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Average Daily Video Game Play by Gender and Age





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### // Foreword //

We are witnessing breathtaking changes in the realm of digital interactive entertainment. It is hard to imagine that 15 years ago, we were debating the worth, even potential harms, of simple video games. Today attention is on the potential of this amazing medium to reinvigorate education, workplace training, consumer engagement and social and political conversation. Interactive entertainment is celebrated for its economic importance.

There have been many voices in the call to treat games as a serious medium for the knowledge age. The three IGEA-Bond University reports preceding this one have contributed to the chorus of voices. These national New Zealand studies of computer game audiences have broken down stereotypes that prevented understanding in the wider community that computer games were not only a popular medium, but a productive medium.

In this report, we turn our attention to providing more finely grained observations about play behaviour and to offering a set of baseline measures of New Zealanders' engagement with game culture and the use of games for productive and so-called "serious" purposes such as education, training and health.

If we reflect on the dominant themes of the series of reports for which the one you are reading is the sixth, we find they turn from simple general observation to increasingly focused themes including:

#### 2010 - Video games appear mainstream

- Nearly 9 in 10 households had a device for gameplay
- 44% of all players were female
- The average player was 32 years old
- Gameplay was every other day, an hour at a time

#### 2012 - Video games stabilise and mature

- More than 9 in 10 households had a device for gameplay
- 47% of all players were female players
- The average player was 33 years old
- · Gameplay remained every other day, an hour at a time

#### 2014 - Mobile video games mainstream as play is everywhere

- Again, more than 9 in 10 households had a device for gameplay
- 48% of players were female
- The average player age remained at 33 years of age
- · Gameplay increased to daily, for more than an hour at a time

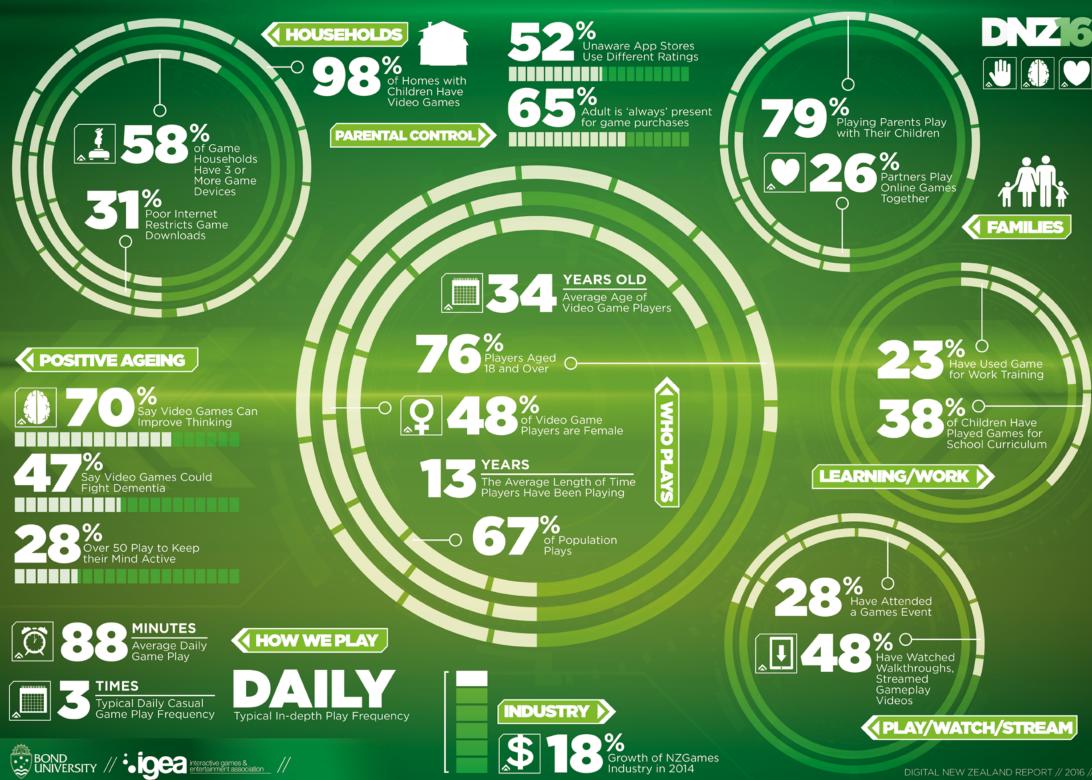
2016 - Video games mature for education, health and ageing.

As lead author of this research series, I continue to marvel at the growth of video games while believing in their potential to serve as a positive social, political and economic force. This report attends to the potential of games.

-- Prof. Jeffrey E. Brand













# // Key Findings //

#### Game Households

98% of homes with children have computer games.

58% of game households have three or more game devices.

31% choose not to download games due to data limits.

#### Who Plays

67% of New Zealanders play video games.

48% of video game players are female.

34 years old is the average age of video game players.

76% of players are aged 18 years or older.

43% of those aged 65 and over play video games.

13 years is the average length of time adult players have been playing.

#### How We Play

88 minutes is the average daily total of all game play.

10 minutes, three times a day is typical for casual game play.

1 hour, daily is typical for in-depth game play.

