

Internet connectivity among people experiencing poverty and deprivation

Sarah Wise

Good Childhood Fellow, Department of Social Work, University of Melbourne.

Summary

Access to the digital world can have a positive impact on people's standard of living, life capabilities, sense of inclusion and wellbeing, and is fast becoming an 'essential of life' in developed countries. While the majority of Australians enjoy the benefits that access to the Internet can provide, millions are still missing out on important online services and opportunities. In-depth research is starting to uncover a range of factors that can influence digital inclusion among non-users of the Internet generally. Results from a *2013 Hardship Survey* show the disparity in Internet connectivity between people experiencing poverty and deprivation and Australians generally. The paper presents detailed findings from the survey on Internet connectivity. It concludes with suggestions to enhance smartphone usage that might help bridge the 'digital divide' for this population subgroup.

Introduction

Easy access to the Internet is fast becoming a basic component of civil life in developed countries. The most recent Australian Bureau of Statistics (ABS) *Household Use of Information Technology Survey* revealed that 83.0 per cent of Australian households had access to the Internet (ABS 2014). Broadband Internet has also increased markedly in Australia. Of all people with home Internet in 2012-13, 93.0 per cent had broadband access (ABS 2014). Further, the Australian Communications and Media Authority (ACMA) estimated that at May 2013, 64.0 per cent of adults over the age of 18 (11.19 million people) were using a smartphone (mobile phone built on a mobile operating system with more advanced computing capability and connectivity than a feature phone) (a 29.0% increase from May 2012) (ACMA 2014: 25).

The way in which new telecommunications technology has been woven into the fabric of Australian society is captured in surveys carried out by Saunders in 2006 and 2010 to identify the 'essentials of life' (Saunders et al 2008). Items are defined as 'essential' if a majority of respondents to the survey thought that they were essential. Between 2006 and 2010 community support increased from 19.7 to 32.1 per cent for access to the Internet at home being a basic need that no-one in Australia should be without (Saunders & Wong 2012: 34).

The Internet transfers information and knowledge relevant to many spheres of life (Dane et al 2013). Many services are increasingly available online, especially through the health, education and government sectors because of the improvements in service delivery and cost-efficiencies that can be achieved. Government agencies such as Medicare and Centrelink, for example, are moving to online and “app” based servicing (SACOSS 2013). E-learning is also becoming an increasingly utilised and important educational tool. Children under school age can also benefit from educational games, activities and books available online. Options for social and political participation also open up to people who have access to computers and the Internet through communication with friends and participation in online discussion groups. Access to the Internet also provides a means for employment, creative expression and for people to stay in touch with current affairs, pay bills and shop (Eardley et al 2009).

The 2013 *Connecting your Community* survey provides clear evidence of positive benefits for Australian users of the Internet. While frequency and type of Internet use varied, users of the Internet reported improvement in their knowledge and skills, aspects of their social life and engagement in society. Benefits were also reported in terms of access to health treatment and information, and access to knowledge and skills-building activities (Dane et al 2013).

Despite the essential nature of Internet connectivity in modern Australia, official statistics suggest millions of Australians are missing out on important online services and opportunities. Several commenters have suggested that digital exclusion has the potential to reinforce and deepen existing social inequalities (Baum et al 2012; Dane et al 2013) and is one of the most urgent social justice issues facing Australian society today. Notwithstanding the loss of opportunity for individuals, if population subgroups are unable to engage online, then several prospects for social development, innovation and economic growth also may not be realised (Campbell et al 2013: 10).

There is a range of enablers and inhibitors of digital engagement such as skills, education, disability, literacy, language skills, support, perceived benefits and interest/motivation. In the latest *Household Use of Information Technology Survey* (ABS 2014), age and geographic location were two demographic factors that appeared to account for some the uneven uptake of Internet in Australia. Internet access was higher for people living in cities, in households with children under the age of 15 years and for young people generally. The proportion of households with Internet access in cities and with children under the age of 15 was 85.0 per cent and 96.0 per cent respectively. An ACMA-commissioned survey found that smartphone adoption at May 2013 was highest for people aged 18–24 at 89.0 per cent (ACMA 2013a). The low rate of Internet access in Indigenous communities in Central Australia and other remote areas is well documented elsewhere (Rennie et al 2011: 9). Further, the 2013

Connecting your Community survey showed that lack of skills and confidence in using the Internet was a significant factor among people who choose not to engage with the Internet (Dane et al 2013).

