

Technology and Health: Children and Youth Fact Sheet

Introduction

This fact sheet provides information on how television, internet and video games can impact the health of First Nations children and youth, especially when they spend a lot of time using them (at the expense of other activities and people in their life) or when there is a lot of violent content. Research has linked TV, internet and video game use to concentration and attention problems, overweight, aggressive and risk taking behavior, anxiety and depression. Decreasing the number of hours of use and the violent content can help children and youth who are having difficulty and if this activity is replaced with more physical activity and free play time, especially outdoors in nature, health improves even more. This fact sheet provides tips on how to manage and limit the use of TV, internet and video games to promote healthy development.

Technology

Television, internet and video games are common forms of technology that are used for entertainment and because they all involve a screen they are sometimes referred to as “screen media.” Some of these forms of media can provide positive educational and healing benefits (for example, through humour) when used consciously and in moderation. A lot of TV, internet and video games are designed to engage children and youth through fast paced images and increasingly violent content. Research has shown that the amount of graphic violent and sexual content has drastically increased over the past few decades (Media Awareness Network & Canadian Paediatric Society, 2003). Learning more about how this technology works can help you understand your child’s use and talk to him or her about it.

Visit the [Media Awareness Network](http://www.media-awareness.ca) [www.media-awareness.ca] for information on TV, video games and internet media.

How Popular is Technology in First Nation Communities?

- First Nations children and youth use TV and computers both in urban and rural settings and on and off reserve.
- Half of First Nations youth (12-17 years) living on reserve watch three or more hours of TV daily and about 20% play video games or use a computer for more than three hours a day (The First Nations Regional Longitudinal Health Survey (RHS), 2002/03, 2007, p. 168).
- For children under 12, boys spend an average of 7.3 hours per week playing video games and girls spend about 4.2 hours (RHS, 2007, p.257).
- First Nation children living off reserve age 6 to 14 years watch an average of 2.2 hours of TV, videos or DVDs per day and play about one hour of video games per day (Statistics Canada, 2006).

Health Effects

This fact sheet looks at ways that technology can be harmful to the health of First Nations children and youth by affecting mental, emotional, social, physical, and spiritual aspects of health. Excessive use of TV, internet and video games has been linked to concentration and attention problems, overweight, aggressive and risk taking behaviour, anxiety and depression. These unhealthy affects have been attributed to:

- 1) The way that the content is delivered or designed, for example, rapidly changing images and fast paced talking.

- 2) The amount of time spent engaged in TV watching, video gaming or internet use.
- 3) The type of content such as extreme violence, pornography, and the sexualization of children (particularly girls).

The [Centre on Media and Child Health](http://www.cmch.tv/mentors_parents/default.asp) [http://www.cmch.tv/mentors_parents/default.asp] provides research and tips for parents and mentors.

[Be Web Aware](http://www.bewebaware.ca/english/internet101.html) [http://www.bewebaware.ca/english/internet101.html] is a national, bilingual public education program on Internet safety.

Learning and Attention Challenges

What children see and hear can have a profound influence on how their brain develops. Increased technology use has been attributed to increased learning and behavioural problems including difficulty sitting still, controlling behaviour and paying attention. Research has found that the more TV preschoolers watch, the greater the likelihood they will develop concentration and attention problems by the time they are 7 years old (Christakis, Zimmerman, DiGiuseppe and McCarty, 2004). When children and youth are using technology, their attention is constantly being directed by the game or images on the screen. There is a theory called “directed-attention fatigue” which says that the brain gets tired or overloaded when this happens. This fatigue leads to distractibility, impulsive behavior, irritability and difficulty concentrating. Researchers have found that the negative effects of this can be corrected by decreasing the amount of time watching or using this technology and increasing free play or free time, particularly when it occurs in nature. (Kaplan, 1995; Louv, 2008). There is something particular about nature or green spaces that helps with the ability to focus, listen and complete tasks, even with just one 20 minute walk in the park (Kuo & Faber Taylor, 2004; Faber Taylor & Kuo, 2009).

Twenty percent of First Nations children from six to eleven years old experienced an emotional or behavioural problem as reported by their parent or guardian (RHS, 2007, p. 302). Fourteen percent of youth (12 to 17 years old) on reserve reported attention span difficulties and 36% reported too many distractions (RHS, 2007, p 177, 302). The Regional Health Survey suggests that looking at the type and amount of media children are engaged in might help address some of these issues.

Physical Health and Overweight

Physical inactivity and unhealthy foods are two key contributors to overweight and obesity. Studies show that the more time people spend watching TV or using video games and the internet, the less time they spend being physically active and socializing with friends and family. They are also more likely to eat unhealthy foods and drink pop (RHS, 2007, pp. 170, 259). Ads on TV promote unhealthy foods, making it difficult for children to identify healthy food choices (RHS, 2007, p. 261). Less than 4% of all ads on TV promote healthy foods. Researchers have found that watching TV affects a person’s appetite and normal sense of being full and makes them eat more than they would if they were not watching TV while they ate (Media Awareness Network & Canadian Pediatric Society, 2003, p. 6). First Nations youth who are overweight are more likely to spend 6 or more hours a day watching TV (RHS, 2007, p. 173).

