology** section of this report.



¹ Calculated from population estimate for 2021. Available at: <https://infoshare.stats.govt.nz/>. Our 2021 report used a population estimate from the 2018 Census. While the portion of adults with Below essential skills has remained the same, the absolute number has likely grown in line with estimated population growth.

Introduction



Digital technology has played an extraordinary role over the last couple of years in helping us keep connected, work, and shop from the comfort of our own homes during a global pandemic. More than ever, people need digital skills to fully participate in our economy and society.

BNZ's report last year – 'Digital skills for life in Aotearoa 2021' – took a baseline measurement of the digital skills of New Zealanders. It found that 20% of the population lacked the **Essential** digital skills required to get the best out of the internet. More marginalised New Zealanders – those with low household income, less educated, or with a disability – were more likely to be in that group.

A year on, we're reassessing digital skills in Aotearoa to find out what's changed. This year's report reproduces many of the same metrics used last year but also introduces some new areas of focus: digital harms, neurodiversity and digital use, and the cultural benefits of the internet. We've also surveyed a larger number of New Zealanders to improve the accuracy of results.

Digital transformation is here to stay. It has incredible upsides, along with risks that we need to keep an eye on. The findings in this report serve as a basis of evidence to help us better respond to and take advantage of digital use to create a better society and economy for all.

Twenty percent of New Zealanders lack the 'Essential' digital skills required to get the best out of the internet.

Digital inclusion

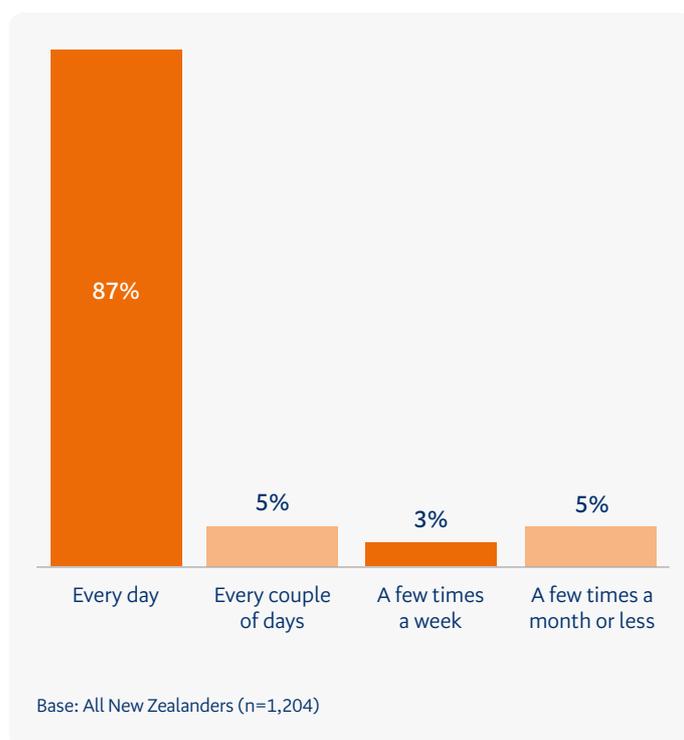
Digital skills enable digital inclusion. Digital inclusion is about having convenient access to the internet, along with the motivation, trust, and skills to use it confidently and safely. All these aspects of digital inclusion are critical if people are not to be left behind as the digital transformation rolls on.

Take access – most people will be reading this report on one of many devices that they own or have access to, will have mobile data when they are out and about, and a high speed, low latency internet connection at home. But this, unfortunately, is not the case for all New Zealanders.

Before diving into the results on digital skill levels, we set the scene with a look at some broader indicators of digital inclusion. Figure 1 below shows how often New Zealanders use the internet, which is a crude proxy for overall digital inclusion. It shows that internet use is very high in Aotearoa, with 95% of people going online at least a few times a week, with most using it every day. New Zealanders who don't get online daily are more likely to be older, have lower levels of education and household income, and have a disability.

Figure 1: Frequency of internet use

How often do you use the internet?



Eighty-nine percent of New Zealanders have access to a device at all times, with a further 9% having access when they need it. This leaves only 2% of people with no access at all. Ninety-five percent of people have access to the internet at home, and 91% on a mobile device. Since the 2021 survey, access to a smartphone has increased from 92% to 95%.

Assessing the adequacy of device access is more complex than these basic metrics suggest. For example, access to a mobile device is insufficient for writing a CV and applying for jobs online. Large households may have access to a laptop, but the one device could be being shared across many adults and children.

Ideally, adult New Zealanders would have access to both a smartphone and a laptop/desktop computer. In both 2021 and 2022, this was the case for 82% of adult New Zealanders.

The benefits people get from the internet influence their motivation to get online. The overwhelming majority of New Zealanders (94%) agree that the benefits of the internet outweigh the disadvantages (see: **Digital benefits** for more detail).

As in 2021, New Zealanders do a broad range of activities online, from information gathering and media consumption, through to shopping, then creative and financially beneficial activities such as sharing videos, working, and selling products and services. Importantly during a pandemic, eight out of 10 adult New Zealanders report being able to learn online. Detailed tables of online activities can be found in **Appendix A**.

Trust is also an enabler of digital inclusion, which we proxy with two indicators. The first is how well people understand the steps they need to take when encountering significant challenges online. As in 2021, 71% of New Zealanders report that they understand these steps. The second is how confident people feel using devices. Ninety-one percent of New Zealanders are confident using devices, relatively consistent with 90% in 2021.

While trust is harder to capture in statistics, these results paint a relatively unfavourable picture that is worth further investigation when considering digital transformation.

While digital inclusion looks to be in reasonably good shape in Aotearoa, it's important to remember that even small percentages of people on the wrong side of these numbers can still represent hundreds of thousands of people. As highlighted in the results on digital skills, New Zealanders who are missing out online are already socio-economically marginalised. To push back against increasing inequality in Aotearoa, urgent action is required to ensure as many people as possible keep up with the digital transformation.

Digital skills

Twenty percent, or 800,000 New Zealanders, still lack the digital skills that are essential for modern life. This still disproportionately impacts older people, disabled people, those with a low household income, and those with lower levels of education.

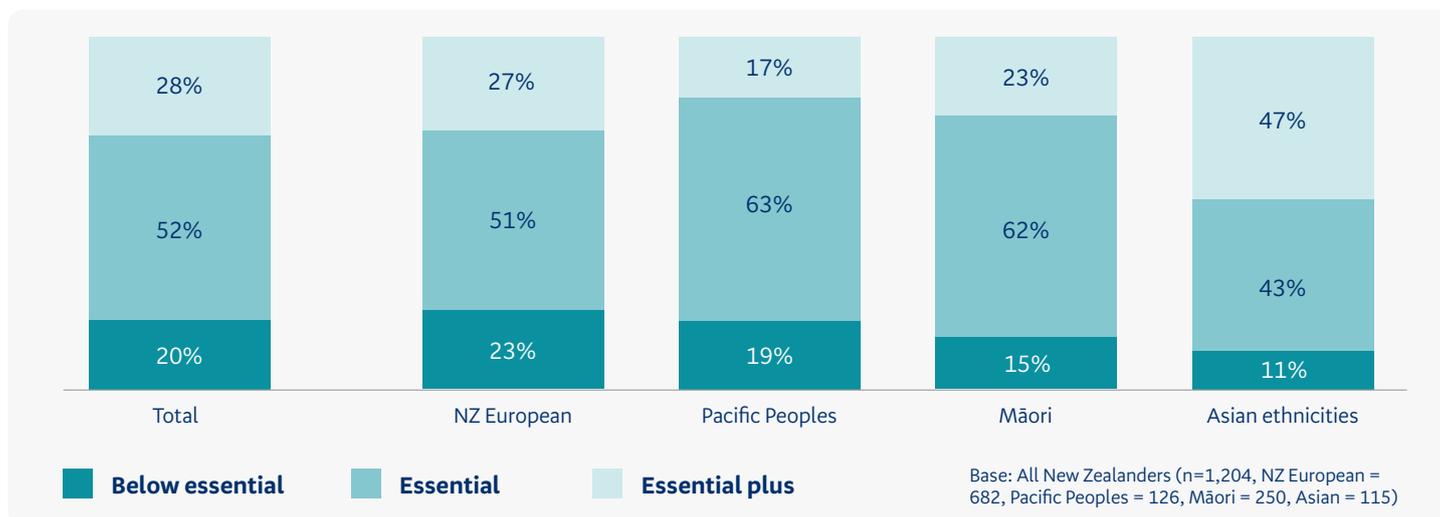
Figure 2:
Digital skill groups



Figure 2 shows the distribution of digital skills across the New Zealand population this year and last year. On the downside, the portion of New Zealanders with **Below essential** digital skills (20%) hasn't changed over the last 12 months. On the upside, an extra 5% of the population, or 200,000 adults, have moved into the **Essential plus** digital skills category. This gain has no doubt been driven by our ongoing crash course in all things digital stemming from the pandemic.