#### Why We Play

To keep the mind active is the main reason older adults play.

To have fun is the primary reason PC and console players play.

To pass time is the main reason mobile players play.

#### Families and Play

79% of playing parents play with their children.

26% play online games with partners.

65% of adults are "Always present" to purchase games for children.

52% are familiar with parental controls on game systems.

#### Classification and Media Concerns

29% of confusion over restricted classifications is from R15.

52% are unaware that app stores have different rating systems.

46% say ratings have "a lot of influence" on games purchased for children.

#### Game Play Culture

48% have watched walkthroughs or streamed gameplay videos.

28% have attended a games event.

#### Games and Benefits

84% say video games can improve thinking skills - health.

76% say video games can improve coordination and dexterity - health.

70% say video games increase mental stimulation - positive ageing.

47% say video games could fight dementia - positive ageing.

#### Learning and Work

23% have used video games at work for training.

38% say their children have used video games for school curriculum.

#### **Game Business**

18% is the amount of growth in the New Zealand game industry in 2014.

#### Methodology

Digital New Zealand 2016 (DNZ16) is a study of 827 New Zealand households and 2,363 individuals of all ages in those households. Participants were drawn randomly from the Nielsen Your Voice Panel in May 2015; research was designed and conducted at Bond University. The margin of error is ±3.4% for households and ±2.0% for individuals.







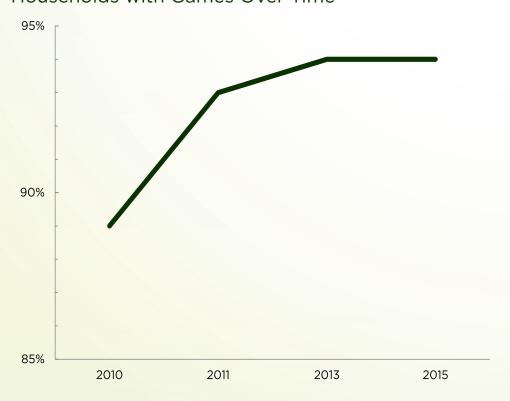


### // Game Households //

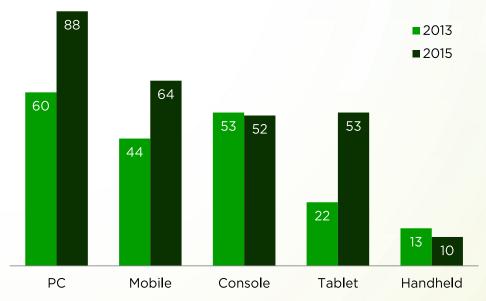
of homes with children under the age of 18 have a device for playing computer and video games. Of all homes, however, nine in ten have game devices in use. Following a period of rapid growth, this proportion has remained stable for the past two years, demonstrating that

video games have spread to near universal use in New Zealand homes.

#### Households with Games Over Time



### Devices Used to Play Games (%)



PCs have undergone a resurgence for game play over the past two years in response to the growth of new content delivered online. Nevertheless, mobile devices such as phones and tablets have increased their presence for games over the same period. Moreover, despite the competition for player attention, consoles have remained popular in the new product cycle while us of dedicated game handhelds has declined only modestly.







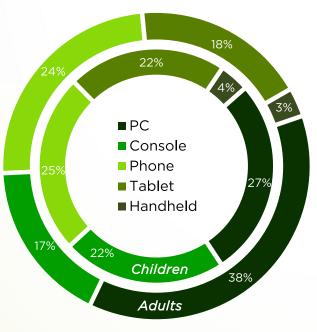






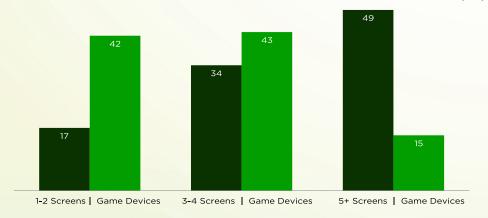
#### Game Devices in Child and No-Child Households

PCs account for over a third of all game devices used in New Zealand homes where there are no children under the age of 18. In those homes. smart phones account for nearly a quarter of game devices, followed by consoles and tablets in less than a fifth each. In homes where children are present, these game devices are used in more equal proportions. Dedicated handheld devices round out the list.



As game devices expand opportunities for play, broadband bottlenecks constrain it.

#### Screens and Game Devices in Game Households (%)



#### Constraints on Play by Broadband Services (%)

The modern multiple-screen household features smart phones, tablet

computers, laptops, desktop computers, television screens and handheld

game devices: 83% of households have three or more screens (34% have

while 58% have three or more devices for playing games (43% have 3-4

3-4 and 49% have 5 or more screens) on which to enjoy media of all kinds,

and 15% have 5 or more). This accounts for devices with dedicated, built-in

screens, such as a mobile phones, tablets or handheld game systems, as well

as devices that are paired with an independent screen such as consoles and

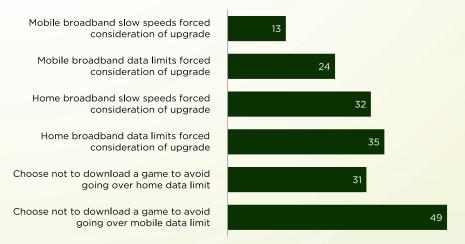
third of game players to forego game downloads at home and nearly half on

