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Children of the digital revolution

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Children of the digital revolution

Information technology (IT) is rapidly changing and being integrated into many areas of Australian life. Children in the 21st century are considered by many to be the digital generation: IT savvy children who have never known life without a computer or the internet. They use IT frequently and in a variety of ways; as a source of information, entertainment and social communication.

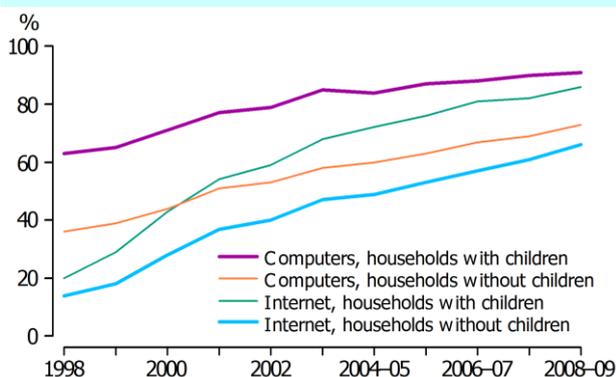
As IT continues to embed itself within homes and schools, how children use and access computers and the internet is of interest to parents, government policy makers and the broader community.

This article explores children's computer and internet use, their online activities and whether they are safe online and protected from security threats. A companion article on household use of IT '[Online @ home](#)' is also available in *Australian Social Trends*, June 2011.

IT access for households with children

Homes are an important place for children to access computers and the internet. In 2008–09, home IT access continued to be significantly higher for households with children (aged less than 15 years) than households without children. Nine in ten households (91%) with children had access to a home computer, much higher than households without children (73%).

Households with access to a computer or the internet at home(a)(b)(c)



(a) Children refers to persons aged less than 15 years.

(b) 1998 to 2003, data are for January to December.

(c) 2004-05 to 2008-09, data are for July to June.

Source: ABS [Household Use of Information Technology, Australia, 2008-09](#) (cat. no. 8146.0)

Data Source and Definitions

This article mainly uses data from the ABS 2009 and 2006 Children's Participation in Cultural and Leisure Activities Survey (CPCLA) and the household use of information technology topic in the ABS 2008–09 Multipurpose Household Survey (MPHS). Both the CPCLA and MPHS exclude people living in Very Remote Areas of Australia. This is expected to have only a minor impact on any aggregate estimates that are produced for individual states and territories, except in the Northern Territory where this group accounts for around 28% of all children.

Internet access is the availability of lines, points, ports and modem to subscribers to access the internet. Internet access by a child includes situations where a parent is present teaching the child or where the parent is operating the mouse or keyboard under the child's direction. It excludes situations where the child is only observing the parent accessing the internet.

Internet use refers to the use of the internet in the 12 months prior to interview in April 2009. It includes access via computers, mobile devices, set-top boxes connected to either an analogue or digital television and game machines.

In this article, an **internet user** refers to a child who had used the internet in the 12 months prior to April 2009.

A **child** refers to any person aged 0–14 years when discussing households with children, or 5–14 years when discussing the child.

A **parent** refers to any legal guardian of a child.

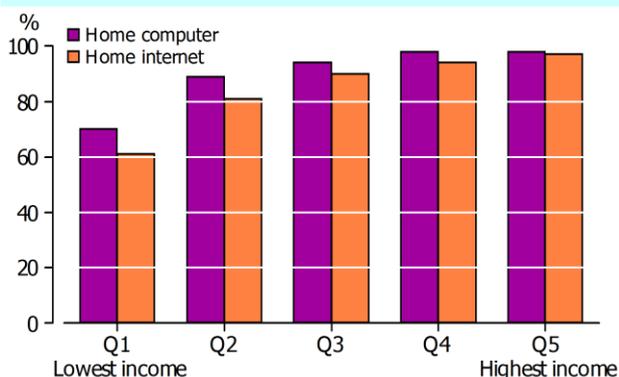
Equivalentised household income. Equivalising adjusts actual household income to take into account the different needs of households of different size and composition. There are economic advantages associated with living with others, because many household resources can be shared.

