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Gaming in families

A literature review

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Executive summary

This report identifies previous programmes of work which have investigated the role of video games in the context of families as well as market research data on family gaming. It also looks at the benefits and risks associated with family gaming. The aim is to provide an overview of existing research in the field in order to begin addressing issues such as the role of video games in the social, leisure and informal learning activities of families, and the attitudes and perceptions of family members towards the risks and benefits of such games. In addition, it highlights areas where further research is required in order to support adults and children to better appreciate and understand the benefits and risks associated with video games.

The first section describes existing research into video games and families. It reports statistics around access to technology, availability of suitable games, and how game playing is supported in family settings. For the purposes of this report video games include all games regardless of genre played on personal computers, consoles and mobile devices, either on or offline. Family gaming includes any kinship grouping where the players come from different generations and, although it is noted that many play games with siblings, we focus on how adults support younger people and vice-versa.

The key findings from this part of the literature review are:

- Games console ownership is increasing despite current economic conditions.
- Games console ownership is more likely among young people than older, with around 88% of those aged between 8 and 15 owning a console.
- Younger parents are more likely to use newer media such as mobile phones and games consoles.
- There is disparity in existing surveys around video games. Each survey takes a different definition of what is meant by a gamer and what constitutes playing games, with little reference to the genre of games being played.
- There is little direct research in family video game play: there are figures on the number of parents claiming to play with children, but not around what is played and for how long.
- Parents' concerns around children playing video games include: the cost of games and associated equipment, their own experiences, the safety of their children, the violence within games, the time spent playing, the impact on the child's social abilities and the location in which games are played.
- Parents play with their children because: they were asked, it is fun, they can spend time with the children, and they can monitor the games and the time spent playing.
- Adults do not play games due to: lack of time, games being 'boring', expense, violence and a belief that they are for children and are too complicated.
- Adults would play games more if: they made them think, were easy to pick up, less expensive, were fun, kept them physically active, were social, could be played with their children, and were not time consuming.
- Although there is support around how to play video games as a family, much of it is online.This may be difficult to find for those not used to internet searching.
- Many online support pages contain only game reviews and advice for setting up safety controls on game consoles. Advice around the activity itself is often limited to ensuring that the player has a game of the appropriate rating and does not play for too long, rather than advice around playing as a group.

In the second section issues around the playing of games in families, both positive and negative, are considered.

The key findings from this part of the literature review are:

- Boys and girls do not significantly differ in the amount of video game play; however there are differences about the type of game preferred. Younger children of

either sex prefer puzzles and action adventure games with popular characters from the media, eg Bob the Builder. As they age, boys tend to prefer first person shooters, racing and action games while girls stay with puzzles and simulations.

- Video games could be a way for parents to bond with their children; this may be more relevant for parents, predominantly fathers, who may only see their children intermittently.

- Cost, of both games and platforms, is an issue in some families.

- Arguments around intergenerational access highlight that, although many parents are now confident in new media, there are still concerns that they may be bewildered by some aspects, especially around games.

- Safety in games is a key concern, although some parents and young people deliberately do not follow the age ratings provided.

- Violence in video games is a concern in the media, although surveys of parents believe that gaming is beneficial. There is a discrepancy between the volume of games released and classified as 16+ and 18+ (16%), and the number of them that appears in the top of the games charts (three out of ten).

- The location of the game platform is an issue that can prevent families playing together.

- Games can be seen as sociable, even if played when alone physically.

- Time required by adults to play games is a concern, although generally parents are now spending more time with their children.

- Games can engender emotions of frustration, although they are also frequently seen as a way to relax and de-stress.

In the final section we summarise the main findings from the literature review and the challenges and questions that need to be addressed. It is clear that video gaming as a family has the potential to bring generations together in an activity described as 'fun'. The number of families playing together appears to be increasing, although inferring actual gaming activity is complicated as surveys do not use standard questions or definitions. However, to assume that video gaming will be adopted by all families is naive. Adults may not necessarily understand the technology or structure within video games, while children may not appreciate what games are suitable for them in terms of age or difficulty. To develop guidance to support adults and children to better appreciate and understand the benefits and risks associated with video games, we need to establish how families currently play video games together and their knowledge and concerns about playing. This depends on the attitudes of the family members and knowing what technology the family possesses.

1. Introduction

Background

> Every parent will know that video games and the internet are a part of childhood like never before. This is extremely positive; giving kids the opportunities to learn to have fun and communicate in ways that previous generations could only dream of. But it can also present a huge challenge to parents and other adults involved in the welfare of children.
> Dr Tanya Byron (DCSF 2008)

From the sales of video games, hardware, and the increase in websites offering guidance on games for families, we can infer that the number of parents and children playing video games together is increasing in the UK. As yet there are no statistics from consistent longitudinal studies confirming this increase of family video game play. Video games are defined here as including all genres such as adventure, music and sports games, and on all platforms including personal computers, consoles, handheld gaming devices, devices not dedicated to games but with that functionality, and platforms currently being developed. Family gaming includes any kinship grouping where the players come from different generations – this is to focus on how these generations support each other rather than looking at how they play more generally[1].