or personal computers. While hardware in New Zealand homes is plentiful,

bottlenecks in broadband access are prevalent. Data limits cause nearly a

mobiles. Broadband speeds have also constrained online access for many

New Zealand consumers











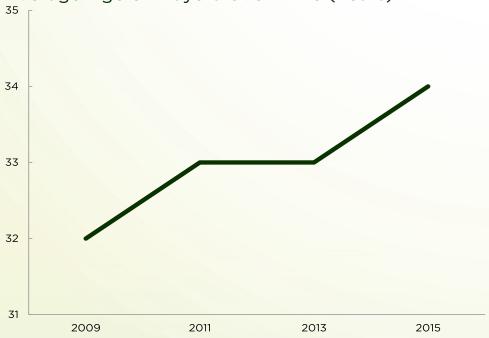


# // Game Players //

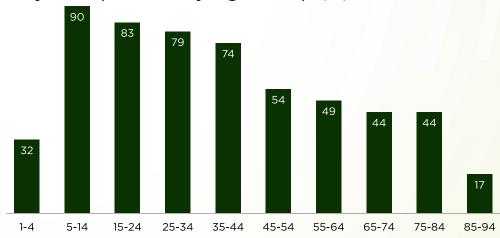
is the average age of all video game players in New Zealand today. The median age of the population is now 37.5 years according to the Statistics New Zealand, increasing by 0.2 years since 2012. Over the four Digital New Zealand studies,

the median age of the population increased by six months while the average age of those playing video games increased by 24 months. Player age growth has outpaced population age growth because ever older members of the population have access to and play games. The nature of playing games will change in coming years to accommodate this larger and older audience.

#### Average Age of Players Over Time (Years)



### Player Proportions by Age Group (%)



Video games are played by 67% of all New Zealanders – up from 65% two years ago. The fastest growing segment of the population new to games is those over the age of 50, of whom 47% play. Ageing among those who began playing video games many years ago has also contributed to an uplift in player age. The average adult player in New Zealand has been playing for more than 13 years - up by a year since our last report. Men report having played longer (15 years) than women (10 years), illustrating the growth in female engagement with video games more recently over the past decade.

13 Years - how long the typical New Zealand adult has been playing video games.





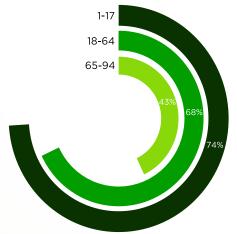




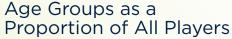


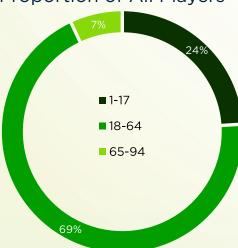
The representation of video game players within major population age bands illustrates the largest gaps between those who play and those who do not. Players include 74% of all children under the age of 18, 68% of working age adults 18 and 64 and 43% of adults aged 65 to 94, the oldest participants in the sample. As games increasingly are used for health and education (discussed later in this report), we predict the proportion of older New Zealanders who play will grow significantly.





# 47% of those aged 50 and over play video games.

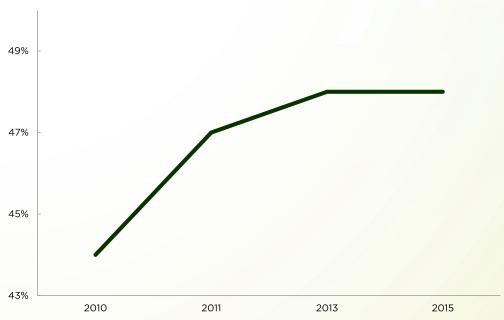




Grouping all players in the major age bands together illustrates their contribution to the total population of players. Although children - those under the age of 18 - represent 24% of all video game players in New Zealand, the largest group by virtue of span of years and use of games is working age adults, comprising 69% of all players. The fastest growing segment is those adults aged 65 and over who now make up 7% of players. On the basis of six years of reports, we predict adults aged 75 and over will grow to represent 10% of all video game players by 2018.

While females of all ages make up 51% of the New Zealand population, over the past two years we have observed that 48% of all video game players are female. 61% of the female population play video games, as opposed to 72% among all males. We expect the modest difference in male and female audience share to remain stable in coming years.

#### Females as a Proportion of All Players Over Time



"I think games have a sort of universal appeal from very young children all the way up to seniors."



Or Karolina Stasiak, University of Auckland Department of Psychological Medicine



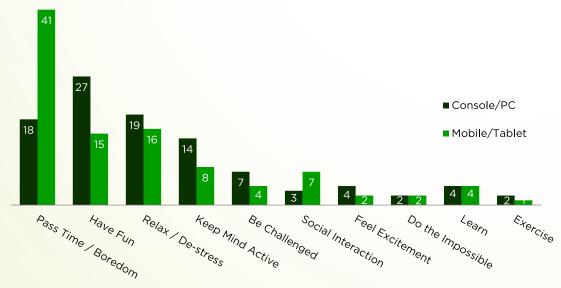




# // Why We Play //

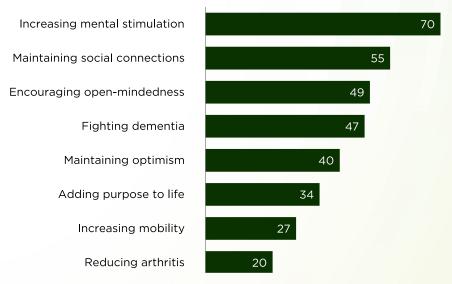
Video games are, first and foremost, a form of entertainment. The most common reasons people play are to pass time and have fun, The the least common reasons people play are for learning and exercise. However, different video game platforms are used for different purposes. Home devices such as PCs and consoles are used more for fun while mobiles and tablets provide more relief from boredom.