Affordability of Internet access is another important factor influencing Internet uptake in Australia (Tsatsou 2011). Indeed, income is a consistent predictor of home Internet access (ABS 2014; Mossberger et al 2012). The *2012-13 Household Use of Information Technology Survey* found that 59.0 per cent of households in the lowest income quartile had access to Internet at home compared to 96.0 per cent in the highest income quartile (ABS 2014). In Saunders and Wong's 2010 survey, deprivation rates for home Internet was as high as 26.3 per cent for people receiving a Parenting Payment (Saunders & Wong 2012). Findings from the *World Internet Project Australian Survey* (2011) showed that 12.0 per cent of those who had home Internet regarded it 'unaffordable' or 'very unaffordable' (Morsillo 2012: 3). Additionally, studies conducted outside Australia in the USA and Canada, for example, show that between 5 and 17 per cent of 'Internet dropouts' (a class of non-users who were once online and have not gone back) drop offline because paying for the Internet is too expensive (Katz et al 2001; Lenhart et al. 2003; Crompton et al 2002).

The current research

This paper describes research on Internet access among a sample of adults experiencing poverty and deprivation. It presents findings from a 2013 survey involving 325 emergency relief and financial counselling service clients (welfare service clients) across 24 locations in the Australian state of Victoria. It outlines the proportion of welfare service clients who did not have home Internet, mobile Internet via tablet or laptop computer (using dongle, datacard or USB modem services) or a mobile phone because they could not afford it as well as the key demographic characteristics linked to deprivation of home Internet and smartphone. The type of home Internet (broadband versus dial-up) and mobile phone (smartphone versus feature phone) is examined, as is monthly expenditure on home Internet, subjective affordability of home Internet and the perceived role of home Internet on living standards among users and non-users. The paper concludes with a discussion of measures involving smartphones to reduce digital disparity.

Method

In partnership with the Australian Communications Consumer Action Network (ACCAN), items on Internet access were bolted onto Anglicare Victoria's *2013 Hardship Survey* (see Wise 2013). In the last two weeks of February 2013, people accessing emergency relief and financial counselling services were invited to take part in the survey. Emergency relief

services distribute essential items such as food, vouchers, clothing and toiletries to people in need. Financial counselling is provided to low-income individuals and families struggling with debt.

Emergency relief and financial counselling services in scope for the survey were delivered from 14 metropolitan and 10 non-metropolitan sites. These sites were located in communities marked by high socioeconomic disadvantage with the exception of two emergency relief service sites located in one of Melbourne's inner-city suburbs (Fitzroy), which services a largely homeless population. Staff and volunteers were responsible for sample recruitment and survey administration using paper forms in all but 10 metropolitan emergency relief sites. Here, surveys were administered by trained interviewers engaged specifically for this purpose using Computer Assisted Personal Interviewing (CAPI) technology. This was due to the high volume of clients accessing metropolitan emergency relief services during relatively short operating hours. Clients completed the survey after receiving a regular service. Participants received a \$10 grocery voucher in recognition of the time taken to participate in the survey.

Sample

The total sample achieved was $N = 325$. This includes 87 (29.0%) clients from the two emergency relief sites located in the inner-Melbourne suburb of Fitzroy. Another third of the sample (32.3%) was recruited from the other Melbourne metropolitan service sites and the final third (36.0%) of the sample was recruited from non-metropolitan service sites. The majority (86.3%) of survey respondents were recruited from emergency relief services.

Results from the *2013 Hardship Survey* show the survey respondents were missing out on basic items that the majority of Australians consider to be essential. These items included basic material needs such as a 'decent and secure home' (15.0%) and 'a substantial meal at least once a day' (12.7%) as well as items that would protect them from slipping to further difficulty, such as '\$500 in savings' (86.1%). A number of factors linked to deprivation and social exclusion were common among survey participants, including a disability (62.8%), homelessness (7.7%), long-term (more than 10 years) unemployment (41.8%) and less than Year 12 education (51.0%). On other socio-economic indicators, more than half (55.0%) were living with dependent children under the age of 18 and just over one-quarter (26.3%) were born in a non-English speaking country. Just under half of the sample was male (46.6%). Approximately one in 10 (10.8%) were above the working age (65 years or more).