The impetus for gaming to become a family pasttime is reflected in the 2008 Byron report and the Harnessing Technology work by Becta (Becta 2008). Both highlight the need for families to play a greater role in supporting young people's use of technology and learn in informal settings such as the home. In addition, the reports discuss the challenges of accessing and effectively using technology, especially games. Issues such as how parents and their children perceive video games; how parents can help young people benefit from using such games; what support families require to maximise the benefit of playing such games; the impact of playing in groups of various sizes and ages, on different platforms, and for different times, are all raised.

A review such as this is useful for examining claims of industry and trade organisations such as Microsoft and the Interactive Software Federation of Europe (ISFE). Both have recently conducted surveys and reported that parents feel family video gaming is beneficial (Microsoft 2009; Nielsen 2008). Although family video gaming may have a positive impact on family life the message needs to come from an independent source that is not affiliated to any particular commercial organisation – otherwise it can easily be misconstrued as marketing. With this in mind any research in the area will need to address the following issues:

- What role do computer games play in the social, leisure and informal learning activities of families (parents and their children)?
- What are the attitudes and perceptions of family members towards the benefits and risks of playing computer games?
- How can we support parents and their children to appreciate and understand the benefits and risks associated with playing computer games?

Context

This report is designed to be read by policy-makers, those in industry who manufacture game hardware and software, and all those interested in video games in the home. It synthesizes the existing research and evidence, and identifies emerging challenges around the role and perceptions of computer games in families. However, the report does not reiterate the debate over the advantages or disadvantages of game playing as a tool for learning (for a discussion of the learning potential of games see Williamson 2008 and Williamson 2009). Neither is it a review of the game study field, that is, the interdisciplinary group of researchers who try to understand the meaning and context of games, the impact of games on players, and the design and development of games[2].

[1] See the Appendices for a detailed definition of what is meant by family, video games and platforms within this report.

[2] For an overview of research in this area, see the Digital Games Research Association (DIGRA) (www.digra.org/digrainfo) or the Game Studies journal (gamestudies.org/0901/about).

Moreover, it is not meant to replicate the work being done by the UK Council for Child Internet Safety (UKCCIS)[3]. However, there may be some unavoidable and necessary overlaps with this work. For example, it will focus on safety from the perspective of the family which is similar to part of the brief of the Video Games Working Group.

Finally, this work is meant to complement Futurelab's other research on games, including the Teaching with Games project which looked at how commercial games could be introduced as learning tools into the classroom (Sandford et al 2006) and, more recently, the current arguments for playing video games in the classroom (Williamson 2009).

Implications

The Byron review states that any research to inform policy needs to understand the nuances of the games, which differ in "content, context, play length, realism, repetition and interaction" (Byron 2008, p159). We also argue that, in addition to this knowledge around the nuances of games, it is equally important to understand who plays these games. Families cover a broad spectrum of people and by inference these have varying knowledge of games, different reasons for playing, and would take different roles within the games. Without being aware of who is playing and what they are playing, providing informed policy recommendations or offering guidance to families on game play is impossible.

[3] These groups were recommended by Tanya Byron with the goal of assisting in improving the regulation and education around internet use, tackling problems around online bullying, safer search features, and violent video games (see www.dcsf.gov.uk/pns/DisplayPN.cgi?pn_id=2008_0215).

2. Video games in families: existing research

In this section we look at what is known about existing usage, both in terms of game play and physical access to hardware and software. This is important as, in order to give guidance to adults around family game play, an understanding of the existing, and potential, access is required. A review of existing surveys will also identify areas where further knowledge is required.

General technology ownership

Technology ownership and access in the UK is well documented. The one area where income is a significant factor with regards to media access is internet connection. Although 100% of ABC1 and C2 households and 98% of DE households have a connection, when looking at the numbers with broadband access there is a large discrepancy: 79% of the ABC1 group has broadband, with 66% from C2, and only 42% from DE households (Ofcom 2009b, p248).

Looking specifically at households with children under 16 the figures vary slightly (Ofcom 2009a)[4]. Interestingly, in 2007 parents were far more likely than other adults to have a home internet package (73% v 62%); suggesting that parents believe there are benefits to having access to the internet in the family home. Looking at the age of parents and their socio-economic groupings key findings are:

- Home access to the internet is higher among parents aged 35 and over than among those aged under 35 (79% v 64%)
- 73% of parents have internet access (78%, where the children are 12 and over v 74% if children are aged 5-11 v 69% for those with under 5s)
- Parents in the ABC1 socio-economic groups are more likely to have access to the internet at home than those in C2DE groups (88% v 56%)

The same survey found that parents of under 16 year-olds are more likely than adults as a whole to say they regularly use newer media such as mobile phones (89% v 77%), the internet (68% v 56%), and console or computer games (26% v 21%). Of these parents, those under 35 are more likely to regularly use newer media, see Table 1.