Figure 3 splits digital skills by ethnicity. It shows that New Zealand Europeans are the only ethnic group with a greater proportion of people in the **Below essential** digital skills category than the population in general. The reason for this is that New Zealand Europeans are a relatively older demographic and age is a key driver of digital skills.

Figure 3:
Digital skill groups by ethnicity



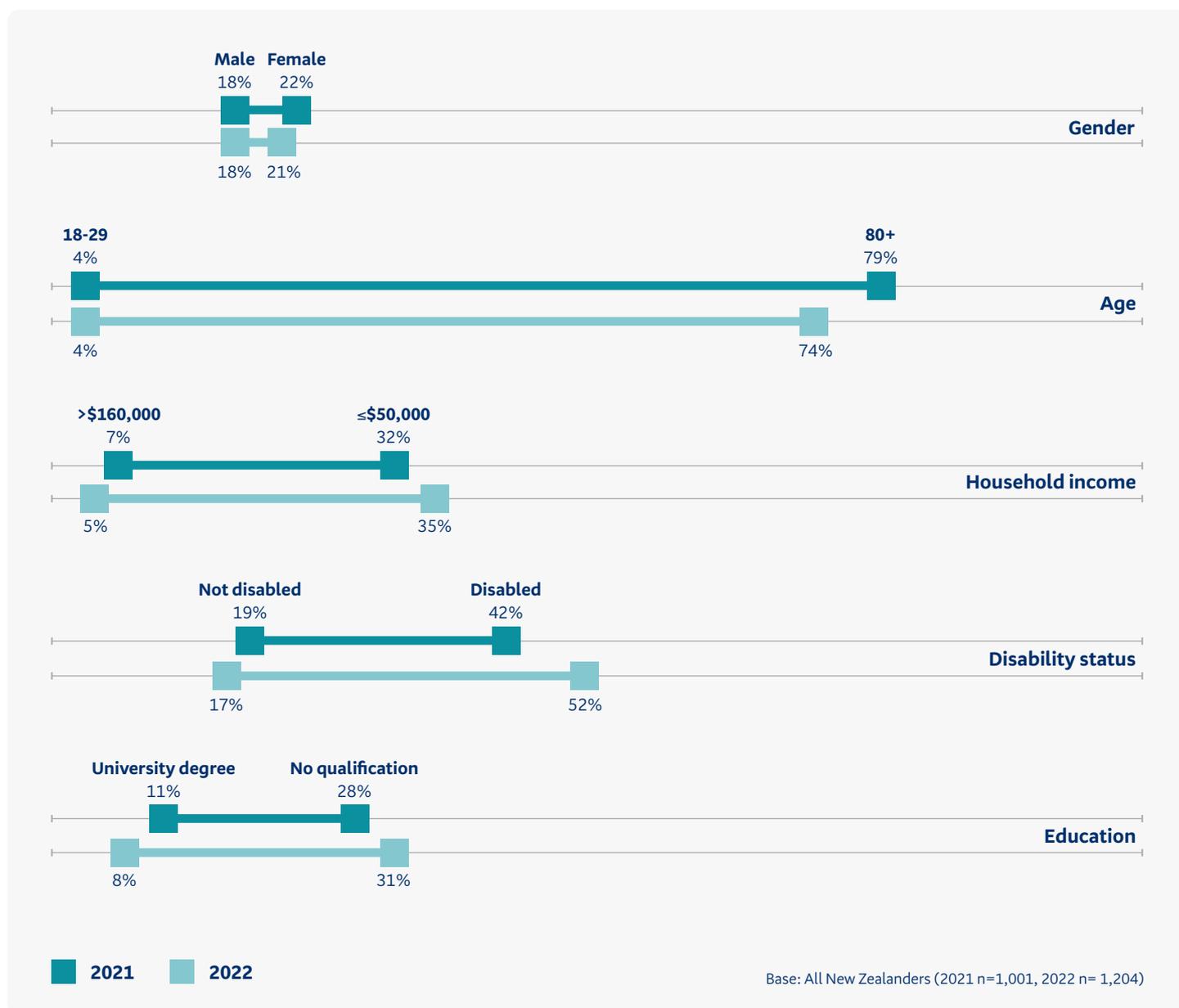
Pacific Peoples, Māori, and Asian ethnicities have lower shares of people with **Below essential** digital skills, compared with the overall population. Māori and Pacific Peoples have a relatively low proportion of people with **Essential plus** digital skills, whereas almost half of Asians (47%) have **Essential plus** digital skills.

Figure 4 shows the level of **Below essential** digital skills across different demographic groups in 2021 and 2022. Demographic sub-groups to the right-hand side of the chart have lower levels of digital skills. For example, disabled people are more than 2.6 times more likely to have **Below essential** digital skills compared to people without a disability.

As in 2021, New Zealanders who are older, have low household income, or lower levels of education are more likely to have **Below essential** digital skills. None of the year-on-year change in the level of **Below essential** digital skills across different demographics are statistically significant. More comprehensive tables on digital skill levels by demographics are available in **Appendix B**.

For the first time, we can see the digital skill levels across people who self-identify as neurodiverse individuals. Neurodiverse individuals have a similar distribution of digital skills to the total population (21% of people **Below essential**, 44% **Essential**, and 35% **Essential plus**). More analysis on neurodiverse individuals and disabled people can be found in the chapter **Neurodiversity and disability**.

Figure 4:
Proportion of demographic groups without **Essential** digital skills, 2021 and 2022



Spotlight on digital safety

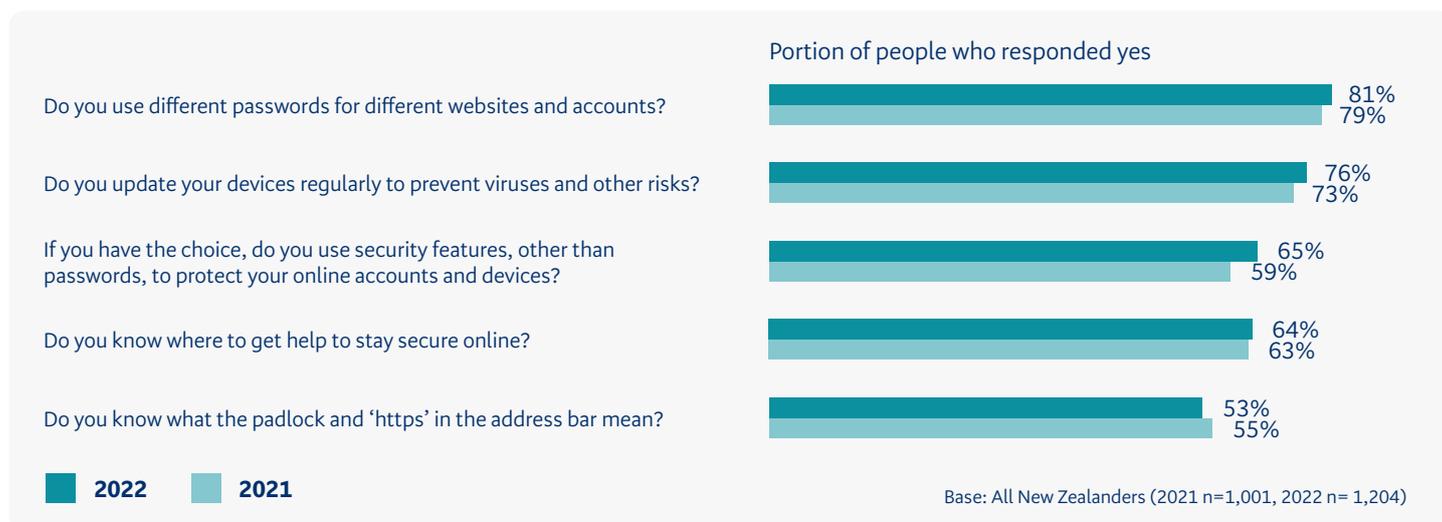
Over the last year, online scams, defrauding, or identity theft impacted two out of every 10 adult New Zealanders (more results are in the **Digital benefits and harms** chapter). Not surprisingly, 78% of people report being concerned about entering personal details online, up from 73% in 2021. These results highlight the importance of making the internet safer through improvements in digital skills and better designed products and cybersecurity.

Figure 5 shows digital safety skills in 2022 compared to 2021. More than a third of people don't use multi-factor authentication (35%), an improvement from last year when 41% of people did not use it. Also, more than a third of people don't know where to get help to stay safe online (36%), which is concerning given the prevalence of online scams, identity theft, and fraud.

More optimistically, four out of five online safety skills have improved since 2021, although these improvements are not statistically significant.