Income quintiles are derived by ranking all the population from lowest to highest income and then dividing that population into five equal groups. The lowest quintile is made up of the 20% of the population with the lowest income. For more information about household income measures see [ABS Household Income and Income Distribution](#) (cat. no. 6523.0).

Of all households with children aged less than 15 years, 86% had home internet access, compared with two-thirds (66%) of households without children.

Broadband internet was more likely to be accessed by households with children than households without children. Of all households with internet access, 89% of households with children aged less than 15 years reported having broadband, compared with 84% of households without children.

Home IT access for households with children, by equivalised gross household income quintiles – 2008-09(a)



(a) Children refers to persons aged less than 15 years.

Source: ABS 2008-09 Multipurpose Household Survey

...household income

Household income had an impact on whether households with children aged less than 15 years had access to a computer or the internet at home.

In 2008–09, households with children whose equivalised gross household income was in the highest quintile were more likely than households with children in the lowest quintile to have a home computer and home internet access. Nearly all households (98%) in the highest quintile had a home computer, compared with 70% of households in the lowest quintile. Nearly all households (97%) in the highest quintile reported having home internet access, compared with 61% of households in the lowest quintile. In the highest quintile, 95% of households with internet access reported having broadband connection, higher than households in the lowest quintile who also had internet access (84%).

Definitions

For people born overseas, *main English-speaking countries* are Canada, Republic of Ireland, New Zealand, South Africa, the United Kingdom and the United States of America. Being from a non-main English-speaking country does not imply a lack of proficiency in English.

Remoteness Area (RA) is a geographical structure which intends to classify areas sharing common characteristics of remoteness into broad geographical regions (Remoteness Areas). In this article, Remoteness Areas have been grouped as follows:

- Major Cities (of Australia).
- Inner Regional (areas of Australia).
- Outer Regional (areas of Australia).
- Remote Areas (of Australia. Excludes Very Remote Areas).

For further information about Remoteness Areas see Chapter 8 of ABS [Australian Standard Geographical Classification \(ASGC\), July 2010](#) (cat. no. 1216.0).

IT use by Aboriginal and Torres Strait Islander children

In 2008, 114,000 Aboriginal and Torres Strait Islander children aged 5–14 years (90%) had used a computer. Over nine in ten (91%) who used a computer had accessed it from a school. Many had also accessed a computer in their homes (62%) or at a neighbour's, friend's or relative's house (18%). Aboriginal and Torres Strait Islander children mostly used the computer for school work (86%), playing games (72%) and other hobbies or non-school activities (32%).

Around 88,000 Aboriginal and Torres Strait Islander children (69%) used the internet, often accessing the internet from more than one site. School was the most popular location; 84% of Aboriginal and Torres Strait Islander children who used the internet accessed the internet from school, 58% from their homes and 21% from a neighbour's, friend's or relative's house.

The most popular online activities identified by Aboriginal and Torres Strait Islander children were education, leisure and social communication. Of all internet users, 77% used the internet for education or study, 59% for entertainment, leisure or online browsing, and 26% for emailing and talking or communicating with people.

Source: ABS 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

So who uses the internet?

In the 12 months prior to April 2009, an estimated 2.2 million children (79%) aged 5–14 years reported accessing the internet, up from 65% in 2006. In 2009, rates of internet use were similar for boys and girls (80% and 79% respectively). The proportion of children using the internet increased with age; 60% of 5–8 year olds used the internet, increasing to 96% of 12–14 year olds.

Children often accessed the internet from more than one location. In 2009, the home was the most popular location where 92% of child internet users reported accessing the internet. Just over 86% accessed the internet from schools while 45% accessed the internet from other locations, such as public libraries or internet cafes.

According to the Australian Communication and Media Authority (ACMA), in 2007, one in six children (17%) in both the 8–11 year and 12–14 year age groups had a computer in their bedroom. One in ten children had internet access in their bedroom (9% for 8–11 year olds and 11% for 12–14 year olds).¹

Some children were more likely than others to use the internet. Factors such as a child's country of birth, family and where they lived may be associated with their use of the internet.

...country of birth

Internet use was similar between Australian-born and overseas-born children. In 2009, 79% of Australian-born children, 80% of children born in main English-speaking

countries and 81% of children born outside main English-speaking countries reported that they had used the internet.