### Reasons Why New Zealanders Play Video Games (%)

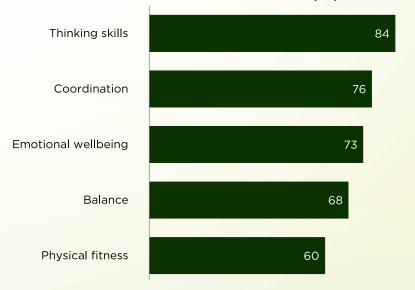


Games are increasingly identified for their ability to serve other purposes in addition to entertainment. Researchers, educators, businesses and journalists have observed the importance of serious games - games that do more than entertain. When asked about how games might be used for positive ageing, the largest proportion of participants identified their potential for increasing mental stimulation and maintaining social connections. The ability of games to increase mobility and reduce afflictions such as arthritis was nominated by the smallest proportion of participants.

### Uses of Video Games for Positive Ageing (%)



### Uses of Video Games for Health (%)



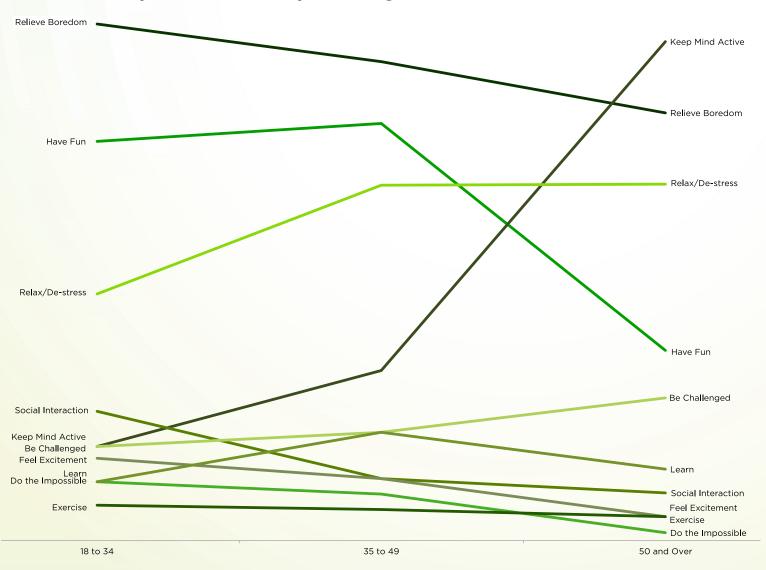








### Reasons To Play Video Games by Life Stage



# Play Motivation: Age Matters, Gender Doesn't

Different people play for different reasons. Of the two primary demographic categories - age and gender - only age differences are prominent. Younger adults aged 18 to 34 report playing to relieve boredom and have fun. Players between the ages of 35 and 49 report the same motivations. Players aged 50 and over, however, report that keeping the mind active is their main reason for playing. Trend lines are more interesting. Playing video games to relieve boredom declines with age, playing to keep the mind active increases. Women and men play for the same reasons in equal proportion with absolute, but insignificant, differences in women seeking relaxation and relief from boredom more than men and men seeking fun and challenge more than women.







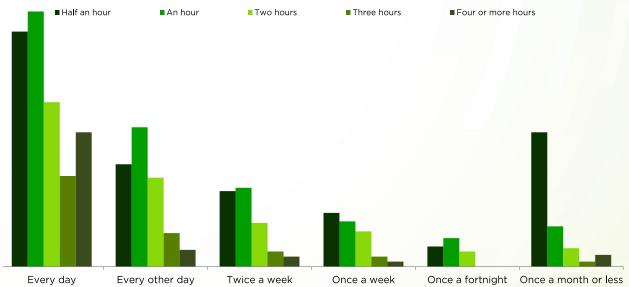




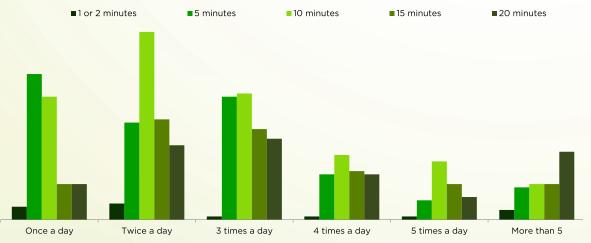
# // How We Play // Casual and In-depth

The growth of mobile and social video games has expanded opportunities for play to be both casual and in-depth. Participants were asked to think about games they played for between one or two minutes and 20 minutes separately from games they play for half and hour or more. Casual games are played between two and three times a day, usually for ten minutes each time. In-depth games are typically played daily for between half an hour and two hours. The evidence from these results indicates that playing video games has evolved from binge-entertainment, once the cause of concern, to moderate routine daily entertainment.