The variety of tasks that people are now doing online can increase risk, especially if they don't have the right skills. For example, 62% of people with **Below essential** digital skills are buying products or services online, yet only 30% of people in this group use two-factor authentication if given the choice.

Figure 5:
Digital safety skills 2021 and 2022



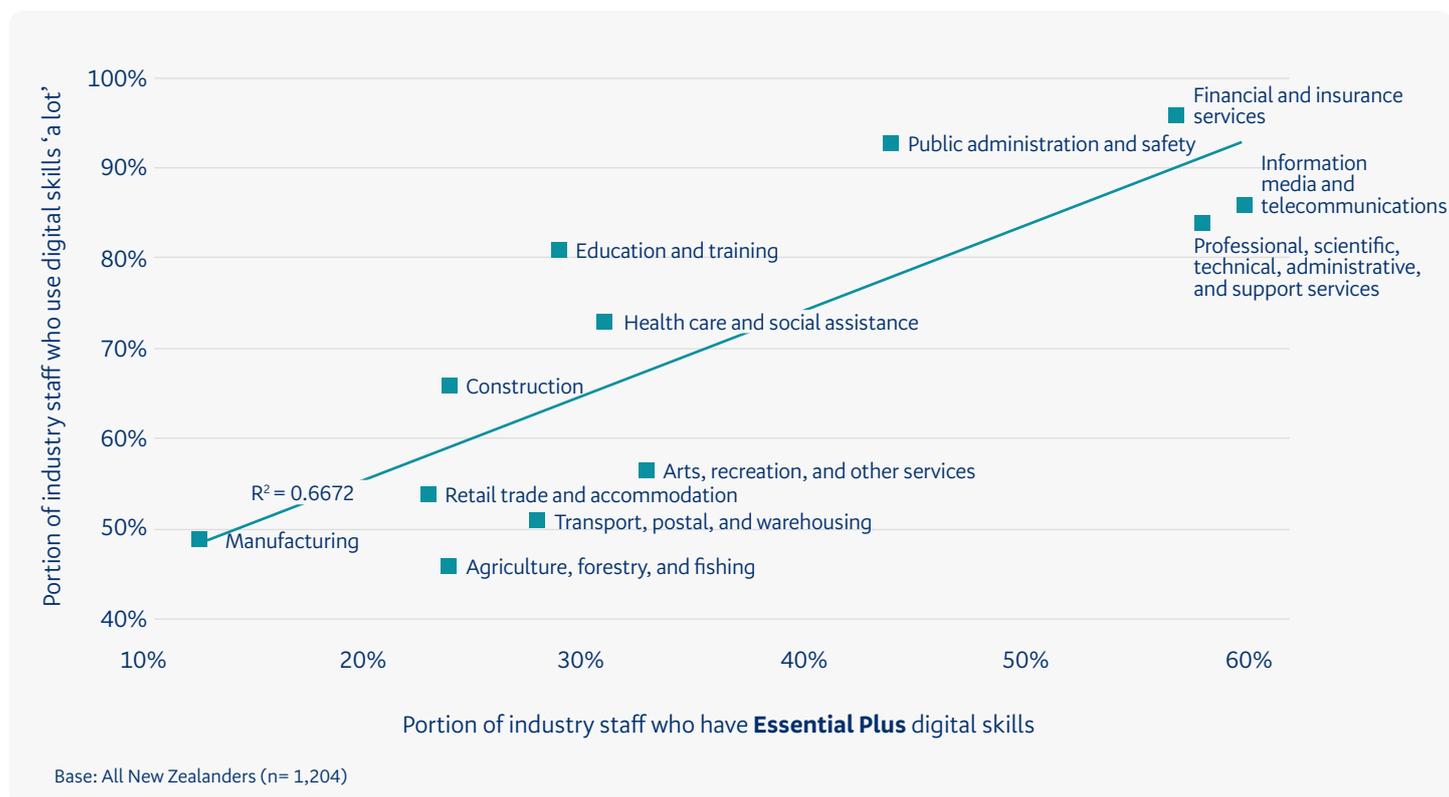


Spotlight on digital skills in the workplace

This report is about essential digital skills for life. However, the cross-over between digital skills for life and digital skills in the workplace is becoming larger as more businesses digitally transform. To investigate, we asked survey respondents who were in the labour market how much they used their digital skills in their work.

Figure 6 plots the share of respondents who use their digital skills ‘a lot’ at work against the portion of people who have **Essential plus** digital skills by industry. It shows a strong relationship – across industries, people with good digital skills are more likely to use those skills ‘a lot’ in their work.

Figure 6:
Digital skills and use by industry

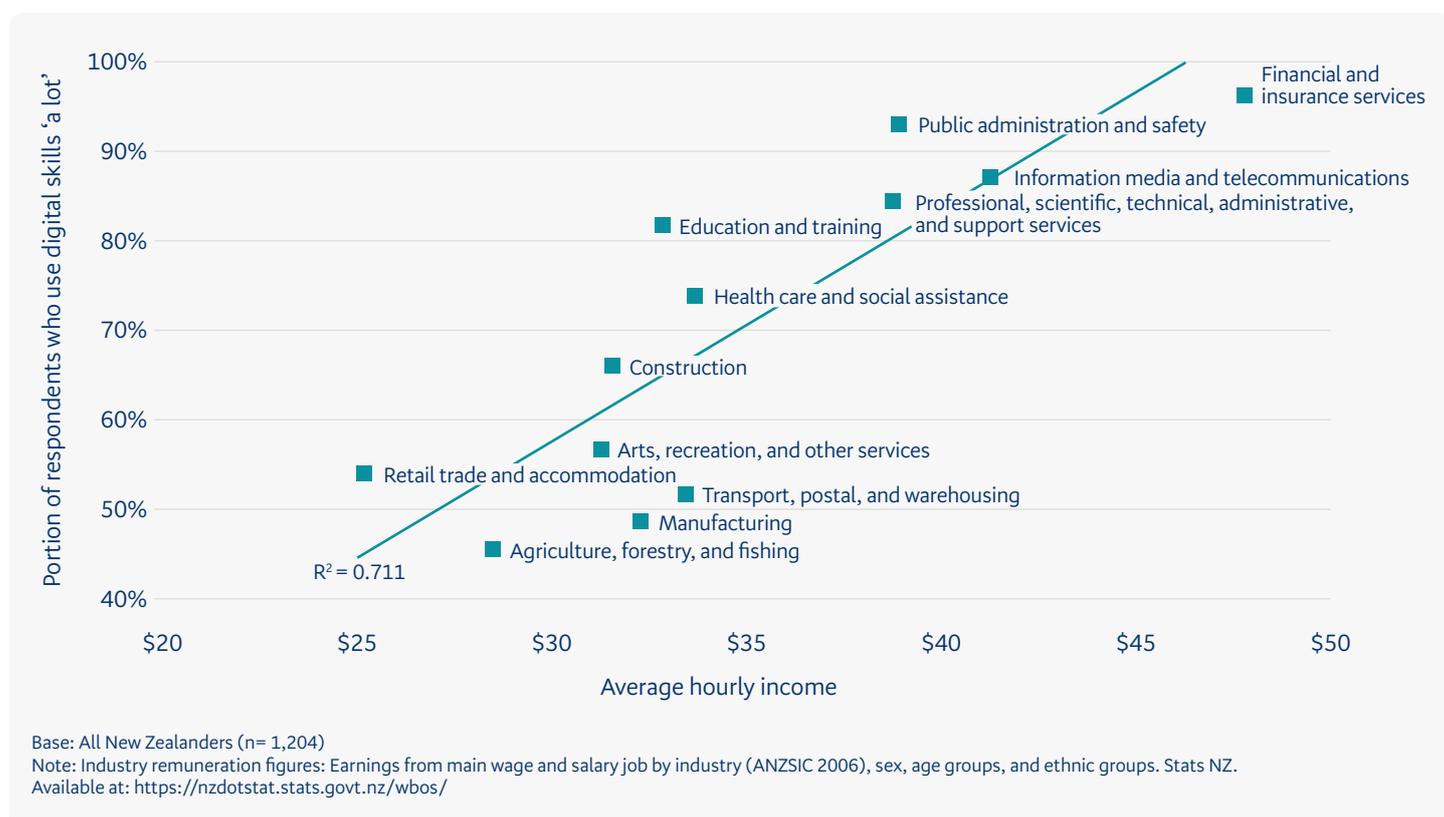




There's also a strong relationship between the extent to which people use their digital skills at work and average incomes by industry (Figure 7). This is consistent with numerous studies showing that the use of digital tools by businesses and industries

leads to higher productivity and wages. From the employee's perspective, having **Essential plus** digital skills increases the likelihood of working in an industry that pays relatively high wages.

Figure 7:
Digital skills use and remuneration by industry



Digital benefits and harms

As we continuously improve our understanding of the digital skills of New Zealanders, we must present a holistic view and not shy away from the potential harms that are an inherent part of the online world.

