Photo: Laura Purcell.

Internet connectivity during COVID-19.

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The Tasmania Project's second general survey asked respondents to indicate agreement with 8 statements designed to assess their level of access, skill, and confidence in using the Internet. They also responded to 4 statements which focused on assessing the effects of the pandemic and social restrictions requiring much more time at home.

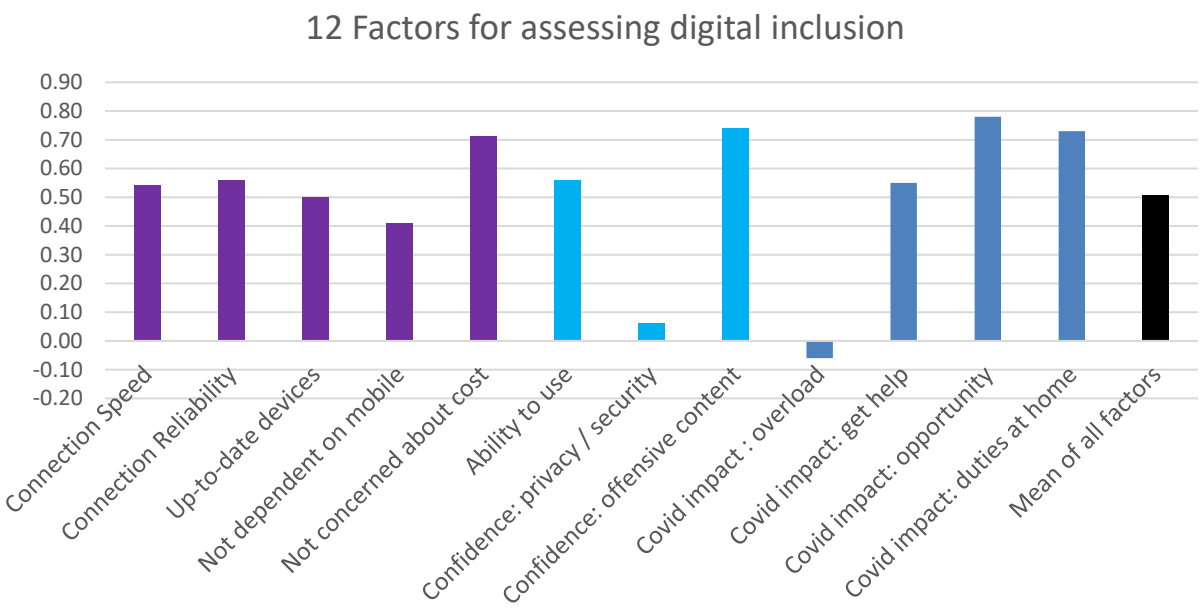
We want to know whether Tasmanians are sufficiently *included* in the digital world which, now more than ever, is an essential part of successful life, work and study.

The headline outcome is worrying evidence of digital exclusion: while many Tasmanians report good connectivity, skills and ability to use the Internet, there are several indicators of disadvantage for a significant minority of respondents.

This report should be read in conjunction with the report *Internet activity and wellbeing during COVID-19* (The Tasmania Project – Report 26) which sheds light on what Tasmanians have found more and less important in using the Internet in recent months.

Key findings

- The most obvious effect of the pandemic on Internet connectivity has been increased use of home connections and consequent reductions in speed and reliability for many respondents. More than 95% of respondents who were unaffected agreed that their Internet connection is fast and reliable. But over 40% of all respondents reported they have been affected by overloaded conditions at home
- Respondents indicated that they are more likely to be concerned about privacy and security online than seeing offensive and/or upsetting content.
- Few respondents report being negatively affected in their capacity to use the Internet by the presence of more people at home, or an increase in household duties.
- Mobile dependency is not a major concern for respondents (only 23% report being dependent) but a strong correlation exists between dependency and concerns over costs that limit Internet use.
- Unemployed respondents report more concerns about their connectivity than any other single sub-group and the link between the risk of digital exclusion and unemployment is a concern.
- The youngest respondents (aged 18-24 years), unsurprisingly, demonstrate greater confidence and ability to use the Internet but, perhaps surprisingly are more concerned about offensive content than older respondents (aged 25+ years).



The digital inclusion score reported in the above graph represents the difference between positive and negative responses, excluding neutrals; the lower the score the greater the impact (negative) on respondents and the higher the risk of digital exclusion. See last page for data table.