Measures

After Australian poverty researchers [Saunders, Naidoo and Griffiths \(2008\)](#), and the Poverty and Social Exclusion (PSE) survey in the United Kingdom ([Gordon et al 2013](#)), deprivation was conceptualised as a not having a specific item due to an inability to afford it. Welfare service clients were asked if they had different forms of telecommunications and if they didn't have an item, whether this was because they couldn't afford it. Other relevant survey items (expenditure, perceived affordability and so on) were developed specifically for the *2013 Hardship Survey*.

Findings

Findings are presented in terms of deprivation of telecommunications, broadband and smartphone access, socio-demographic indicators of deprivation of home Internet and smartphone, affordability of home Internet and perceived impact of home Internet among users and non-users.

Deprivation of home Internet, mobile Internet and mobile phone

As outlined in the measures section above, a person is considered deprived of a certain item if they don't have it and cannot afford it. In the current study, approximately half of the study participants were deprived of home Internet (49.2%) and mobile Internet via tablet or laptop computer (using dongle, datacard or USB modem services) (56.1%). This was very high, especially when compared to deprivation of mobile phone among survey respondents. The proportion of welfare service clients who use a mobile phone was high at 85.7 per cent, just a little lower than the 92.0 per cent of Australians over the age of 18 who used a mobile phone at May 2012 ([ACMA 2013b](#)). Deprivation of mobile phone (those who didn't have one because they couldn't afford it) was relatively low compared to home Internet and mobile Internet at 11.1 per cent.

The number and proportion of participants who had these forms of telecommunications when the survey was conducted ('had it'), didn't have them because they didn't want them ('didn't have it and didn't want it') or couldn't afford them ('didn't have it and couldn't afford it') is shown in Table 1. Percentages exclude cases where response variables were not stated.

Table 1. Number and proportion of participants deprived of home Internet, mobile Internet and mobile phone

	Had it N (%)	Didn't have it and didn't want it N (%)	Didn't have it and couldn't afford it N (%)
Home Internet	100 (33.4%)	52 (17.4%)	147 (49.2%)
Mobile Internet	55 (18.2%)	78 (25.7%)	170 (56.1%)
Mobile phone	263 (85.7%)	10 (3.3%)	34 (11.1%)

Type of home Internet and mobile phone

The type of home Internet and mobile phone service was examined. Among the 100 participants with home Internet, the proportion with a broadband service was roughly similar to Australians generally (88.0%).

By comparison, the level of mobile phone capability among study participants was much lower than for Australians generally. Specifically, of the 263 participants who had a mobile phone, less than half (112 (42.6%)) had a smartphone. When considered as a proportion of the total sample of 325, only 34.4 per cent of clients had smartphone technology. This is well below the 64.0 per cent estimated for Australia generally (ACMA 2014).

Difference in deprivation of Internet and smartphone according to key demographics

Independent *t*-tests were ran to determine whether or not there was a statistically significant difference between the mean age of survey respondents who had home Internet and those who were deprived of home Internet and between those who had smartphone and those who had a feature phone. Age distinguished those who had a smartphone and those who had a feature phone (mean age of clients with smartphone ($M = 40.47$) was significantly younger than mean age of clients without a smartphone ($M=46.33$) ($t = 3.64, p = .00$)). The difference in age between users of home Internet ($M = 46.77$) and those who were deprived of home Internet ($M = 43.86$) was approaching statistical significance ($t = 1.79, p = .08$).

Chi-square analyses were undertaken to examine differences between those with home Internet and those deprived of home Internet and between those with smartphone versus feature phone on categorical variables including income type, private versus public home rental, geographic location, non-English speaking background and presence of dependent children under the age of 18 in the household. These analyses showed that the presence of

dependent children under the age of 18 was the only factor that significantly increased the likelihood of *having access* to home Internet ($\chi^2(1) = 12.78, p = .00$). There was no significant difference on type of mobile phone by pension type, location, CALD status or the presence of children under the age of 18 years in the household.