### In-Depth Games: Frequency and Duration



### Casual Games: Frequency and Duration















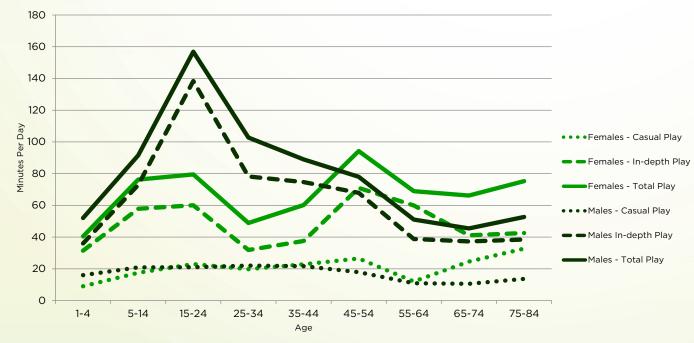


# 88 minutes

a day is the average time New Zealanders spend playing video games including casual and indepth play. Women and girls play for

72 minutes a day on average while men and boys play for 104 minutes on average. Casual play is nearly identical for females and males at 22 and 19 minutes a day respectively. However males spend considerably more time on in-depth play than females, 85 minutes compared with 50 minutes a day on average. Time spent playing video games each day is similar for the youngest and oldest New Zealanders, although older women play for much longer than older men while younger boys play longer than younger girls. Play time is most similar for men and women in their late-40s and the most disparate in the late teens and early years of adulthood. Most variation in play time, regardless of age occurs as a result of in-depth game play with casual games showing remarkable stability across age groups.

### Average Daily Video Game Play by Gender and Age





### Are You A Gamer?

The term "gamer" means different things to different people. For 34% of those surveyed, a gamer is any person who plays any kind of game, even if casually or rarely; for 66% a gamer is someone who has been playing for many years, plays often and plays in-depth games. For 30%, the term has a negative meaning. Only 21% of the adult sample identified themselves as a gamer. It is clear the role of games in culture is something distinct from other media









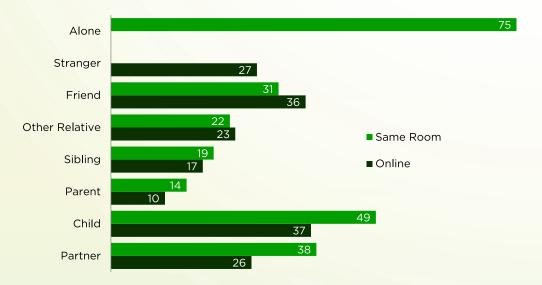


38%

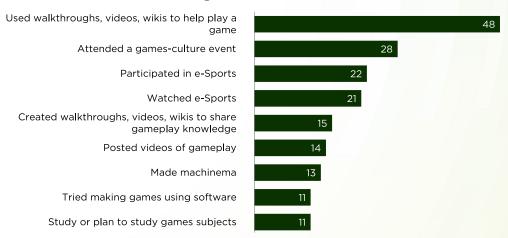
### Social, Culture, Learning, Work

Video games increasingly serve social needs. Although players still find a quiet moment to play their favourite stand-alone games, evidence in this and other studies shows games are played socially online and in person. In our sample of adults, 49% say they commonly play with children and 38% with their partner in the same room. Online social play is also high with 37% playing with their children, 36% friends, 27% strangers and 27% partners. Game viewing, events, e-sports and video making are also taking off with 48% of the sample of families saying they have watched gameplay videos in the past, 28% having attended a games culture event and 15% saying they have created content to share with others. Consequently, the pervasiveness of games has produced learning and training products: 23% say they have used video games at work for training and 38% of parents say their children have used them as part of their school curriculum.

### Social Playing Experiences (%)



### Game Culture Viewing and Production (%)



#### Use of Games at Work and School

Child(ren) used games in school curriculum

Used video games at work for adult learning

"I use games in the classroom. When I'm teaching classics, or ancient Greece, God of War comes in handy . . . and Rome: Total War where you can see military tactics. It helps kids conceptualise some of these big ideas."

Games in Education Case Study: <mark>Roneel Rama (27), Teache</mark>







GAMES IN EDUCATION

### SERIOUS GAMES









https://youtu.be/t7bsyTOzZAw

https://youtu.be/AaHRiONZcGg







SENIORS WHO PLAY

GAMES AND FAMILY







**DN216** 









# // Case Studies // Memory Foundation Games

Video games are proving increasingly popular with mature Kiwis to prevent -or even reverse - the memory loss often associated with ageing. The Auckland-based Memory Foundation was founded seven years ago by sisters Gillian Eadie and Dr. Allison Lamont. The organisation's purpose is to help seniors understand that they are in control of their memory and their future. Generally speaking, the older people get, the more they value their memories, because very often, that's one the most precious thing they have left. "Memory is important to seniors," says Gillian. "Their memory is their life."