Initial findings

Digital inclusion is a complex mix of factors, involving not just Internet access but also the type of access, the skills necessary to use the Internet, and the confidence to do so safely. While the survey did not go into the detail which specialised digital inclusion surveys can, nevertheless it sought responses in two broad categories: access (5 factors in purple in the above figure); and skills and confidence (3 factors in light blue). We also looked at COVID-19 specific factors (4 factors in grey blue). A discussion of these factors is below.

Respondents reported positive agreement (more agreeing than disagreeing) on all but one factor. The most widely reported concern that might limit digital inclusion was a concern for security and privacy online, which 38% of respondents agreed limited their use of the Internet at times. Concern over seeing offensive material was, by contrast, rarely a factor for the respondents (7% agreeing). This finding suggests that *technical* confidence (necessary to maintain security) is lower than *personal* confidence (necessary to resist the negative effects of upsetting content). Digital skills are heavily dependent on age, and we explore this later in the report.

In broad terms, around three-quarters of respondents reported that their Internet was reliable and fast, producing a score of 0.54. However, this level of agreement does not reflect the underlying picture in Tasmania. As explored in the next section, the increased use of home internet connections during the pandemic has very significantly influenced people's perceptions of connectivity.

We also note that, while a high proportion of respondents did not see cost as something which limited their Internet use, this factor is almost always relevant only for mobile connectivity. Thus, as explored on the next page, we need to consider how mobile access might not provide the kind of digital inclusion of being able to choose between fixed-line and mobile access.

Of course, the survey producing these results was administered over the Internet (a phone option was offered but not taken up by any participants). Care needs to be taken in assessing Tasmania's overall state of connectivity. See the Digital Inclusion Index for data showing Tasmania has the lowest level of inclusion for Australian states, although it has been improving. We explore one element of this potential risk in the next section.

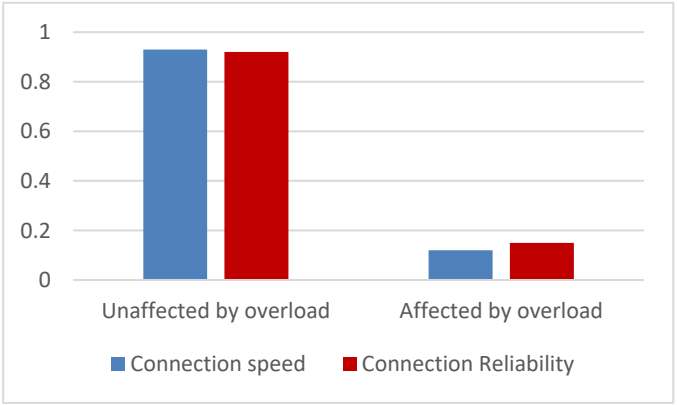
The impacts of life at home

One of the most significant changes imposed by the pandemic, especially in its earliest weeks, was the requirement to stay at home unless essential to leave, and to work and study from home if possible. This change has, across Australia, seen an enormous increase in Internet usage (evident, for example, in emergency measures by NBN Co to provide greater connectivity). We were interested to see if there were other consequences.

Respondents were, broadly, much less affected by the stay-at-home restrictions than might have been anticipated. Only around 7% of respondents indicated their Internet use was affected by having more household responsibilities, or that they lacked the opportunity to use the Internet when and how they liked. Indeed, as evident in the main figure above, these factors scored the highest – indicating they were not affecting digital inclusion for most respondents. Not being able to get help with Internet problems (when people were restricted from visiting for some time) was also not much of a problem (11% agreeing).

However, the real impact can be seen in the one negative score above. When asked if, as a result of the pandemic, Internet connectivity had been made worse, more than 40% of respondents agreed that it had.

The full impact of overloaded home connections can be seen by looking at the relationship between fast and reliable Internet and overload. Although the average score for fast connectivity was 0.54, for those unaffected by overload the average score for fast connectivity rose to 0.93. For those *affected* by overload it fell to 0.12. Very similar scores were also reported for reliability. This is shown in the graph below, where a lower score indicates a worse outcome.