...family

Children from couple families were slightly more likely than children from one-parent families to use the internet. In 2009, 80% of children from couple families reported that they had used the internet, compared with 77% of children from one-parent families.

A higher proportion of children with employed parents used the internet than children of parents who were not employed. In couple families, a higher proportion of children used the internet when both parents were employed (84%), than if just one parent was employed (76%) or if both parents were not employed (67%). In one-parent families where the parent was employed, 82% of children used the internet, compared with 69% of children in households where the parent was not employed.

...geographical location

Internet use was similar across the states and territories. Around eight in ten children in most states and territories had accessed the internet.

Internet access differed according to remoteness. Four in five children (81%) in Major Cities reported that they had used the internet, compared with 70% of children living in Remote Areas.

How children use the internet

How children used the internet tended to change with age. At a young age, children treated the internet more as a source of entertainment. As children became older, they began to see the internet more as an arena for information and socialising.

Children who used the internet – 2009(a)(b)

State or territory	'000	%
NSW	709.2	79.9
Vic.	533.6	80.7
Qld	448.8	78.7
SA	151.7	78.6
WA	220.9	79.0
Tas.	48.9	76.3
NT(c)	17.1	69.6
ACT	32.8	78.3

(a) Children refers to persons aged less than 15 years.

(b) For the 12 months prior to April 2009.

(c) Refers to mainly urban areas only.

Source: ABS [Children's Participation in Cultural and Leisure Activities, Australia, April 2009](#) (cat. no. 4901.0)

Mobile Phone Usage

Mobile phones are a tool for communication as well as a source for information. With new technology that means the internet can be accessed remotely, mobile phones bridge the domains of communication and information technology.

The ABS 2008-09 Children's Participation in Cultural and Leisure Activities Survey collected data on children's mobile phone ownership and usage for the first time.

In 2009, an estimated 841,000 children, almost a third (31%) of all children, owned a mobile phone. Ownership increased with age; three-quarters (76%) of 12-14 year olds owned a mobile phone, compared with 2% of 5-8 year olds.

Children mainly used their mobile phones to contact family (60%) rather than friends (36%). Only 4% of children had used their mobile phone to access the internet.

Tasmania had the highest proportion of children who owned a mobile phone (41%), while in the Northern Territory, 27% of children had mobile phones. All other states and territories had similar rates of mobile phone ownership, at around 30%. Mobile phone ownership was also similar across Remoteness Areas.

A higher proportion of children from one-parent families than couple families owned a mobile phone (38% and 29% respectively).

Source: ABS [Children's Participation in Cultural and Leisure Activities, Australia, April 2009](#) (cat. no. 4901.0)

Older boys preferred interactive role-playing games where they could communicate with others online, as well as accessing audio-visual content (such as YouTube) and visiting news, sport and weather websites. Older girls preferred other online social activities, such as emailing, instant messaging (through services such as MSN messenger), and social networking (through sites such as Facebook, Twitter and MySpace).

...for education

In the 12 months prior to April 2009, the most popular use for the internet was educational activities. The vast majority (85%) of children who used the internet at home used it for educational purposes, up from 82% in 2006.