This year, as well as asking survey respondents about their digital skills and the benefits of being online, we also asked them about digital harm. This helps us understand the frequency and impacts of digital harm across demographic groups and present a more holistic view.

Digital benefits

The internet offers a broad set of benefits for most people. Figure 8 shows the benefits of being online, by digital skills group. Without exception, having stronger digital skills unlocks greater benefit.



94%

of all New Zealanders agree that the internet provides them with more benefits than disadvantages

Even **81%** of people without **Essential** digital skills agree

For people with **Essential** or **Essential plus** digital skills, five and six out of 10 people respectively agreed that the internet helps them connect with, or express, their culture, faith or religion. This reduces to nearly half that number for people with **Below essential** digital skills (three out of 10 people). Young people, Pacific Peoples, Māori, and Asians are even more likely to agree that the internet offers them this benefit.

This new finding on the cultural and religious benefits of having good digital skills adds to the strong social benefits of being online. On average, nine out of 10 New Zealanders agree that the internet helps them connect better with friends and family, and eight out of 10 agree that the internet helps them connect better with others.

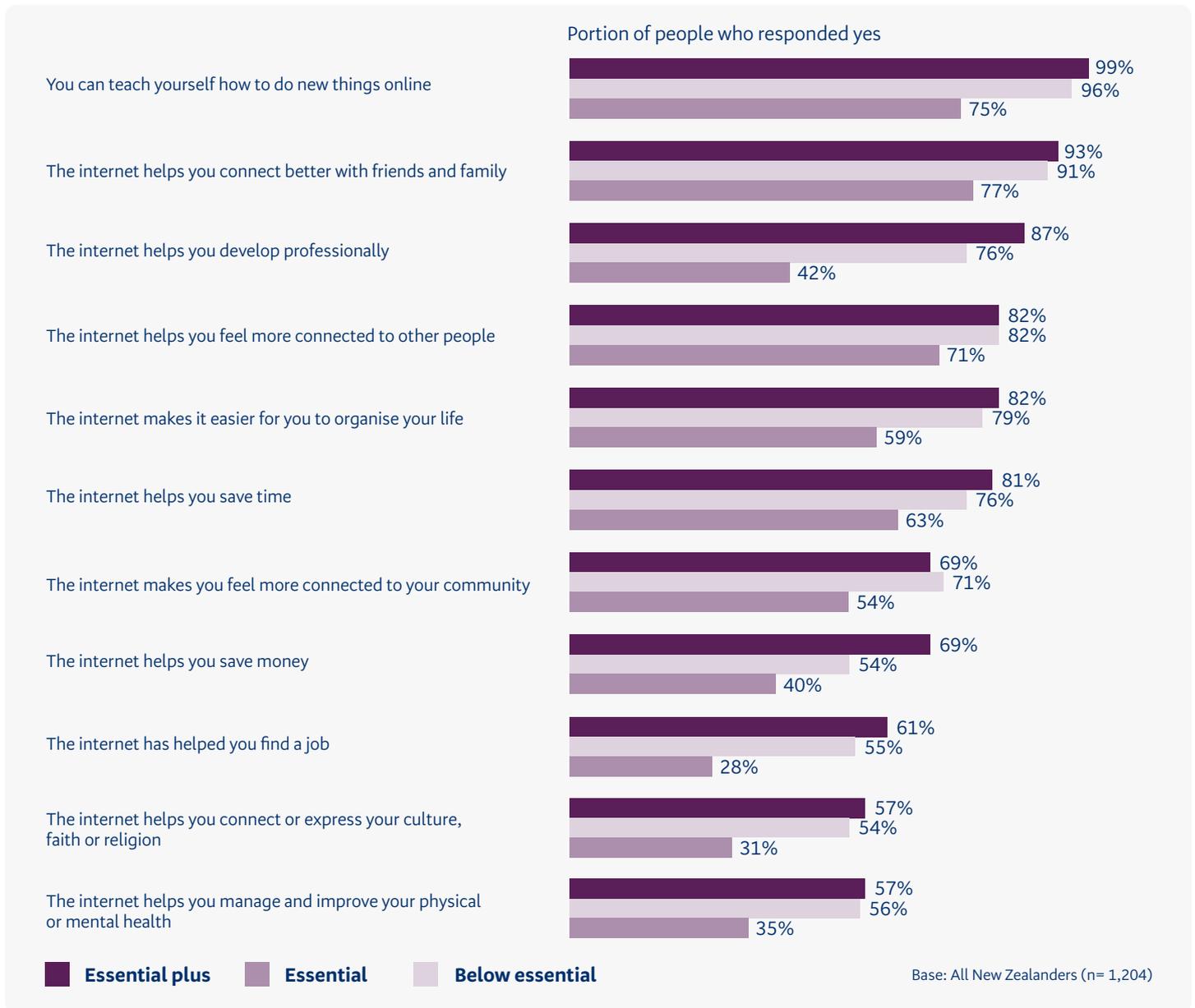
The value of being able to connect with people online should not be understated. For example, reducing someone's loneliness by 20% is estimated to be worth \$20,200 (using a method to monetise wellbeing impacts)³. It follows that if digital skills can help reduce loneliness, they are valuable to health and wellbeing.

While unemployment is currently at record lows in Aotearoa, the pandemic is forcing job and possibly vocation changes for many. Figure 8 shows that there are critical benefits of being online for the working population. In particular, professional development and job seeking are aided by the internet, and more so for people with better digital skills.

There is a risk that digital skills benefit those who are already ahead in the labour market, and compound inequality. Usefully however, the ability to teach yourself to do new things online is very high, even for those with few digital skills (for example online micro-credentials and other qualifications).

³Original research by Housing New Zealand, 2018 (available at <https://kaingaora.govt.nz/assets/Publications/2017-wellbeing-valuation.pdf>), converted into 2022 dollars by Treasury in their "database to help organisations monetise impacts and do return on investment analysis", available at <https://www.treasury.govt.nz/publications/guide/cbax-spreadsheet-model>). Note that the exact 2022 value is -\$20,228 (stated as a 1-point increase in loneliness).

Figure 8:
Internet benefits by digital skills group



Digital harms

Ninety-two percent of New Zealand adults now use the internet at least every couple of days. With internet use so pervasive, it's important to understand its potential downsides.

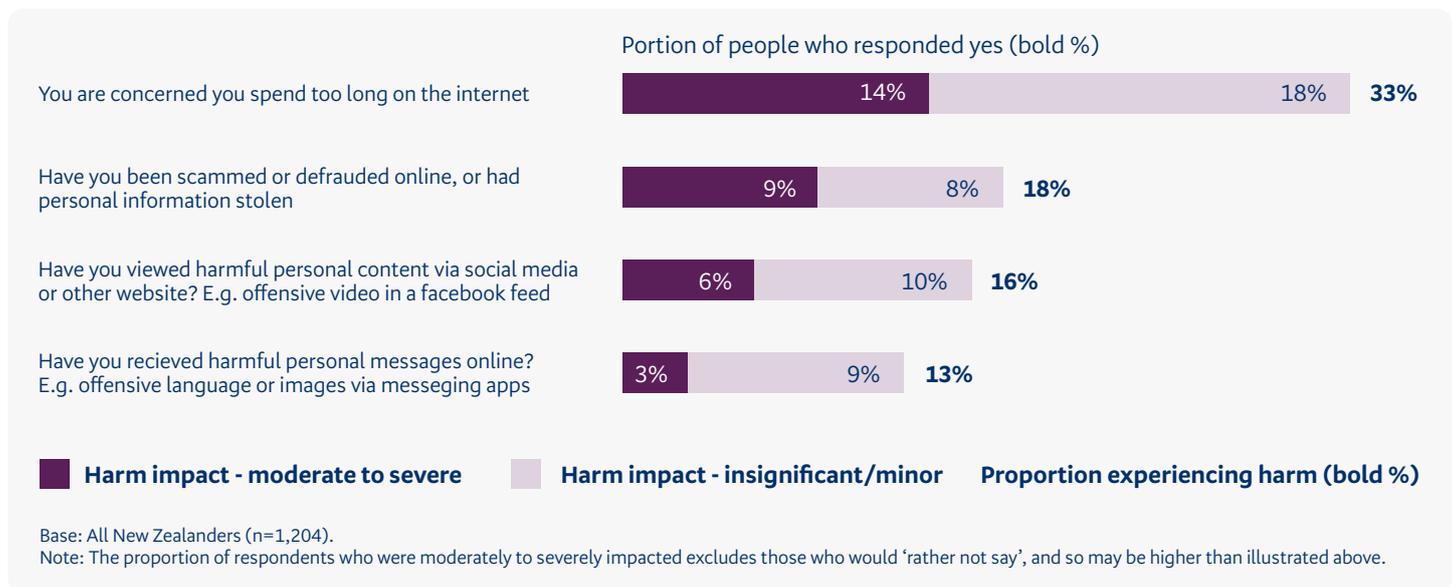
With this in mind, we asked respondents about their experience of four specific digital harms over the last 12 months – spending too much time online, being scammed, viewing harmful content, and receiving harmful content. Fifty-three percent of New Zealanders experienced at least one of these four harms.