Anxiety and Depression

Violent images in all forms of media have been linked to childhood nightmares and anxiety. This can be particularly difficult for children under eight years because they have not developed the ability to differentiate between fantasy and reality. Youth also experience increased anxiety and some research has found that additional stress and anxiety is created for youth who experience real violence in their lives as well as media violence. Where there is violence, there are also victims, and this can perpetuate

fear of being harmed and even fear of going outside (Media Awareness Network, 2003; Centre on Media and Child Health).

There are a number of ways that media are thought to contribute to depression among youth. One way is simply that the more time someone spends engaged in electronic media means there is less time for doing other more healthy (physical and social) activities. But regardless of time, using technology is associated with poor sleeping, poor attention and concentration, self-comparison with images of youth that are unattainable, modeling of risk-taking behaviours and anxiety provoking content. It is also thought that people who are depressed are more likely to retreat into the world of technology as an escape but excessive use is associated with social anxiety and limited interpersonal relationships (Primack, Swanier, Georgiopoulos, Land and Find, 2009)

When young people are exposed to multiple images that promote a certain look as admirable it can affect body image for all those who do not match that look. Results from the Regional Health Survey indicate that female youth were more likely than boys to be normal or under weight but they were more likely to be unhappy with their body image (2003, p. 173).

Behaviour Challenges – Aggression and Addiction

A strong and consistent relationship has been shown between exposure to violence in media and increased aggressive thoughts and behaviours among children and youth (Huesmann, 2007). Children learn that aggression is an appropriate way to solve problems, particularly if they identify positively with the character who is being violent. That character may be portrayed as successful, powerful, popular or beautiful. Video games in particular teach children to act out what they do on the screen.

Studies have also shown that it is possible to become addicted to TV, video games and the internet. A family member may be addicted if he or she is spending a lot of time on the internet or watching TV, craving it, needing more and more time to feel okay, becoming increasingly irritable without it and withdrawing from friends, family and community life. This can result in depression, poor social skills and low self esteem. But an addiction can also happen as a result of depression or sadness because it can be a form of escape.

Learn more about [Internet addiction](http://www.netaddiction.com/) at [http://www.netaddiction.com/]

What is internet addiction? [Tips for Parents and Carers](http://www.childnet-int.org/downloads/factsheet_addiction.pdf). [http://www.childnet-int.org/downloads/factsheet_addiction.pdf]

How Much Time is Too Much?

- The Canadian Paediatric Society recommends limiting TV watching to less than one to two hours per day for all ages (Canadian Paediatric Society, 2003, p. 305). The organization is considering a change to this policy that would recommend no TV watching for children under two years old. <http://www.childnature.ca/2009/10/28/canadian-paediatric-society-policy-change/>
- The American Academy of Pediatrics 1999 recommends that children (over two years old) spend no more than two hours a day with technology, including TV or computers. Children under two years old should not be watching or playing with any technology.

- Time is an important factor but it is only part of the solution. Limiting the content of what children watch is also important. See below.

What You Can Do About It?

- Become familiar with what your child is watching and how much. [How to promote good television habits](http://www.caringforkids.cps.ca/growing&learning/goodtelevision.htm) [http://www.caringforkids.cps.ca/growing&learning/goodtelevision.htm]
- Start setting limits early when kids are young. It is easier than starting when they are older and have never had limits. But it is also never too late to start. See [Tips to Managing Media Use in the Home](http://www.caringforkids.cps.ca/behaviour&parenting/ManagingMediaUse.htm) [http://www.caringforkids.cps.ca/behaviour&parenting/ManagingMediaUse.htm]

The Canadian Pediatric Society and the Media Awareness Network have a [Media Pulse](http://www.cps.ca/English/HealthCentres/MediaPulse/index.htm) program [http://www.cps.ca/English/HealthCentres/MediaPulse/index.htm] to monitor and address media use in kids' lives. Their website provides valuable information for parents and communities.

- Some parents found it useful to set limits on:
 - Time.** For example, by setting a maximum number of hours per day or week, or no time past ten o'clock at night.
 - Type of **content.** For example, no violence or no sexually explicit behaviour
 - Child's **behavior.** For example, limit watching if they are tuning out or acting out, and allow it if they have done their homework or chores.
 - Access.** For example, not allowing TV in the eating area or bedrooms.
(Jordan, Hersey, McDivitt & Heitzler, 2006)
- [Canada's Physical Activity Guides for Children and Youth](http://www.phac-aspc.gc.ca/pau-uap/paguide/child_youth/index.html) [http://www.phac-aspc.gc.ca/pau-uap/paguide/child_youth/index.html] recommend gradually decreasing the amount of time spent on TV, video games and surfing the internet. Decrease by 30 minutes a day in the first month and then decrease by 45 minutes a day in the second month and so on.
 - For example, if someone usually spends 5 hours a day doing these activities, decrease the time to 4.5 hours a day in the first month. In the second month the total media time would be 4 hours and 15 minutes per day, then 4 hours a day in the third month.
- Develop a family agreement for on-line and TV use at home.
- Identify fun and pleasurable non-screen, activities that can be done together and alone by the child for when parents or caregivers are busy.