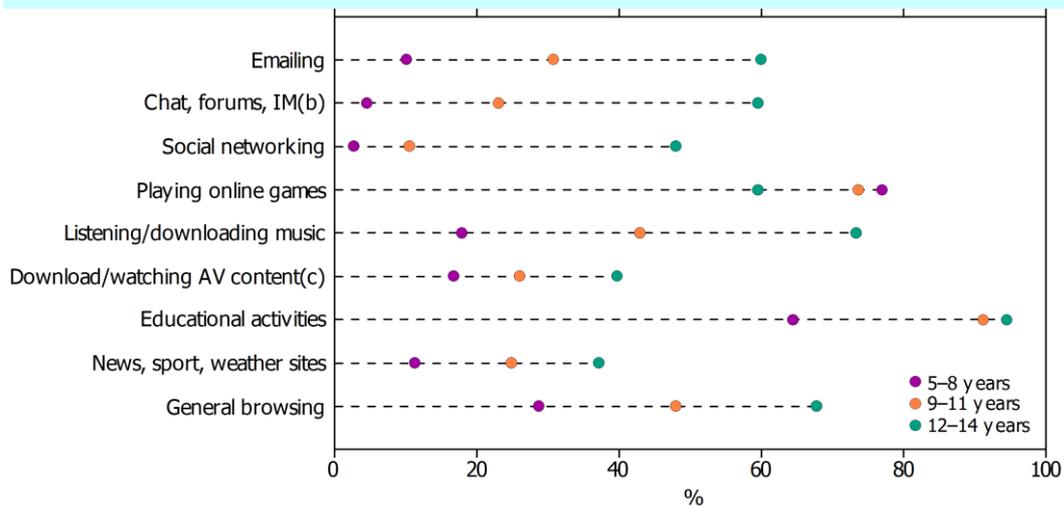
A higher proportion of girls than boys used the internet for educational activities (87% and 82% respectively).

Educational activities were most popular among older children. In 2009, 94% of children aged 12-14 years and 91% of children aged 9-11 years used the internet at home for school work or other educational activities, compared with 64% of 5-8 year olds.

...to play games

Playing online games was the second most popular use of the internet, significantly increasing in recent years from just over half (51%) of all children who accessed the internet

Type of internet activities done at home by child internet users – 2009(a)



(a) Refers to activities children had identified doing in the 12 months prior to April 2009.

(b) IM refers to instant messaging.

(c) AV refers to audio-visual content (TV programs, videos and movies).

Source: ABS [Children's Participation in Cultural and Leisure Activities, Australia, April 2009](#) (cat. no. 4901.0)

at home in 2006, to more than two-thirds (69%) of children in 2009.

Playing online games was more popular with boys than girls; 78% of boys played online games compared with 60% of girls.

Online gaming was most prevalent amongst younger children. Over three-quarters (77%) of 5-8 year olds played online games, compared with 59% of 12-14 year olds. Younger children preferred one-player problem-solving games, while older children (especially boys) preferred interactive role-playing games.²

...for social networking

In recent years, social media has increased in popularity. In 2009, more than one in five children (22%) visited or used social networking websites. Social networking was more popular with girls, with just over a quarter (26%) of girls accessing social networking sites, compared with 19% of boys. The age group with the highest proportion of social network users was the 12-14 year age group, with nearly half (48%) using these sites. This was markedly different to the usage of younger children, with only 11% of children aged 9-11 years and 3% of children aged 5-8 years engaging in online social networking.

...for music

Listening to or downloading music was also popular; in 2009, nearly half of all children (47%) used the internet for this purpose, doubling the rate in 2006 (23%). In 2009, half of all girls (49%) listened to or downloaded music, slightly higher than the rate for boys (45%). This was also more popular with older children, with nearly three-quarters (73%) of 12-14 year olds listening to or downloading music compared with 18% of 5-8 year olds.

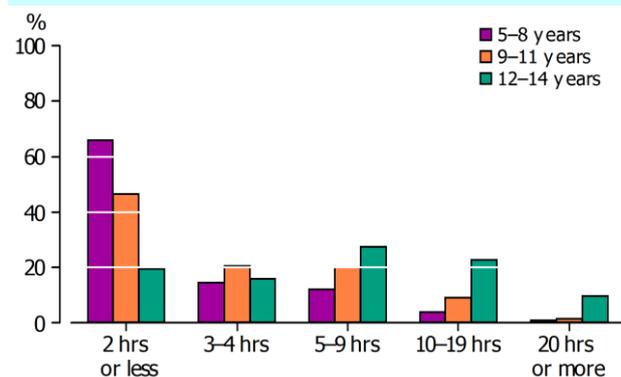
...hours online

In 2009, two in five children (42%) who used the internet at home reported that they spent two hours or less online at home per week, while 17% spent 3-4 hours online, 21% spent 5-9 hours online and 13% spent 10-19 hours online.

Time spent online tended to increase with age. Of children aged 5-8 years, two-thirds (66%) spent two hours or less online per week, compared with 20% of children aged 12-14 years. A third (33%) of children aged 12-14 years spent 10 hours or more online per week, compared with 5% of children aged 5-8 years old.