There is a number of ways of interpreting differential deprivation of home Internet. Younger respondents may be less likely to have home Internet than older respondents because they already have Internet access via smartphone, because their housing situation is unstable or because they are experiencing 'severe multiple deprivation'. It is also possible that older respondents are more likely than younger respondents to have dependent children and therefore perceive greater benefits of access to the Internet at home.

Affordability of home Internet

A number of home Internet affordability measures were included in the survey. These included bundling services, monthly expenditure, perceived affordability and the relation between having home Internet and deprivation of other basic items.

On monthly expenditure, more than half (57.6%) of clients with home Internet 'bundled' this service with another form of telecommunications as a way of keeping costs down. Of the remaining clients who did not bundle their home Internet service, all but one were spending less than \$100 per month on home Internet with the majority (68.0%) spending less than \$50 per month. While it should be remembered that 49.2 per cent of the total sample did not have home Internet because they couldn't afford it, interestingly, the majority of clients with home Internet who did not bundle this service (63.4%) felt the cost of home Internet was either 'very affordable' or 'somewhat affordable'. Similar to Morsillo's (2012) research, only 12.2 per cent felt home Internet was 'very unaffordable'. Consistent with these findings, clients with home Internet were no more deprived of other basic items than those without home Internet. Specifically, those with home Internet were deprived of an average 5.6 of 24 basic items, whereas those without home Internet were deprived of an average of 7.7 of 24 basic items ($t = -4.62, p = .00$); that is those without home Internet were significantly more deprived than those with home Internet.

Impact of home Internet on standard of living

Respondents in the survey who had home Internet were asked whether it had made an 'extreme', 'moderate' or 'no' improvement on their standard of living. The majority (83.4%) reported it had made an extreme (36.7%) or moderate (46.7%) improvement on their standard of living. Among those clients who did not have home Internet because they couldn't afford it, 33.7 per cent felt that having it would make an 'extreme' improvement to

their standard of living and 30.2 per cent felt it would improve their standard of living 'moderately'. These results show the actual and potential improvement in standard of living that the Internet can make in the lives of people experiencing poverty and deprivation, especially when set against results from the 2013 *Connecting your Community* survey, which showed that approximately one-third of respondents reported that Internet access had improved their standard of living.

Conclusions

This study very clearly shows the disparity in Internet connectivity between people experiencing poverty and deprivation and Australians generally. Only 30.8 per cent of welfare service clients had home Internet compared to 83.0 per cent of Australians. Just over one-third (34.4%) of welfare service clients had smartphone technology compared to 64.0 per cent of Australians. Deprivation of mobile Internet was very high (56.1%).

Deprivation of a greater number of basic items and the presence of dependent children under the age of 18 years were the only factors that differentiated users and non-users of home Internet among the survey sample (those experiencing 'multiple severe deprivation' were less likely to have access to home Internet while households with dependent children were more likely to have access to home Internet). Although not reaching conventional levels of statistical significance, older respondents were also more likely to have home Internet access than younger respondents. Age was the only factor that differentiated mobile phone users who had smartphone technology or not. Further, only a small proportion of clients who didn't have home Internet didn't want it (17.4%), presumably for a complex mixture of social, psychological and pragmatic reasons (see [Livingstone & Helsper 2007](#); [Tsatsou 2011](#)). Further, among the high proportion (47.9%) of clients who were deprived of home Internet, the large majority felt that access to home Internet would improve their standard of living 'extremely' or 'moderately' (63.9%).

These findings show that while younger welfare service clients may be more able to take advantage of smartphone technology, the vast majority of non-users of home Internet wanted it and felt it would improve their standard of living. In short, deprivation and poverty are real drivers of digital exclusion.