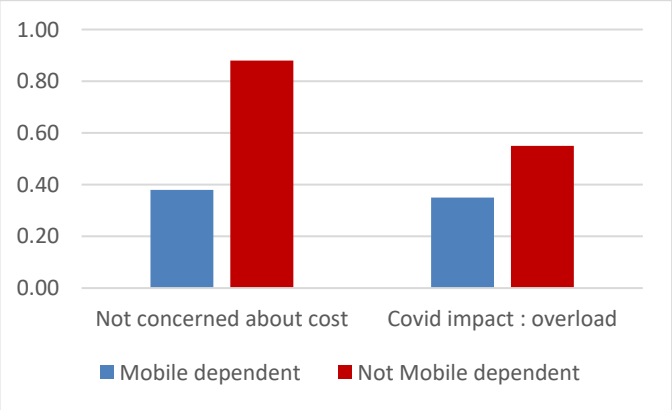


Mobile access and cost

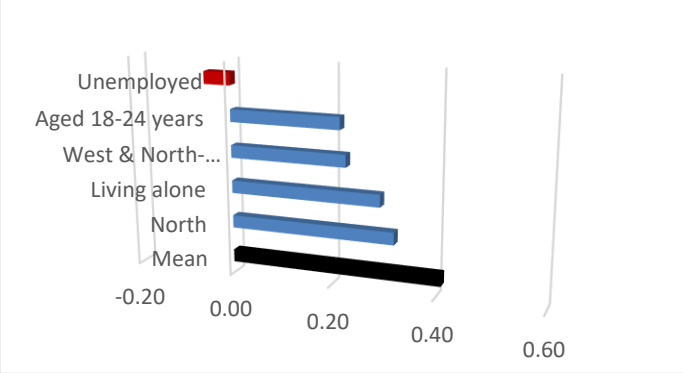
Many Tasmanians can use both mobile and fixed-line (or sometimes semi-equivalent satellite) access to the Internet, almost always preferring the latter while at home. However, for some Tasmanians, their only choice is a mobile device, either because Internet access through the NBN or equivalent has not been arranged (itself often because of cost), or their housing arrangements make mobile access preferable.

Being dependent on mobile access is one indicator of lower digital inclusion and, in this survey, we found that a higher-than-expected number of respondents reported mobile dependency (noting that Tasmania has extensive NBN infrastructure). 23% of survey respondents indicated they were dependent in this way.

The impact of dependency is most often felt in terms of cost (because of the lower data allowances and higher fees for exceeding them common in mobile access plans). We compared the responses to the question about whether cost did or did not limit Internet use and found that the majority of those concerned about cost were, as expected, dependent on mobile access. It is also notable, given the finding above about overloaded access, that mobile dependency also correlates with higher concerns about the effect of overload. This is shown in the graph below, where a lower score indicates a worse outcome.



Who then might be more affected by the potential of mobile access dependency to limit Internet connectivity? We found that, when compared to the mean score of 0.41, several sub-groups of respondents appeared more affected:

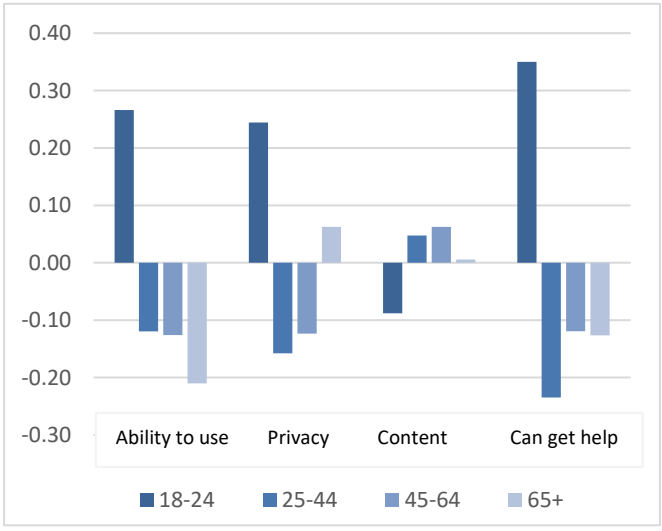


It would appear likely that the crucial determinant in mobile dependency (correlating closely with the concern about cost) is unemployment, which may reflect living situations where fixed-line Internet access is impossible or too expensive to have *in addition* to the essential mobile phone. Unemployed respondents were also more likely to respond negatively to most of the factors presented in the survey.

Given that training for employability, the process of seeking work, and most other elements of managing in this situation require the Internet, this finding helps identify one of the critical aspects of digital exclusion and that those most in need of connectivity may struggle the most with its availability.

Age and Internet skill and confidence

It is not surprising that, on the whole, younger respondents reported higher levels of digital skill and confidence compared to older respondents.