Figure 9 shows the frequency with which each of these digital harms occurred and the severity of impact. Thirty-three percent of New Zealanders said they are concerned about the amount of time they spent online, and 14% said time spent online resulted in moderate to severe harm. This is a significant fall from last year, when 51% of the population expressed concern about the amount of time they spent online. It's difficult to say with certainty why this drop has occurred. It may be that with increased digital adoption through the COVID-19 pandemic, we've normalised a higher level of device use and gauge less concern than we might once have had.

Although the other three harms occur less frequently, they are more likely to cause more severe impacts. When people have experienced being scammed, defrauded, or had personal information stolen, more than half of them report the impact as moderate to severe. This is almost one in 10 people in the adult population, and highlights the need for online safety skills and better systems to protect people, as discussed earlier in the **Spotlight on digital safety**.

Viewing public or private harmful content – the bottom two bars in Figure 9 below – also has moderate to severe impacts on relatively smaller portions of the population. An added risk, however, with harmful content via social media or other websites is that the experience of this is skewed towards younger people. For example, 27% of people aged under 40 viewed personal harmful content via social media or other websites, compared with 16% of the population as a whole.

Figure 9:
Experience and impact of online harm



Who is most likely to suffer digital harm?

To assess the incidence and impact of digital harm across different demographic groups, we construct a 'total digital harm' measure as the total number of harms experienced over the previous year weighted by the severity of their impacts. For example, if a respondent had two experiences of harm, with impacts of three and four respectively, their aggregate digital harm score would be seven.

Measures of 'total digital harm' for each respondent are categorised as none (0), low (1-2), moderate (3-5), or severe (5 or more).

By ethnicity, Pacific Peoples are at the highest risk of experiencing severe digital harms. When it comes to Pacific Peoples, 34% experience severe digital harm, making them 2.4 times more likely to experience severe digital harm compared to the population baseline (of which 14% experience severe digital harm). For disabled people, 28% experience severe digital harm, twice as many as in the total population. Twenty-three percent of Māori experience severe digital harm, 1.6 times the rate in the total population.

These results and skewed impact on the highlighted demographics should give pause. Although the benefits of digital adoption abound, we must be careful to ensure the costs are not borne disproportionately by a few.

Pacific Peoples are **2.4x** more likely to experience severe digital harm than the total population

Māori are **1.6x** more likely to experience severe digital harm than the total population

Disabled people are **2x** more likely to experience severe digital harm than the total population

Figure 10:
Total digital harm scores

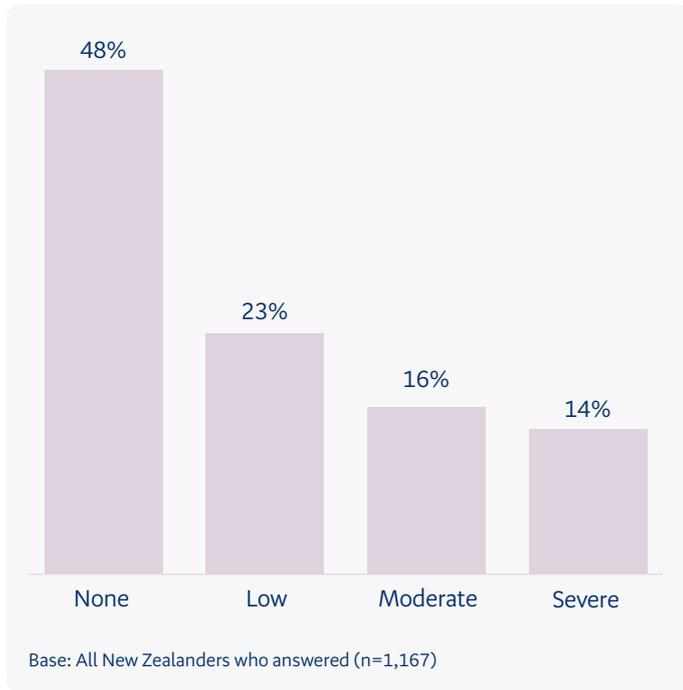
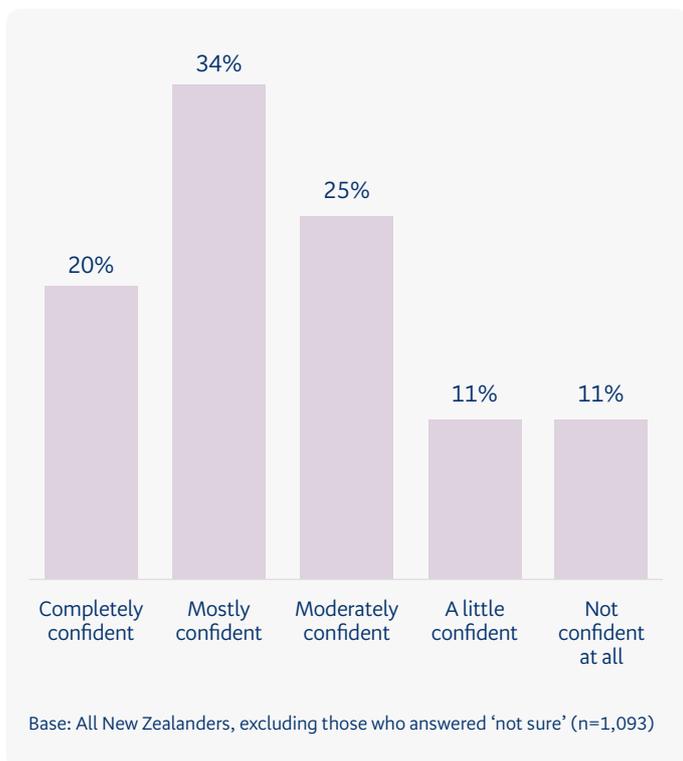


Figure 11:
Confidence in the accuracy of online information



In this year’s survey, we also asked respondents about their confidence in assessing the accuracy of online information. Misinformation and disinformation are complex and nuanced topics. Internet NZ defines them as such –

“Disinformation

is false information that is spread deliberately to deceive people, and misinformation is an umbrella term to refer to all inaccurate content.”⁴

Because people may not know they are victims of misinformation or disinformation, our survey asks “How confident do you feel about how to check the accuracy of information you read on social media, or news websites?”

Eight out of 10 New Zealanders are moderately to completely confident checking the accuracy of online information. Figure 12 below shows demographic groups that have lower confidence (either a little confident, or not confident at all) in checking the accuracy of online information compared to the total population.

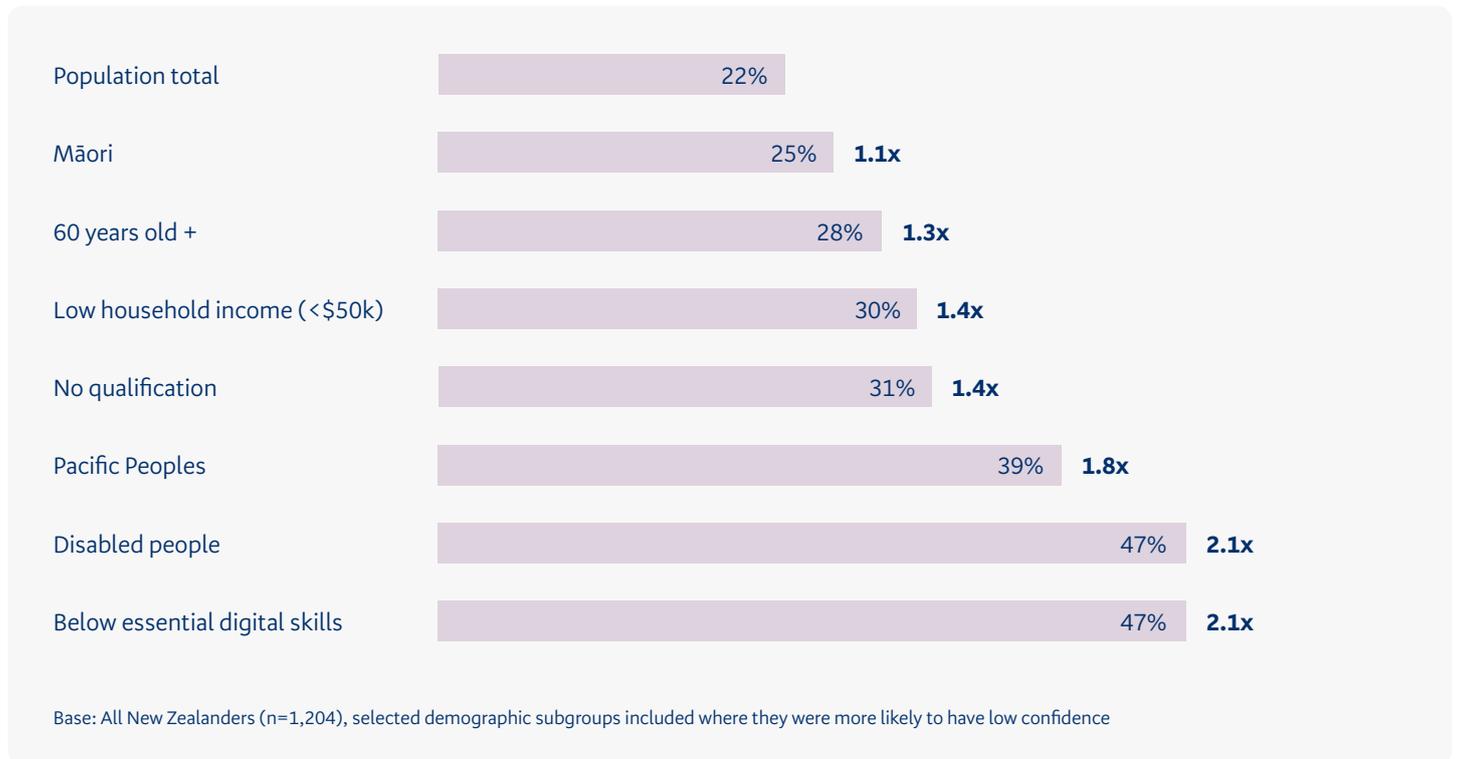
People with **Below essential** digital skills are more than twice as likely to have low confidence in checking the accuracy of online information compared to the total population, as are disabled people. Other groups with low confidence include Māori, those aged 60 years and older, those from households with low incomes, those without a qualification, and Pacific Peoples.

