Snapshots

Volume 9
Issue 9 *Snapshots issue 9: How are computers and the Internet being used for out-of-school activities?*

Article 1

7-2016

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SNAPSHOTS
Global Assessment // Local Impact
ISSUE 9 / JULY 2016

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How are computers and the Internet being used for out-of-school activities?

Surveys like the recent International Computer and Information Literacy Study enable educators, policymakers and the wider community to compare Australian students with each other, and with their counterparts across the world.

As technology continues to become increasingly more accessible and a component of everyday life, so does the potential for adverse effects associated with too much screen time. The amount of time young people spend in sedentary behaviours is linked to higher risk for obesity, diabetes and other chronic health problems.

Screen use accounts for the highest proportion of sedentary activity among adolescents in Australia.[1] A large majority of adolescents exceed the daily two hours guideline for screen use (including watching television, using computers, video games and portable devices for leisure). As a result, adolescents are spending less time outside participating in moderate to vigorous physical activity than previous generations.[2] Although moderated screen time may have some learning benefit, the issue of health outcomes is of particular concern to healthcare providers.[3]

[1] Australian Bureau of Statistics. (2012, April). *Children's Participation in Cultural and Leisure Activities.* Retrieved from www.abs.gov.au/ausstats/abs@.nsf/mf/4901.0

[2] Salmon, J. & Timperio, A. (2007). *Prevalence, trends and environmental influences on child and youth physical activity.* Retrieved from www.ncbi.nlm.nih.gov/pubmed/17387258

[3] Gulledge, B.D. (2012) *Current Effect of Sedentary Screen Time on Child-Adolescent Health Outcomes. Journal of Nursing & Care* 1:e102. Retrieved from www.omicsgroup.org/journals/current-effect-of-sedentary-screen-time-on-child-adolescent-health-outcomes-2167-1168.1000e102.php?aid=4258

The International Computer and Information Literacy Study (ICILS) is the first international comparative study that examines students' acquisition of computer and information literacy (CIL):

> *'the ability to use computers to investigate, create and communicate in order to participate effectively at home, at school, in the workplace and in society'.*[4]

4 Ainley, J., Fraillon, J., Schultz, W. (2013). International Computer and Information Literacy Study: Assessment Framework. International Association for the Evaluation of Educational Achievement (IEA). Retrieved from www.acer.edu.au/files/ICILS_2013_Framework.pdf

The study assessed student CIL achievement in 18 countries and three benchmarking participants through a computer-based assessment administered to students in Year 8 at school. In Australia, 320 schools with a total of 5326 students and almost 3500 teachers participated in ICILS 2013.

One aspect of the ICILS 2013 study examined students' use of and engagement with ICT at home, and their use of computers and the Internet for various activities. This *Snapshot* focuses on students who reported using computers and/or the Internet for out-of-school activities every day.

What types of screen-based activities do Year 8 students engage in out of school?

Nearly 60 per cent of Year 8 students reported using a computer every day. Use at home was higher than at school (59 per cent compared with 33 per cent) but there was no difference between girls and boys.

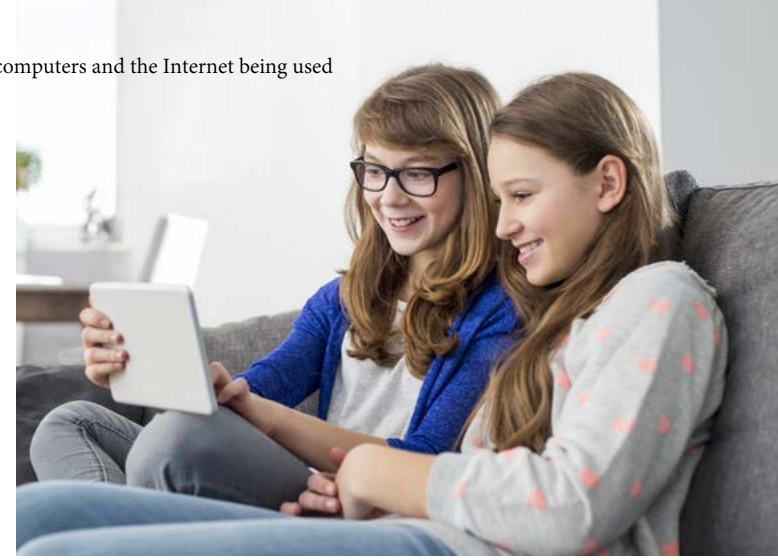
In Australia, boys showed a stronger preference for daily screen-based activities that were computer-based while girls showed a preference for Internet-based activities.