Widespread use of mobile phone (85.7%) among the survey respondents underscores the fact that this form of telecommunication is not only affordable, it is more easily accessed by welfare service clients who may struggle with insecure housing and poor credit records ([SACOSS 2013](#); [Eardley et al 2009](#)). While survey respondents weren't asked directly about deprivation of smartphone, it is likely that cost is the main reason why survey respondents

who owned a feature phone did not upgrade to a smartphone. This is rationalised by the fact that the majority of non-users of home Internet want to be connected and see the benefits of Internet access, coupled with findings from other studies that show smartphone ownership is closely linked to income (Roy Morgan 2011).

Together, the dominance of mobile communications among welfare service clients, the relative affordability of mobile phone compared to home Internet and better access to the Internet through the continued rollout of mobile networks, such as 4G, and the increased use of Wi-Fi hotspots suggests the need for cost effective programs and special schemes for smartphone usage as a strategy to increase Internet access for disadvantaged groups, especially transient and homeless population subgroups. While the range of products and services would need to be determined through industry consultation and informed by previous attempts to bring smartphones to low-income markets, both no-contract phone plans as well as low-cost phones are needed to keep smartphone technology affordable to welfare service clients. In the current study, mobile phone expenditure of less than \$50 per month was considered ‘very’ or ‘moderately’ affordable among 82.3 per cent of mobile phone users.

- Although limited to mobile phone (and not Internet) The *Safelink Wireless Program* implemented by TracPhone in the United States is a potential model to consider. Here, participants are offered a free phone, without contracts or monthly fees and customers receive a pre-paid card to pay for their calls and receive free calling time (see Eardley et al 2009: 28).

The *2013 Hardship Survey* adds to a body of research which shows that affordability is a real barrier for disadvantaged people accessing the Internet. However, a simple binary calculation of disadvantaged people who are “offline” and “online” does not do justice to the variety of relationships that people have to online technology. More in-depth research is therefore needed to understand how disadvantaged subgroups engage with online technology and what other skills and knowledge they may need to use it in a way that benefits them. Nevertheless, special schemes for smartphone usage should help disadvantaged Australians use technology to take up service delivery and education opportunities, stay connected, be informed and stay safe and generally improve their life circumstances.

Acknowledgements

The *2013 Hardship Survey* was conducted with financial support from the Australian Communications Consumer Action Network (ACCAN).

References

- Australian Bureau of Statistics (ABS). 2014. 'Household Use of Information Technology, Australia, 2012-13'. Cat No. 8146.0. Canberra: ABS. Accessed 05 August 2014. Available from: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8146.02012-13?OpenDocument>.
- Australian Communications and Media Authority (ACMA). 2013a. 'ACMA-commissioned research'. Accessed 05 August 2014. Available from: <http://www.acma.gov.au/theACMA/engage-blogs/engage-blogs/Research-snapshots/Mobile-apps-putting-the-smart-in-smartphones>.
- Australian Communications and Media Authority (ACMA). 2013b. 'Communications Report 2011-12 series. Report 3 – Smartphones and tablets: Take-up and use in Australia. Summary Report'. Accessed 05 August 2014. Available from: <http://www.acma.gov.au/webwr/assets/main/lib310665/report-3-smartphones-tablets-summary.pdf>.
- Australian Communications and Media Authority (ACMA). 2014. *Communications Report 2012-13*. ACMA. Accessed 05 August 2014. Available from: http://www.acma.gov.au/~media/Communications%20Analysis/Comms%20Report%202012%2013/PDF/ACMA%20Communications%20report%20201213_WEB%20pdf.pdf
- Baum, F; Newman, L; Biedrzycki, K. 2012. 'Vicious cycles: Digital technologies and determinants of health in Australia'. *Health Promotion International*. Advance Access 9th November, 2012, p. 1-12. Accessed 05 August 2014. Available from: <http://heapro.oxfordjournals.org/content/early/2012/11/09/heapro.das062.full.pdf+html>.
- Campbell, S; Mason, C; Griffith, C; Dane, S; Reeson, A; O'Brien-McInally, B; Kimber, J. 2013. 'Broadband Impact and Challenges: Realising the Benefits from the Digital Economy'. Australian Centre for Broadband Innovation, CSIRO EP1312215.
- Crompton, S; Ellison, J; Stevenson, K. 2002. Better things to do or dealt out of the game? Internet dropouts and infrequent users, *Canadian Social Trends*, Summer 2002. Statistics Canada Cat. No. 11-008. Available from: <http://www.statcan.gc.ca/pub/11-008-x/2002001/article/6194-eng.pdf>.
- Dane, S; Mason, C; O'Brien-McInally, B. 2013. 'Household Internet use in Australia: A study in regional communities'. CSIRO Report: EP1310907.