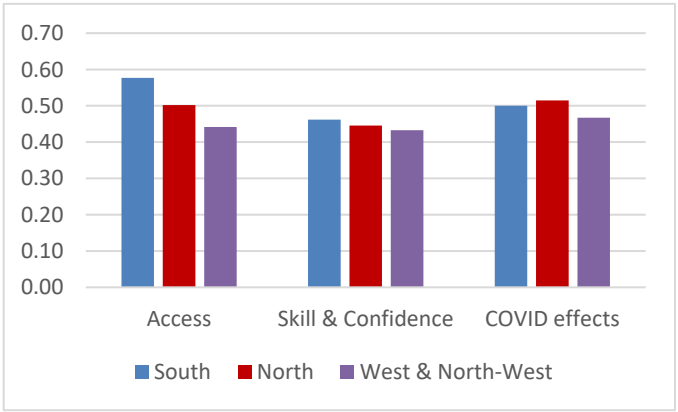
The more surprising findings are that, relative to other age groups, respondents aged 18-24 years reported having *more* concern about offensive and upsetting content than older respondents, although the overall level of concern about content was not high. And, given the risks involved in contemporary Internet use in terms of security, it may be that younger users have more confidence than knowledge about privacy and security.

It is unclear why respondents aged 25-44 years were the most affected by not being able to get help. Reviewing other data, it would appear likely that households with children were more likely to need help (and the majority of such respondents fall into that age group). Our hypothesis is that this situation reflects a significant increase in children learning at home, with new software and technologies required.

We suggest that there is more work to be done to understand how crisis situations, such as the pandemic, disrupt the existing 'known' ways of accessing and using the Internet. They place increased stress on people whose literacy and confidence may be adequate in normal times, but which then, when most needed, start to raise the risks of digital exclusion.

Where in Tasmania matters

We aggregated relevant items for access, skill and confidence, and the effects of COVID-19 and compared three broad regions in Tasmania.



The responses show that the least important limits on inclusion by region can be found in skill and confidence. Even allowing for the unusual effects of the COVID-19 pandemic, respondents in the West and North-West report lower satisfaction with their Internet connectivity, suggesting an inequality of access to infrastructure in that region as a primary risk of digital exclusion.

Statement	Agree	Neutral	Disagree
I have an Internet connection that is fast enough for my needs	72%	8%	19%
I have an Internet connection that is reliable enough for my needs	73%	8%	18%
My Internet connection has been made worse … more people are using it at the same time	40%	23%	34%
I have access to the most up-to-date digital devices I need	65%	17%	17%
I am dependent on a mobile device for my Internet use	23%	10%	60%
I sometimes limit my use of the Internet because I worry about its cost	10%	9%	78%
I do not know how to use some online technologies and services I need	15%	12%	68%
It has been harder for people to help me with Internet problems	11%	17%	56%
Privacy and security concerns sometimes limit the way I use the Internet	38%	16%	43%
A fear of seeing offensive and/or upsetting content online reduces my use of the Internet	7%	12%	77%
Other people at home make it hard for me to use the Internet when and how I want	6%	8%	74%
I have had less time to use the Internet because of more household responsibilities	7%	12%	75%

This table presents the reported percentages of agreement and disagreement for all respondents to the original statements. This data was recoded and organised to create the inclusion scores used within this report.

Where next?

In coming years, we can expect to see the Internet play an even more of a role in the social and economic life of Tasmania. While it is helpful to see that younger respondents are more likely to report skills and confidence in Internet use, they are by no means universally competent, nor are the skills necessarily those needed for the kinds of applications which might develop in future.

Equally, as the world continues to cope with the pandemic which will, for the foreseeable future, mean less close proximity and more use of networked interactions, the Internet continues to be a vital part of our recovery and response.

Further research needs to be conducted to identify in more detail the specific problems with connectivity, skills, and confidence which are inhibiting more comprehensive digital inclusion. Then, resources can be targeted to solving those problems. In particular, we recommend determining the intersectional cause of digital exclusion where a number of determinants (for example, economic condition, educational level, and place of residence) might combine to create extreme risks of exclusion from the essential digital world.

Such research can then underpin action programs and support mechanisms which can lead to the development of digital agency among Tasmanians as part of the solution to current and future disadvantage.

The sample

The Tasmania Project's second general survey closed on 17 June 2020. More than 1500 Tasmanian residents aged 18 or over entered the survey, with 1258 forming the sample for this report after data cleaning removed incomplete answers.

All local government areas of Tasmania are represented, with residents of Hobart, Kingborough, Launceston and Clarence forming 51% of the total sample. Of our respondents, 61% live in the South, 21% in the North, and 18% in the North-West and west. Respondents name 167 towns, suburbs or areas in which they live.

Of the 1258 respondents, 69% are women and 30% men, with 25% in the 25-44 years age bracket, 49% aged 45-64 years and 24% over 65 years. 2% are aged 18-24 years. One quarter have a bachelor degree level education, 9% have no post-school qualification, and 7% have a doctorate. More than half are employed. More details of the sample and methods are available at the link below.