Access to accurate information and public discourse are fundamental to a healthy democracy. Understanding the dynamics of digital technology in this space is complicated and the subject of ongoing deliberations (such as the role of technology platforms in content moderation). Our datapoints provide limited but valuable insight into who might be more impacted by misinformation and disinformation. This is but one of many points of evidence to bring to a conversation with increasing importance to Aotearoa and the world.

⁴Internet New Zealand. Available at <https://internetnz.nz/news-and-articles/stopping-disinformation-in-its-tracks/>

Figure 12:

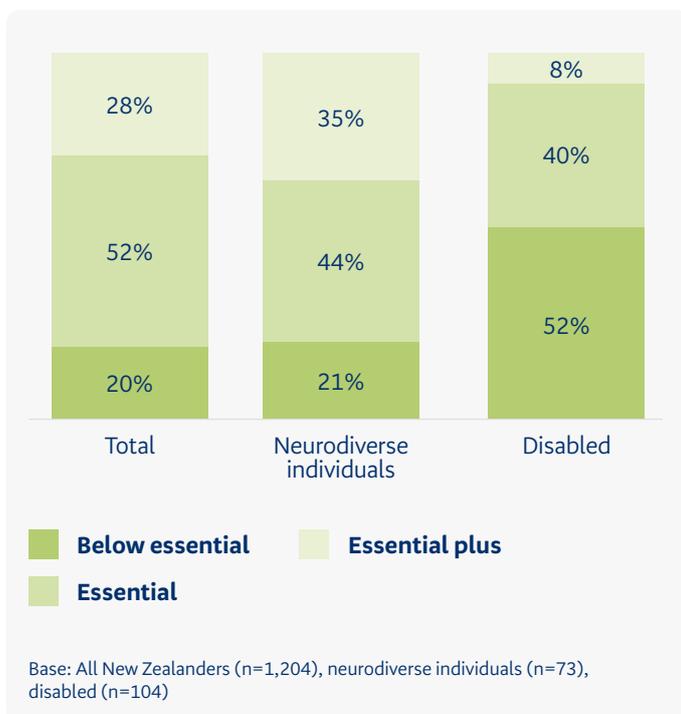
Portion of groups with low confidence when checking the accuracy of online information



Neurodiversity and disability

Two groups in society to whom we have paid particular attention in our research this year are neurodiverse individuals and disabled people. Digital tools offer extra challenges and potentially greater rewards to these groups. Specific questions in our survey helped us identify neurodiverse individuals and disabled people and this chapter considers the state of their digital lives.

Figure 12a:
Digital skills of neurodiverse individuals and disabled people



Neurodiversity

Neurodiversity is a term which includes a range of neurological differences in the human brain including “...acquired illness or brain injury, Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD), dyscalculia, dyslexia, dyspraxia, intellectual disability, mental health, and Tourette syndrome.”⁵ While there are challenges for neurodiverse individuals, it shouldn’t alone be considered by deficits.

“The world is discovering that neurodiverse people are simply wired differently to those perceived more ‘normal’ or ‘neurotypical’. Being neurodiverse has nothing to do with being ‘flawed’ or having a ‘deficit’ or ‘disorder’. It’s about recognising strengths, maximising the value in different ways of thinking, and appreciating every single person in the universe for who they are and what they bring, so they are seen, heard, and valued and therefore belong. This is the best Mental Health & Wellbeing any individual, community and country can wish for.”

- divergentthinking.co.nz

We asked respondents – “Have you been diagnosed with or experience any neurodivergent issues such as autism, ADHD, dyslexia, or dyspraxia?”⁶. Our results found that there is no statistically significant variation in the distribution of digital skills for neurodiverse individuals compared to the total population. For many neurodiverse individuals, the digital world is preferable than face-to-face interactions and so it’s not surprising to see such a result.

Considering neurodiverse individuals online activities, they have the same preference for online banking as the total population (75-76%), and 95% of neurodiverse individuals have used online banking in the last year. Neurodiverse individuals are no less likely to participate in any of the internet activities we questioned participants about (reading the news, email, sharing photos or videos, social media, using online messaging services, rating products or services, learning, accessing government or council information, applying for jobs, working, buying or selling products or services). They are more likely to game online (50% of neurodiverse individuals compared to 35% of the population total), more likely to stream or download media (82% of neurodiverse individuals compared to 66% of the total population), and more likely to manage their physical or mental health online (62% of neurodiverse individuals compared to 44% of the total population).

⁵ The Education Hub, ‘Neurodiversity: An overview’. Available at: <https://theeducationhub.org.nz/neurodiversity-an-overview/>

⁶ This question is a self-assessment which helps us begin to understand neurodiverse individuals as compared to the rest of the population but is necessarily imperfect. Because of the crude quantitative nature of surveys generally and this question specifically, our question may not fully capture neurodiversity or reflect the experience of neurodiverse individuals exactly. Our hope is that we will increase visibility of neurodiverse issues and that they would be considered more when it comes to digital design.

It's good news to see these high-level results for neurodiverse individuals for the first time. It is important to remember that this indicator encompasses a wide variety of very different and complex characteristics. While we can celebrate the benefits that the digital world offers to neurodiverse individuals, we should always keep an eye on particular design needs and complement this research with more specific qualitative research and user design.

Disability

The digital world can potentially offer new opportunities to those who are disabled – services that might physically be hard to access can be delivered online, and social connections can be made and strengthened. However, there are many hurdles for physically disabled people to cross before they can access such benefits. This could include the need for special hardware and software to use a computer. These can be compounded by existing access and cost barriers that many physically disabled people face.

To understand disability, we asked respondents a standardised set of questions used in surveys around the world (more detail on the 'Washington Group' set of questions in the **Methodology** section of this report). The disability status derived from these questions and used in this report aim to identify those who are physically disabled and excludes other types of disability.

Neurodiverse individuals are **41%** more likely to manage their physical or mental health online than the total population

Neurodiverse individuals are **43%** more likely to game online than the total population

Physically disabled people are less digitally included than the general population. More than half of the disabled population don't have **Essential** digital skills (52% of disabled people, compared to 20% of the total population). Unfortunately, and as mentioned in the previous chapter, disabled people are twice as likely (28% of disabled people) to experience significant digital harm.