The National Aboriginal Diabetes Association has a guide on [Health Living Activities for Grades 4 to 6.](http://www.nada.ca/wp-content/uploads/April5_ActivityBook_Gr_4-6.pdf) [http://www.nada.ca/wp-content/uploads/April5_ActivityBook_Gr_4-6.pdf]

- Increase the time spent doing physical activity and outdoor free play. Physical activity has many health and social benefits. It also helps prevent or reverse the negative effects of technology. Free time or unstructured physical activities are as important as structured activities in a study of Aboriginal children in Prince Edward Island (Critchley et. al., 2006).
- Encourage young people to get involved in traditional activities like fishing, hunting, trapping, hiking, berry picking and food gathering, canoeing and snowshoeing. This encourages them to get active and outdoors, connecting with their family and community, learning about traditional

and healthy foods, and eating together without technology. Based on the Regional Health Survey, adolescents who eat a traditional diet are more physically active compared to those who do not and heavy TV watchers are more likely to drink soda pop than a traditional diet (RHS, 2007, pp. 169-70).

- Parents have an important role in helping and guiding their children to manage the explosion of technology. Get involved in what your child or children are interested in. Talk and listen. Encourage children to criticize and analyze what they see. The Regional Health Survey showed that youth prefer to talk to their parents or guardian about issues of concern. Friends were their second most common choice (RHS, 2007, p.222).
- Get familiar with how movies are rated or classified and what the rating means in terms of violence, language, sex and psychological impact. The Media Awareness Network has information on [Canada Film Classifications](http://www.media-awareness.ca/english/resources/ratings_classification_systems/film_classification/canada_film_classification.cfm) [http://www.media-awareness.ca/english/resources/ratings_classification_systems/film_classification/canada_film_classification.cfm]
- Explore alternatives to giving your child prescriptions drugs for behaviour and attention problems. Talk to health professionals, educators and elders about decreasing or eliminating technology and increasing outdoor activity time, before you try drugs. See the 'Unplug before you Drug' policy, Ten Steps to Manage Balanced Technology Use with Children and educational programs at www.zoneinworkshops.com.
- Work together with other members of the community to plan events and support each other in making changes.
- **The best approach is the one that works for you, your children, your family and community.**

References

Assembly of First Nations/First Nations Information Governance Committee. (2007). *The First Nations Regional Longitudinal Health Survey (RHS), 2002/03*, 2nd Ed. www.rhs-ers.ca

Canadian Paediatric Society. (2003.) Impact of media use on children and youth: Position statement (PP 2003-01). *Paediatric Child Health*, 8, 301-306. Available at: <http://www.cps.ca/english/statements/PP/pp03-01.htm>

Christakis, D. A., Zimmerman, F. J., DiGiuseppe, D. L. and McCarty, C. A. (2004). Early television exposure and subsequent attentional problems in children. *Pediatrics*, 113, 708-713.

Critchley, K. A., Walton, F., Timmons, V., Bryanton, J., McCarthy, M. J. and Taylor, J. (2006). Personal health practices around physical activity as perceived by the Aboriginal children of Prince Edward Island. *Journal of Aboriginal Health*, September, 26-33.

Faber Taylor, A. & Kuo, F. E. (2009). Children with attention deficits concentrate better after walk in the park. *Journal of Attention Disorders*, 12, 402-409.

Horvath, C. W. (2004). Measuring television addiction. *Journal of Broadcasting & Electronic Media*, 48, 378-398.

Huesmann, L. R. (2007). The impact of electronic media violence: Scientific theory and research. *Journal of Adolescent Health*, 41, S6-S13.

Jordan, A. B., Hersey, J. C., McDivitt, A. and Heitzler, C. D. (2006). Reducing children's television-viewing time: A qualitative study of parent and their children. *Pediatrics*, 118, 1303-1310. Retrieved October 21, 2009 at: <http://pediatrics.aappublications.org/cgi/reprint/118/5/e1303>

Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology*, 15, 169-182.

Kuo, F. E. & Faber Taylor, A. (2004). A potential natural treatment for Attention-Deficit/Hyperactivity Disorder: Evidence form a national study. *American Journal of Public Health*, 94, 1580-1586.

Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder*. NY: Workman Publishing Company.

Media Awareness Network & Canadian Paediatric Society. (2003). *Media pulse: Measuring the media in kids' lives: A Guide for health practitioners*. Retrieved October 21, 2009 at: <http://www.cps.ca/English/HealthCentres/MediaPulse/MediaPulseGuideEngl.pdf>

Primack, B. A., Swanier, B., Georgiopoulos, A. M., Land, S. R. and Find, M. J. (2009). Association between media use and adolescence and depression in young adulthood: A longitudinal study. *Archives of General Psychiatry*, 66, 181-188.

Statistics Canada. (2006). 2006 Profile of Aboriginal Children, Youth and Adults. Key indicators from the 2006 Aboriginal Children's Survey and the 2006 Aboriginal Peoples Survey. <http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/89-635/index.cfm?Lang=eng>

Last revision: December 11, 2009