According to ACMA, in 2007, child internet users aged 8-11 years spent an average of 30 minutes online per day, with five minutes of that time spent on internet/computer based educational activities. In comparison, children

Number of hours child internet users spent online at home per week – 2009(a)



(a) For the 12 months prior to April 2009.

Source: ABS 2009 Children's Participation in Cultural and Leisure Activities Survey

aged 12–14 years spent an average of one hour and 32 minutes online per day, 16 minutes of which was spent on internet/computer based educational activities.³

Online safety and security

The internet is a vast resource of information, education and entertainment. Yet community concern exists surrounding whether the internet exposes children to a number of online safety and security risks.^{4,5}

...online safety and security threats

An estimated 72,000 children (or 3% of all children who used the internet at any location between April 2008 and April 2009) had experienced one or more personal safety or security problems online at some time in their life. Of the most recent threats experienced by these children, the most common were accessing inappropriate material, having strangers ask for or gain access to personal information, or experiencing online bullying or threatening behaviour.

...strategies to keep children safe

In 2009, nearly all children who used the internet (98%) lived in households where parents had put in place strategies aimed at protecting their online safety and security.

Parents used a variety of methods to protect children, the most popular actions including supervising and monitoring their child's internet use (89% of all children who used the internet), educating their child about the safe and appropriate use of the internet (83%) and placing the computer in a public area of the house (77%). Many parents used a combination of these approaches.

The strategies implemented by parents in part depended upon the age of the child. Parents of children aged 5–8 years and 9–11 years favoured supervising and monitoring their child's computer usage (94% and 91% respectively), while parents of children aged 12–14 years (90%) preferred to educate their child about the proper use of the internet.

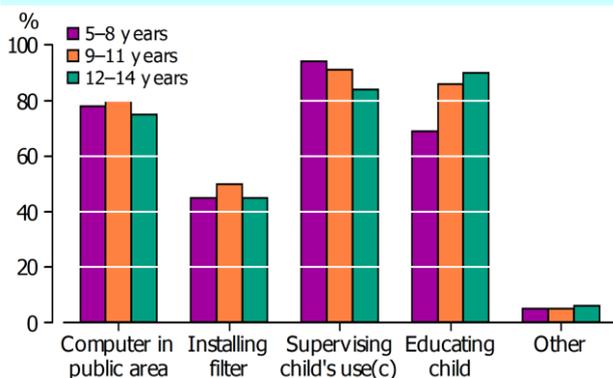
Looking ahead

Information technology is constantly changing. Recent developments in smart phone technology (such as iPhones and Android devices) and gaming consoles (such as the Xbox, PlayStation and Wii) allow internet access to expand beyond the boundaries of computers and the home. With portable devices, users can access the internet whenever or wherever they like. Access and use of information technology by children is likely to continue to become easier and more convenient.

Endnotes

- 1 Australian Communications and Media Authority, 2009, *Use of electronic media and communications: Early childhood to teenage years*, viewed 20 May 2011 <www.acma.gov.au>.
- 2 Australian Communication and Media Authority, 2009, *Click and Connect: Young Australians' use of online social media*, 01: Qualitative Research report, viewed 20 May 2011, <www.acma.gov.au>.
- 3 Australian Communications and Media Authority, 2008, *Internet use and social networking by young people*, No. 1: Media and Communications in Australian Families series, viewed 5 April 2011, <www.acma.gov.au>.
- 4 Raising children network, 2011, *Internet safety*, viewed at 22 March 2011, <www.raisingchildren.net.au>.
- 5 Department of Broadband, Communications and the Digital Economy, 2011, *Cybersafety plan*, viewed 14 April 2011, <www.dbcde.gov.au>.

Actions taken by parents for personal online safety and security at home – 2009(a)(b)



(a) For the 12 months prior to April 2009.

(b) Figures are a proportion of all children who used the internet in this time period.

(c) Refers to parents supervising and/or monitoring a child's use of the internet.

Source: ABS *Household Use of Information Technology, Australia, 2008-09* (cat. no. 8146.0)

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