The most popular activity that Year 8 students reported doing every day for out-of-school recreation was communicating with others using social networks (59 per cent), followed by listening to music (55 per cent). Less than 10 per cent of students reported reading reviews on the Internet about things you might want to buy, and accessing the Internet to find out about places to go or activities to do.

Online or off-line…		
Computer use	30%	41%
Internet use	36%	22%
Equal computer Internet use	35%	37%

Types of screen-based activities

Communicate with others using social networks	59%
Listen to music	55%
Watch downloaded or streamed video (e.g. movies, TV shows or clips)	34%
Post comments to online profiles or blogs	25%
Play computer games	27%
Use the Internet to get news about things of interest	24%
Search for information for study or school work	20%
Use voice chat to talk to friends or family online	15%
Upload images or videos	13%
Read reviews on the Internet about things you might want to buy	9%
Access the Internet to find out about places to go or activities to do	6%



Australian girls were more likely than boys to communicate with others using social networks, listen to music and post comments to online profiles or blogs every day. Australian boys were more likely than girls to play games every day.

Use of computers and the Internet

Communicate with others using social networks	65%	52%
Listen to music	60%	49%
Watch downloaded or streamed video (e.g. movies, TV shows or clips)	32%	35%
Post comments to online profiles or blogs	30%	20%
Search for information for study or school work	23%	18%
Use the Internet to get news about things of interest	22%	25%
Play computer games	18%	37%
Upload images or videos (e.g. Facebook or YouTube)	16%	11%
Use voice chat (e.g. Skype) to talk to friends or family online	12%	18%
Read reviews on the Internet about things you might want to buy	8%	10%
Access the Internet to find out about places to go or activities to do	6%	7%

The majority of Year 8 students reported engaging in one to four different activities every day.

Did you know?

- Internationally, 60 per cent of girls reported communicating with others using social networks every day compared with 51 per cent of boys.
- Internationally, playing computer games was more popular among boys than girls (boys: 46 per cent; girls: 15 per cent). The highest proportion of boys reporting playing computer games every day were from the Czech Republic (63 per cent) and the highest proportion of girls were from Lithuania (23 per cent).
- Internationally, the least popular activity reported every day among boys and girls was using the Internet to find out about places to go or activities to do (12 per cent).