Eardley, T; Bruce, J; Goggin, G. 2009. 'Telecommunications and community wellbeing: A review of the literature on access and affordability for low-income groups'. NSW: SPRC Journalism and Media Research Centre.

Gordon, D et al. 2013. 'The Impoverishment of the UK PSE UK first results: Living Standards'. Living Standards in the UK; PSE UK first summary report'. Economic and Social Research Council. Accessed 05 August 2014. Available from: http://www.poverty.ac.uk/sites/default/files/attachments/The_Impoverishment_of_the_UK_PSE_UK_first_results_summary_report_March_28.pdf.

Katz, J; Rice, R; Aspden, P. 2001. 'The Internet, 1995-2000: Access, civic involvement, and social interaction'. *The American Behavioral Scientist*, 45(3): 405-419

Lenhart, A; Horrigan, J; Rainie, L; Allen, K; Boyce, A; Madden, M; O'Grady, E. 2003. The ever-shifting Internet population: A new look at Internet access and the digital divide. *The Pew Internet and American Life Project*. Available from: <http://www.pewInternet.org/2003/04/16/the-ever-shifting-Internet-population-a-new-look-at-Internet-access-and-the-digital-divide/>.

Livingstone, S; Helsper, E. 2007. Taking risks when communicating on the Internet: The role of offline social-psychological factors in young people's vulnerability to online risks. *Information, Communication & Society*, 10(5): 619-644.

Mossberger, K; Tolbert, C; Bowen, D; Jimeme, B. 2012. 'Unraveling different barriers to Internet use: Urban residents and neighbourhood effects'. *Urban Affairs Review*, 48: 771-810.

Morsillo, R. 2012. 'Affordable broadband for all Australians'. *Telecommunications Journal of Australia*, 62 (5). Accessed 05 August 2014. Available from: <http://www.swinburne.edu.au/lib/ir/onlinejournals/tja/#v62n5>.

Rennie, E; Crouch, A; Wright, A; Thomas, J. 2011. 'Home Internet for remote Indigenous communities'. Sydney: Australian Communications Consumer Action Network.

Roy Morgan Research. 2011. Accessed 05 August 2014. Available from: www.roymorgan.com/news/press-release/2011/1520.

Saunders, P; Naidoo, Y; Griffiths, M. 2008. 'Towards new indicators of disadvantage: Deprivation and social exclusion in Australia'. *Australian Journal of Social Issues*, 43 (2): 175-194.

Saunders, P; Wong, M. 2012. 'Measurement and change in deprivation and exclusion in Australia; A report on research in progress'. Working Paper – Methods Series No. 11. UK:

Poverty and Exclusion. Accessed 05 August 2014. Available from:

[http://www.poverty.ac.uk/sites/default/files/attachments/WP%20Methods%20No.1%20-%20Measurement%20and%20Change%20...in%20Australia%20\(Saunders%20%26%20Wong\).pdf](http://www.poverty.ac.uk/sites/default/files/attachments/WP%20Methods%20No.1%20-%20Measurement%20and%20Change%20...in%20Australia%20(Saunders%20%26%20Wong).pdf).

South Australian Council of Social Services (SACOSS). 2013. 'Cost of living update'. No. 15 June Quarter 2013. Adelaide: SACOSS. Accessed 05 August 2014. Available from:

http://www.sacoss.org.au/online_docs/130815%20Cost%20of%20Living%20Update15_Communications.pdf.

Tsatsou, P. 2011. 'Digital divides revisited: what is new about divides and their research?' *Media, Culture & Society*, 33: 317-331.

Wise, S. 2013. 'Trying to connect: Telecommunications access and affordability among people experiencing financial hardship'. Melbourne: Anglicare Victoria. Accessed 05 August 2014. Available from:

http://www.anglicarevic.org.au/index.php?action=filemanager&folder_id=806&form_action=list.