The Memory Foundation incorporates specially developed computer games into its memory training programs, focussing on strengthening the key skills needed to keep brains active, alert and growing with age. The games on the Memory Foundation website (http://memory.foundation) have been played by 36,000 players this year, from 40 different countries.

"As the population ages there will be an enormous challenge for government and communities if senior citizens are not alert, active and independent," explains Gillian



"Institutionalisation is not only limiting for the individual, but it also imposes a major cost burden on society. The longer people can lead active and independent lives, the better.

"Advances in neuroscience in recent years have changed the outlook for seniors considerably. We now know that healthy and active brains continue to build neural connections right until the end of life."



She says computer games can increase seniors' ability to live rich and independent lives. "Our games have been specifically designed to exercise skills such as short term memory, working, verbal and nonverbal

memory, face recognition, focus and concentration. People playing don't realise they are exercising these skills as they're playing, because they are having fun.

"People who use our games-based approach to memory retention find they're concentrating more, focusing more, becoming more confident and developing faster reaction times.

"Our program has many significant benefits beyond preventing or reversing memory loss in seniors, says Gillian. "It makes seniors realise that they are in control of their own destiny. Feeling independent and in control is everything to them. It's a challenge, and seniors like challenges, especially if they are equipped with the right tools to overcome them.

"One 85 year old lady said to me: 'you haven't only given me skills, you've given me hope!' "That's a very powerful thing," added Gillian.











### SPARX - Games for Health



Depression in young people is common and can have serious repercussions for health and wellbeing. Depression makes it hard for young people to succeed at school, relate to others, create a meaningful future, or simply enjoy life. Teens who experience depression are more likely to suffer from it in adulthood, and it is a major risk factor for suicide.

Most young people who suffer from depression don't seek help or treatment. Stigma, embarrassment, inconvenience and costs are common barriers to getting help.

A team from the University of Auckland's Department of Psychological Medicine has developed SPARX, an online computer program that helps young people suffering from mild to moderate depression, anxiety or higher levels of stress. SPARX uses games-based technology and is the world's first scientifically-proven 'gamified' online therapy for depressed young people. Developed in consultation with young people and software designers, SPARX is based on Cognitive Behavioural Therapy (CBT), and uses playful, exploratory learning strategies based on the latest science about how people learn through stories, fun and reflection.

CBT is a technique that teaches skills about how to cope with negative thoughts and feelings by helping people to think in a more balanced and helpful way and getting them to do things they enjoy or that give them a sense of achievement.

"SPARX has broad appeal - to teenagers, parents, counsellors and adults," explains Dr Karolina Stasiak, who worked with the development team. "Schools and other youth organisations see SPARX as a meaningful tool that they regularly use in their work with young people."

"SPARX has allowed its users to get fast, effective and affordable care when face-to-face support has not been possible. It provides clinicians with an alternative therapeutic tool and provides the users with lots of different avenues to get further support if needed."

Dr Stasiak said "SPARX has a high, proven success rate in treating young people suffering from low mood. Participants in the study saw SPARX as non-threatening, simple and very effective in helping to overcome mental health challenges."

The developers decided to incorporate games into the SPARX program for a variety of reasons, said Dr Stasiak. "SPARX offers participants a medium that's fun, interactive and engaging for young people who need help. It encourages players to progress through various virtual environments and

scenarios while teaching them how to be better problem solvers, gain specific skills for relaxation and do activities that bring them pleasure," Stasiak says.

SPARX is now government-funded and available online free of charge. It is



accessible to all New Zealanders 24 hours a day. Over 5,000 people have now registered on the SPARX website. Youthline and Lifeline provide backup to ensure further help is available to anyone using SPARX.











### Gamefroot - Creating Games

Dan Milward is a Wellington native and a self-confessed games enthusiast. Not content with simply playing video games, he developed Gamefroot, a cloudbased social platform that allows anyone to create online and mobile games.



Gamefroot came about when Dan was trying to sell a game he had developed to a publisher in China. "They told me to go home and come back when I could deliver at least ten games a month," says Dan. "At the time, the idea of developing ten games a month was impossible – unless there were some tools that were so easy to use that anyone could make a game in little time. And that's what I've done."

When Dan developed Gamefroot, the intention was to help young aspiring game developers create enough games every month to be profitable. But he



did not expect Gamefroot to be particularly popular in schools, with teachers and their students. The platform now has 80,000 users, mostly in education.

"Teachers we've met and work with love Gamefroot. So do kids. A teacher once told me that she struggles to make students leave the school's premises after school hours because students stay behind to create games on Gamefroot!" says Dan.

Computer coding has never held so much power! It is the language of the internet; every website, game and app is built



using code. As more of our work and play leverages computers, the demand for people who can code is higher than ever and learning to code prepares the kids of today for 21st century jobs.

"It's amazing that kids are being introduced to coding at such a young age and that Gamefroot provides them with the platform to develop those skills" adds Dan.

He says he has seen young school students create impressive video and mobile games that are beyond what Gamefroot's learning resources were designed to teach. "Now some teachers are writing their own Gamefroot resources, and we get asked almost every week to run game creation





Dan has set his sights on the wider world. "The uptake of Gamefroot has been so successful here in New Zealand that I believe learning to code has the potential to be a global movement, to make game coding easier and more accessible

to children around the globe. The logical progression for us is to launch in Australia then set our sights on the US."