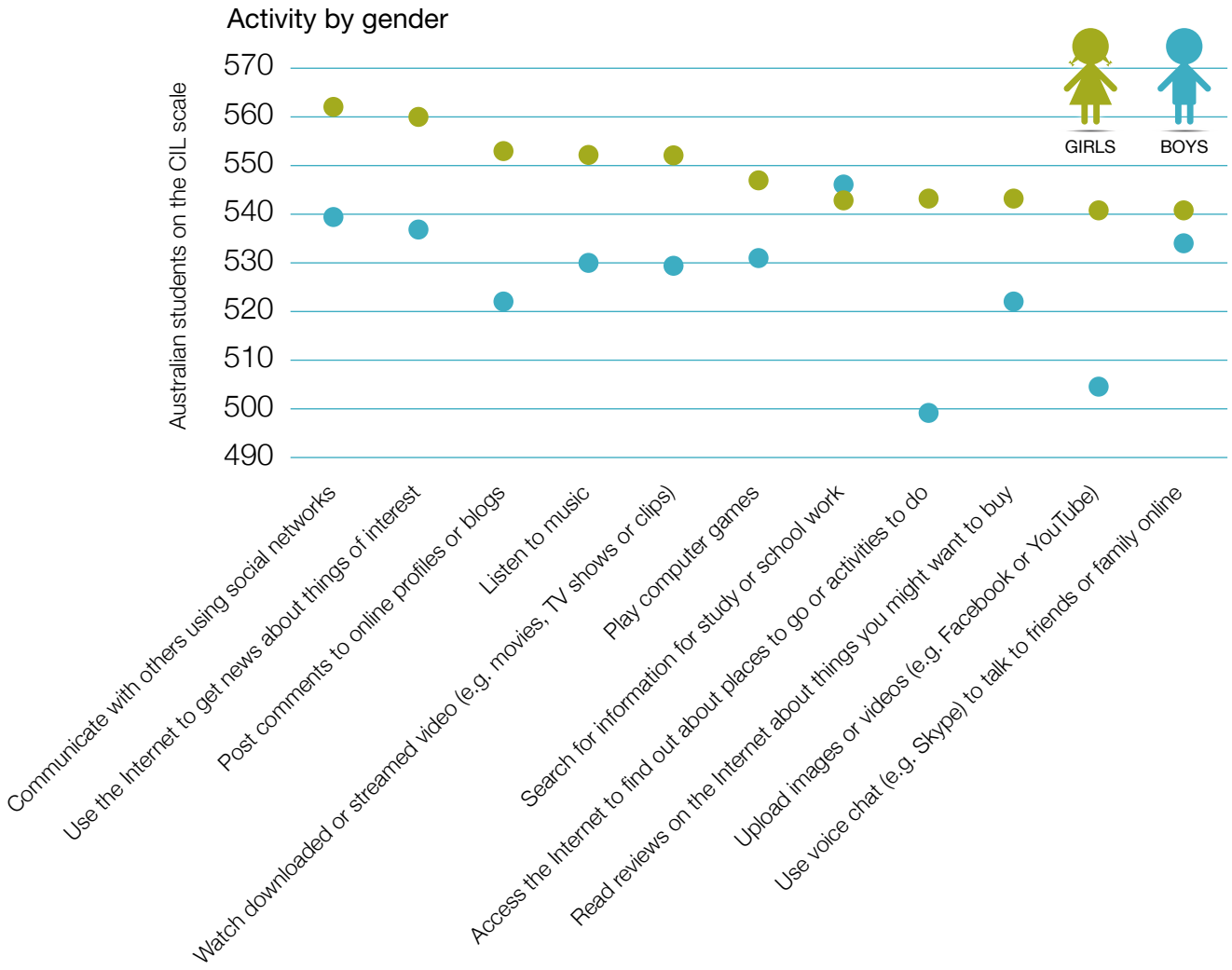
Computer or the Internet activity			
0 computer or Internet activities every day	17%	23%	**No** user
1 to 2 computer or Internet activities every day	37%	33%	**Low** user
3 to 4 computer or Internet activities every day	28%	23%	**Moderate** user
5 or more computer or Internet activities every day	18%	21%	**High** user

The relationship between computer and Internet use and achievement on the CIL

Australian students achieved an average score of 542 points on the CIL scale. In general, girls scored significantly higher than boys on the CIL scale (554 score points to 529 score points). Students that showed a preference for Internet-based activities attained higher scores (boys: 537 score points; girls: 563 score points) than those who showed a preference for computer-based activities (boys: 530 score points; girls: 550 score points) or showed no preference (boys: 524 score points; girls: 547 score points). Overall, irrespective of preference for Internet or computer-based activities, girls scored significantly higher than boys.

While girls in Australia attained a higher average CIL assessment score on all screen-based activities than boys, the exception was in searching for information for study or school work. Boys attained a CIL assessment score of 546 score points, three score points higher than their female counterparts.

Overall for girls in Australia, CIL achievement tends to remain relatively steady irrespective of the type of computer or Internet-based activity they are engaging with every day. The average CIL assessment scores for girls ranged from 562 score points for those girls who used the Internet every day to communicate with others using social networks to 541 score points for girls who used the Internet to upload images or videos, or used voice chat to talk to friends or family online. In contrast, boys' CIL achievement tends to fluctuate depending on the type of computer or Internet activity with which they are engaging every day. The average CIL assessment scores for boys ranged from 546 score points for boys who used the Internet to search for information for study or school work to 499 score points for boys who used the Internet to find out about places to go or activities to do.



SOMETHING TO THINK ABOUT

Access to technology has changed how students communicate, think and process information.

At school, digital technologies can maximise and enhance learning opportunities and support learning that is connected, collaborative and global through the use of innovative digital resources, such as videos, images, website links and documents. While research shows using computers or the Internet for out-of-school activities can be an important building block to computer literacy, enhancing computer familiarity and skills, students need to switch off and unplug from their devices and develop a healthy balance between physical activity and sedentary activity behaviours to enhance their health-related outcomes.

Australia's participation in the International Computer and Information Literacy Study 2013 was managed by the Australian Council for Educational Research and funded by Commonwealth, State and Territory Governments. Further information about Australia's participation in ICILS 2013 can be found at www.acer.edu.au/aus-icils/

IMAGES:

Page 1 Shutterstock/children with laptops
Page 3 Shutterstock/sisters at home
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Page 4 Shutterstock/boy sitting floor
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