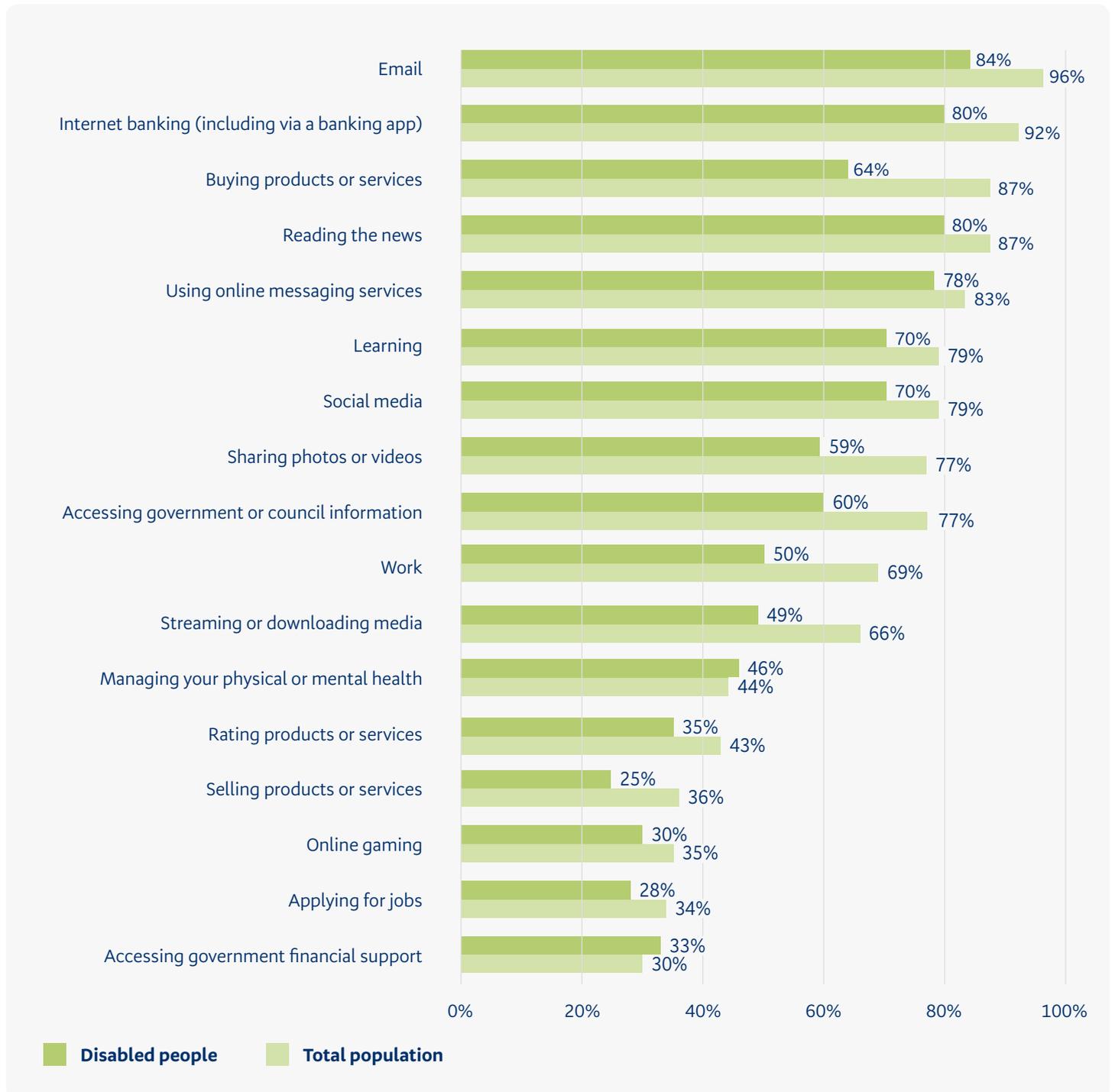
Considering the types of activities conducted online, disabled people are less likely to conduct almost all activities when compared to the total population. Figure 13 below shows the portion of disabled people and total population who complete a range of online activities. Disabled people are less likely to do most activities online when compared to the total population. The difference is the greatest when it comes to buying products or services online, and working online.



Of all the groups in society, disabled people are the most digitally disadvantaged overall, missing out on digital skills and online activities, and suffering disproportionately when it comes to digital harms.

As most of the population advances their digital skills and reaps the rewards, particular attention should be given to disabled people to ensure barriers to access are removed, and they can benefit from all that is offered.

Figure 13:
Online activities of disabled people and the total population



Conclusion



The arrival of the COVID-19 pandemic shook our lives and changed the digital dynamic of our world. When our first survey was in the field (November 2020), 70% of adults reported an improvement in their digital skills over the previous 12 months.

Our first report set a baseline measure of digital skills in Aotearoa and warned that too many people were sitting on the wrong side of the digital divide. Disappointingly, our current report finds that 20% of the population have remained entrenched with **Below essential** digital skills.

New Zealanders with **Below essential** digital skills derive less benefit from the online world and are more exposed to cybersecurity threats. Assessing the impacts and distribution of digital harms across the population is a necessary maturing of our understanding of the digital world that should encourage interventions, products, and services to be attuned to those who are more vulnerable.

Digital harms are skewed towards the already vulnerable. If the internet was akin to the introduction of the automobile, we haven't yet properly sorted seatbelts, airbags, licenses, or speed limits among other universal features that mitigate risk. We must use the insight this research provides to mitigate harms so they don't fall unequally – this is responsibility we can't ignore.

Public discourse and finding accurate information online are also impacted by people's digital skill levels. People with **Below essential** digital skills are more than twice as likely to have

low confidence in checking the accuracy of online information compared to the total population. We must strive to ensure everyone can access accurate information online and participate in civic society. This alone builds the case for a continued focus on investing in people with low digital skills. With more of our lives now online, digital safety must remain a focus and must be an important part of digital skills education. Those who design systems, products, and services should strive to make security intuitive and seamless. Such actions are required to protect the vulnerable, and to maintain and build their trust in the digital world.

Digital skills for life will increasingly overlap with the activities of those in the labour market. Workplaces can benefit from the digital skills of their staff to increase productivity and in turn workplace gained digital skills can benefit individuals and their communities. With an extra 5% of people moving from **Essential** to **Essential plus** digital skills, it's a good sign that we're shoring up our foundations for digital careers as industries reorganise in the wake of COVID-19.

The disruption that COVID-19 has brought on our communities and economy has not ended. Digital transformation continues to be a powerful tool for us to innovate and adapt in response. Opportunities to use digital technology abounds, but we must address those who still have **Below essential** digital skills. The insights presented in this report provide us with a sophisticated understanding of digital skills and should be used to help us get the most out of the likely dynamic year ahead.

Methodology



Fieldwork dates:

Interviewing took place between 8th November and 3rd December 2021. Note that the report title uses 2022 to refer to the year that it was published.

Target population:

Adults in New Zealand (18 years or older).

Sample population:

Adults in New Zealand households with a landline telephone or access to a New Zealand mobile phone.

Sample selection:

Landline - Nationwide random digit dialling of landline telephones using stratified probability sampling to ensure a representative share of people in urban and rural areas.

Mobile - Random dialling of New Zealand mobile telephones using probability sampling.

Sample size: n = 1,204, with 25% polled via landline phone and 75% polled via mobile phone.

Response rate:

- Total completes - 1,204
- Response rate - 11.85%

Sampling error:

The maximum sampling error is approximately ± 3.1 percentage points at the 95% confidence level. This is the sampling error for a result around 50%. Results higher and lower than 50% have a smaller sampling error. For example, results around 10% and 5% have sampling errors of approximately ± 1.9 percentage points and ± 1.3 percentage points, respectively, at the 95% confidence level.

Interview method:

Conducted by CATI (Computer Assisted Telephone Interviewing).

Weighting:

Data weighted by age within gender, ethnicity, and region to be representative of the NZ 18+ population according to the 2018 Census.

Questions to identify digital skills groups

Questions on digital skills are derived from the UK's 'Essential Digital Skills Framework'⁷ and modified to the Aotearoa context through consultation with a variety of experts.

Skills cover six categories and 34 specific questions, consistent with what was tested for in our 2021 report, detailed in Table 1.

Table 1: Digital skills for life

Foundational

Turn on a device
 Use the available controls on a device*
 Connect to the internet, open a browser like Internet Explorer or Google Chrome*
 Interact with the main screen on a device*
 Connect a device to a Wi-Fi network*
 Update and change your device password or pin code when prompted to do so*
 Change the settings on a device to make it easier to use*

Communicating

Communicate with others using email
 Attach documents and photos to an email
 Communicate with others using messenger apps or chat tools
 Communicate with others using video tools, where you can see others on screen
 Set up an email account
 Create Microsoft Word or Google Docs
 Post something on social media

Transacting

Pay for goods or services online
 Manage your money and transactions online securely
 Access and use public services online, like vehicle registration or MyMSD
 Set up an account online to buy goods or services
 Upload documents and photographs when needed to complete an online transaction

Problem solving

Use the internet to find information to solve problems
 Use web chat, FAQs, and forums to solve problems

Handling information and content

Use Google or other search engines to find information such as shop opening hours
 Use the internet to stream or download entertainment
 Organise your information and content
 Use bookmarks to save and retrieve websites and information
 Store information on the Cloud and access that content from different devices

Online safety

Can you reset a password from an online account if you've forgotten it
 Can you recognise and avoid suspicious links in emails
 Do you use different secure passwords for different websites and accounts*
 Can you set and change the privacy settings on your social media and other accounts
 Do you update your devices regularly to prevent viruses and other risks*
 Do you know where to get help to stay secure online*
 If you have the choice, do you use security features, other than passwords*
 Do you know what the padlock and 'https' in the address bar mean*

*subset of questions asked for 2022

⁷Govt.uk, 2019. Essential Digital Skills Framework. Available at <https://www.gov.uk/government/publications/essential-digital-skills-framework>

Foundational skills are entry level and without which a person would struggle with basic online activities. Someone is assessed as having **Essential** digital skills if they have all the foundational skills plus at least one skill from each of the other five skill categories. If they fail to meet that test they are classified as having **Below essential** digital skills. If someone has all 34 of the digital skills tested for in the survey, then they are categorised as having **Essential plus** digital skills.