# // Family Play //



### Parents' Rules for Children's Video Game Playing (%)



of parents play video games themselves, up from 77% two years ago. Those who do not have children under the age of 18 living with them are less likely to play, although a majority, 71%, do. The

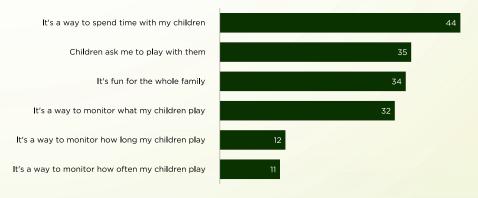
growth in parents playing is a good sign for managing and understanding children's game play and demonstrates the impact of casual, online, social and mobile game play opportunities. Parents say they have rules about the kind of games their children play and how long they play, even what devices may be used for playing.

#### How Parents Use Games (%)



The vast majority of parents play and discuss games with their children both to serve their parenting roles to educate, but also punish and reward children. Just under half of parents say games help them spend time with their children and a third say it's fun for the whole family. It seems that communication about games has become a more potent tool than play itself as parents have increased their game play literacy.

#### Reasons Parents Play Video Games with Children (%)













# // Regulating Play //

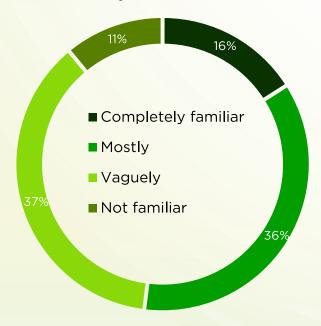
Almost all parents play video games. They play with their children, even if rarely and over a third play games online with their children. As parents and children share game experiences and talk about games together, it would be reasonable to expect that parents feel more competence and awareness of the technology available to help them regulate children's play and guide children's game choices at the time of purchase. While 52% parents say they are completely or mostly familiar with family controls on game devices, 49% report using them on PCs, 48% on mobile phones and tables and 35% on consoles and 33% on handhelds. Parents say an adult is either always (65%) or usually (20%) present when a game is purchased for their children to play.

"We stick to G and PG games. We take note of the classifications. If it's higher than that, we'll have a look and one of us, either my wife or I, will have a go at it first and make sure the game is going to be suitable for CJ."

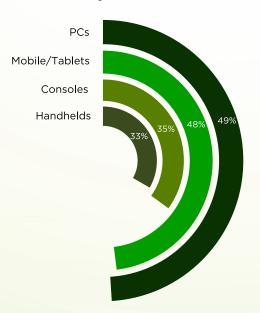


Family Case Study: Brian (33) and his son CJ (8)

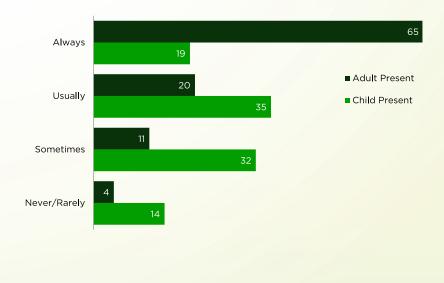
# Parents' Familiarity with Family Controls



# Platforms Used with Family Controls



# Presence of Adult or Child When Purchasing Games for Children



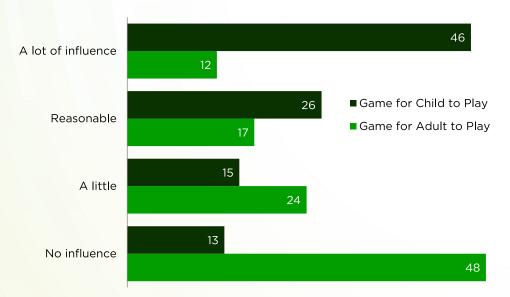








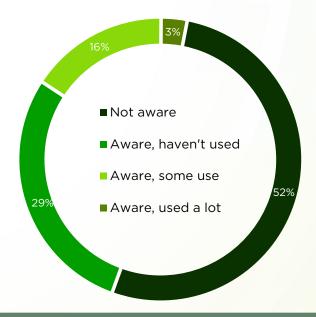
#### Impact of Classification on Parents' Purchases



In addition to exercising control and discretion at home, parents have long been served by the national classification scheme. Parents understandably use classification information more when choosing games for their children to play than when choosing games to play themselves: 72% of parents say classifications have "A lot" or "Reasonable" influence over their purchase decisions for children; only 13% say classification has no influence on their choices for their children's games. The reverse of these proportions is true of classifications for games that they themselves choose to play.

Different ratings are used in online app stores for mobile phones and tablet computers. Over half of parents (52%) are unaware of this practice and another 29% are aware but haven't used these ratings for decisions to purchase games. As the game market expands and genres diversify, the need for a more universal and simple system will grow.

### Awareness of App Store Ratings, Parents



"Games are actually more effective from a learning point of view. When you're playing a video game you're leaning forward and participating, you're really thinking about what you're doing; versus television where you're actually leaning back relaxing."