This gives three categories of digital skills: **Below essential**, **Essential**, and **Essential plus**.

Questions to identify disabled people

The Washington Group introduces their research method as such:

The UN Convention on the Rights of Persons with Disabilities (UNCRPD) recognizes that ‘disability is an evolving concept’ (UNCRPD, 2006, p. 1), and defines persons with disabilities as those who have ‘long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others’ (UNCRPD, 2006, p. 4).

By focusing data collection on those who have difficulty in carrying out a few basic, universal activities, the Washington Group (WG) [and the set of questions they prescribe] seeks to identify those who would be at greater risk than the general population of social exclusion (for example not able to access education or employment) if their environment was unaccommodating.

Further information available at www.washingtongroup-disability.com



The questions we asked respondents, derived from the WG are as follows.

Do you have difficulty with:

- seeing, even if wearing glasses
- hearing, even if using a hearing aid
- walking or climbing steps
- remembering or concentrating
- washing all over or dressing
- communicating using your usual language, for example understanding or being understood by others.

Response options:

- No – no difficulty
- Yes – some difficulty
- Yes – a lot of difficulty
- Yes – can’t do it at all

Those who answered any of the questions ‘a lot of difficulty’, or ‘can’t do at all’ are classified as having a disability.

Appendix A – Supplementary digital inclusion statistics

Online activities by digital skill group

Activity	2021			2022		
	Below essential	Essential	Essential plus	Below essential	Essential	Essential plus
Email	76%	98%	100%	84%	98%	99%
Internet banking (including via a banking app)	59%	94%	100%	70%	96%	98%
Read the news or stay up to date on current affairs	60%	91%	100%	74%	88%	95%
Using online messaging services	44%	89%	100%	58%	86%	93%
Accessing government or council information	46%	80%	95%	53%	76%	93%
Buying products or services	51%	89%	99%	62%	91%	93%
Learning	46%	85%	98%	54%	80%	92%
Sharing photos or videos	49%	89%	96%	49%	81%	86%
Work	28%	74%	91%	34%	72%	86%
Social media	38%	84%	96%	50%	85%	85%
Streaming or downloading media	24%	75%	96%	27%	70%	83%
Rating products or services	24%	56%	72%	24%	41%	59%
Managing your physical or mental health	20%	47%	70%	25%	46%	52%
Selling products or services	16%	36%	50%	14%	39%	45%
Applying for jobs	12%	32%	42%	20%	36%	38%
Online gaming	17%	35%	53%	24%	37%	37%
Accessing government financial support	15%	37%	39%	19%	30%	36%

Base: All New Zealanders (2021 n=1,001, 2022 n= 1,204)

Internet access

Table 2 - Access to the internet by location

Access to the internet	2021	2022	Home and mobile combinations	2021	2022
At home	95%	95%	Home and mobile	89%	89%
At work	69%	68%	Home and not mobile	6%	6%
On a mobile device	91%	91%	Mobile and not home	2%	2%
Somewhere else	57%	49%	Not home, not mobile	3%	3%

Base: All New Zealanders (2021 n=1,001, 2022 n= 1,204)

Table 3 - Convenience of access to a device

	2021	2022
Have access to a device all the time	89%	89%
Have access when you need it	9%	9%
Does not have access	3%	2%

Base: All New Zealanders (2021 n=1,001, 2022 n= 1,204)

Table 4 - Access to devices, by device type

	2021	2022
Smartphone	92%	95%
Tablet or iPad	56%	56%
Laptop computer	80%	80%
Desktop computer	49%	44%
Some other device	21%	20%

Base: All New Zealanders (2021 n=1,001, 2022 n= 1,204)

Motivation

Table 5 - Motivation to use the internet

The internet provides you with more benefits than disadvantages	2021	2022
Agree	95%	94%
Disagree	5%	6%

Base: All New Zealanders (2021 n=1,001, 2022 n= 1,204)

Trust

Table 6 - Confidence using devices

You're confident using devices	2021	2022
Agree	90%	91%
Disagree	10%	9%

Base: All New Zealanders (2021 n=1,001, 2022 n= 1,204)

Table 7 - Confidence using devices by age

You're confident using devices (by age group)

Age	2021 Agree	2022 Agree
18-29	98%	98%
30-39	98%	98%
40-49	94%	96%
50-59	91%	86%
60-69	81%	82%
70-79	69%	80%
80+	67%	71%

Base: 2021 New Zealanders who have used the internet in the last three months, 18-29 (n=123), 30-39 (n=119), 40-49 (n=135), 50-59 (n=167), 60-69 (n=197), 70-79 (n=158), 80 plus (n=51). 2022: 18-29 (n=197), 30-39 (n=232), 40-49 (n=170), 50-59 (n=177), 60-69 (n=180), 70-79 (n=132), 80 plus (n=59)

Table 8 - Understanding what steps to take if you face significant challenges online

You understand the steps you'd need to take if you faced a big challenge online, for example, if your passwords were stolen

	2021	2022
Agree	71%	71%
Disagree	29%	29%

Base: New Zealanders who have used the internet in the last three months (2021 n=965, 2022 n=1,150)

Table 9 - Understanding what steps to take if you face significant challenges online by age

You understand the steps you'd need to take if you faced a big challenge online, for example, if your passwords were stolen

Age	2021 Agree	2022 Agree
18-29	85%	84%
30-39	81%	78%
40-49	63%	72%
50-59	66%	62%
60-69	63%	64%
70-79	57%	60%
80+	52%	45%

Base: 2021 New Zealanders who have used the internet in the last three months, 18-29 (n=123), 30-39 (n=119), 40-49 (n=135), 50-59 (n=167), 60-69 (n=197), 70-79 (n=158), 80 plus (n=51). 2022: 18-29 (n=197), 30-39 (n=232), 40-49 (n=170), 50-59 (n=177), 60-69 (n=180), 70-79 (n=132), 80 plus (n=59)

Appendix B - Digital skills groups by demographics

Table 10 - Digital skill groups by demographics	2021			2022		
Total	Below essential	Essential	Essential plus	Below essential	Essential	Essential plus
(2021 n=1,001, 2022 n=1,204)	20%	57%	23%	20%	52%	28%
Gender	Below essential	Essential	Essential plus	Below essential	Essential	Essential plus
Male	18%	53%	29%	18%	51%	31%
Female	22%	61%	17%	21%	54%	25%
Age	Below essential	Essential	Essential plus	Below essential	Essential	Essential plus
18-29	4%	67%	29%	4%	69%	27%
30-39	9%	58%	33%	11%	55%	34%
40-49	16%	58%	26%	10%	50%	40%
50-59	15%	61%	24%	22%	46%	32%
60-69	33%	56%	11%	29%	52%	20%
70-79	50%	44%	7%	46%	39%	15%
80+	79%	18%	3%	74%	21%	5%
Household income	Below essential	Essential	Essential plus	Below essential	Essential	Essential plus
Up to \$50,000	32%	56%	12%	35%	55%	11%
\$50,001 to \$100,000	16%	59%	25%	17%	50%	33%
\$100,001 to \$160,000	11%	64%	25%	5%	58%	36%
More than \$160,000	7%	49%	43%	6%	53%	41%
Disability	Below essential	Essential	Essential plus	Below essential	Essential	Essential plus
Disabled	42%	50%	8%	52%	40%	8%
Not disabled	19%	58%	24%	17%	53%	29%
Education	Below essential	Essential	Essential plus	Below essential	Essential	Essential plus
No qualification / school only	28%	61%	11%	31%	55%	14%
Trade qualification / certificate or diploma	20%	54%	25%	21%	55%	24%
University degree	11%	57%	32%	8%	47%	45%
Ethnicity	Below essential	Essential	Essential plus	Below essential	Essential	Essential plus
NZ European	23%	55%	23%	23%	51%	27%
Māori	22%	61%	17%	15%	62%	23%
Pacific Peoples	7%	81%	12%	19%	63%	17%
Asian ethnicities	13%	59%	28%	11%	43%	47%