7 1 10 5 1











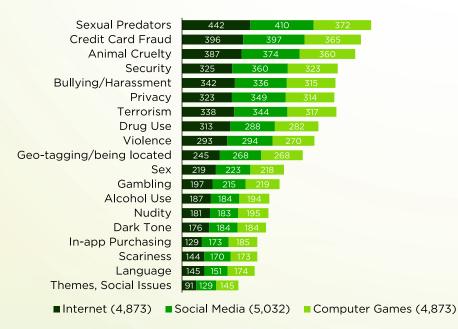




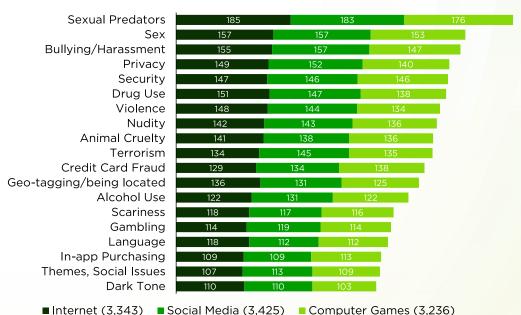
### Concern About Risks

Many academics and commentators have demonstrated that concerns about risks which might result from reading, listening, watching or interacting with different media change over time. These fears are referred to as "moral panics." Newer media are the source of greatest concern and different media appear to present different elements of risk. By asking adults to identify which risks are of concern to them for each of the three newer media - the internet in general, social media specifically, and video games specifically - we can calculate both the medium of most concern and the risks of most concern. By asking them to identify those risks for themselves and for their children, we can better understand their concerns about different media and risks in relation to different family members.

#### Concerning Elements in Media Used by Adults



### Concerning Elements in Media Used by Children



In general, adults express a more varied level of concern in relation to different perceived risk elements related to their own media use, and a more consistent level of concern across those same perceived risk elements when it comes to their children's media use. There is a larger gap between the top five concerning elements and the bottom five for adults than for children. However, traditional concerns held for film and television such as language, scariness and themes, rank at or near the lower half of the list for both audiences. However, sexual predation is at the top for both. For children, concerns about sex ranks second, and bullying and harassment third. For adults, credit card fraud and animal cruelty rank second and third. Games and the internet generally are of less concern than social media for both children and adults.











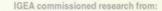
# // The Digital Games Business //











**UP 2%** 

\$16

MILLION

MILLION'

MILLION

Digital download

MILLION

Console Accessories

Subscriptions

\*The NPD Group Australia. Time period December 31 2012 - Dec 29 2013, December 30 2013 - Dec 28 2014.

\*\*Telsyte - IGEA Digital Market Monitor, H1-H2 2014













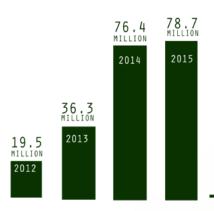
### THE GROWTH OF

KIWI GAME CREATION

INCLUDING 134

\$

\$347M ON GAMES/YEAR



\$78.7 MILLION REVENUE

83% DIGITAL EXPORTS

15% CONTRACT WORK



11% ADVERTISING



69% DIRECT SALES



5%
LICENSING
& ROYALTIES



NEW ZEALAND
GAME SEVECIPERS
ASSOCIATION

27 VIDEO GAME DEVELOPMENT COMPANIES WERE INDEPENDENTLY SURVEYED WITH FIGURES AS OF 31 MARCH 201









# // About //

# DNZ16

(Digital New Zealand 2016) is an empirical study about digital games in New Zealand households with a focus on demo-

graphics, behaviours and attitudes.

It is based on 827 New Zealand households and 2363 individuals of all ages living in those households. Adult participants responded to questions about themselves and on behalf of all members of their households. These participants were drawn from an online national random sample using the Nielsen Your Voice Panel. The survey was conducted in May 2015.

The words computer games, video games and digital games are used interchangeably to refer to the broad class of interactive, digital entertainment. A game household was one that had in it any device for playing a computer game, including consoles, personal computers, handheld game devices, smart phones and tablet computers. A player was a person who indicated they play computer or video games, simply "yes" or "no" on any device including a PC, console, handheld, social network, mobile phone or tablet computer.

Questions in the survey were grouped according to theme including:

- Household demographics,
- Household media environment,
- Media purchasing and downloading,
- Video game play preferences and routines,

- Social game play,
- Parental engagement with video games,
- Engagement with game culture,
- Games and education, work, health and ageing,
- Classification and ratings, and
- Attitudes and issues surrounding video games.

The Nielsen Company provided Bond University with raw data from the survey for statistical analysis at the University. The data were analysed by the study author using the SPSS Version 22. The quality and size of the sample was high. Statistical procedures included simple descriptive statistics such as frequencies, cross-tabulations, means, correlations, and tests of significance such as Chi-square and One-way ANOVA.

The margin of error is  $\pm 3.4\%$  for the national sample comparing all households and  $\pm 2.0\%$  for individuals in those households.

For the purposes of including results for all members of a given household, the Vars-to-Cases procedure was used to create individual records for all persons in a household identified by the participants in the study. Data reduction procedures included reducing the range for some questions to simplify presentation of responses. Some measures were combined into indices where obtaining a frequency or mean across a combination of measures simplified the presentation of findings. Missing values were eliminated from analysis on a per- question basis unless multiple measures were examined conjointly. For these, the case-wise deletion method was applied.









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