Media	Parents aged 34 and under	Parents aged 35 and over
Mobile phone	92%	87%
MP3 player	32%	23%
Console and computer games	32%	22%

Table 1: Parents' usage of new media in 2007 (Ofcom 2009)

Geographically rural areas have a higher take up of the internet, but use it less than those in urban areas. There is little difference around new media ownership (mobile phones, digital televisions etc) across the country. The North West has slightly lower internet access than the South East, and the South East has slightly more mobile telephone ownership.

General technology ownership was summarised by a recent O2 survey as the average household having 2.4 TVs, 1.6 laptops/Apple Macs, 2.4 games consoles, 3 mobile phones and 2.2 MP3 players (O2 2009).

In contrast to adults nearly all children (around 88%) aged between 8 and 15 own at least one games console, regardless of socio-economic status (ABC1: 89%, C2DE: 86%) (Ofcom 2008). The Byron review quotes figures from the ChildWise Monitor Report. This states that the number of children having a games console allowing online access increased by 4% between 2006 and 2008. Now 15% of children have online access via a games console, and 34% of boys aged 11-16 have online access via a games console (Byron 2008). Further anecdotal evidence in the BBFC research found that boys who were gamers had at least two game playing platforms, usually a console and a handheld device (Dawson et al 2007).

Looking at game console ownership overall the 2009 Ofcom survey found that there has been an increase in ownership across all ages since 2007, with the biggest

[4] These figures come from interviews with over 3200 adults and 1500 8-15 year-olds about technology access and usage and the ability to interact via new media in 2007.

increase between 2008 and 2009 being in the group of 25-44 year-olds, the age most likely to have families with children under 16 (Ofcom 2009b, pp306-307) – see Figure 1.

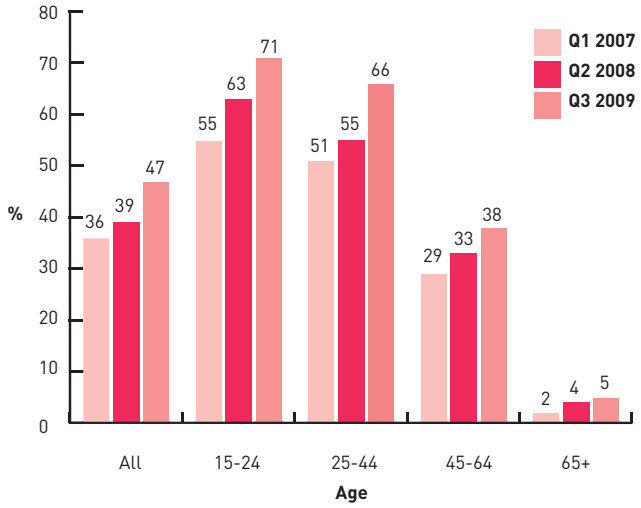


Figure 1: Access to games devices in the home by age

However, games console ownership is considerably less in families with younger children aged between 0-6 (48%). Families in social groups C2DE were more likely to own a games console than families in social group ABC1 in this age category (Marsh et al 2005).

From a financial perspective the video game market is buoyant and is likely to remain so (O2 2009). In 2007 video games for all platforms generated €2.3 billion in revenue (Nielsen 2008). Moreover the market in the UK increased by 26% in 2008 (Riley 2008). The sales of Wii games dramatically outnumbered those for handheld and other consoles, having sold one million units 38 weeks after its high street debut (Blakely 2007). In Europe the number reported to own the console has more than doubled over the past twelve months (19% in 2008 v 8% in 2007) (Nielsen 2008). From the perspective of this research the Wii is interesting, as in the US, 20% of all purchasers had never owned a console before (Shiels 2009). Furthermore, interactive TV sales have increased and interactive services, including games, are increasing as revenue sources (Ofcom 2009b).

From a hardware perspective the most popular platforms are the Nintendo DS and Nintendo Wii. In the UK the Wii is used almost equally by men and women; over six months in 2008 32% of men and 29% of women played on the Wii at least once, and 15% of Wii users were aged between 45 and 64 (TNS 2008).

The 2009 GameVision findings corroborate this research, showing that Nintendo platforms are those used most equally by male and female active game players (where an active game player is defined as anyone who has bought a game or platform in the last 12 months). This is shown in Figure 2 (Dromgoole 2009).

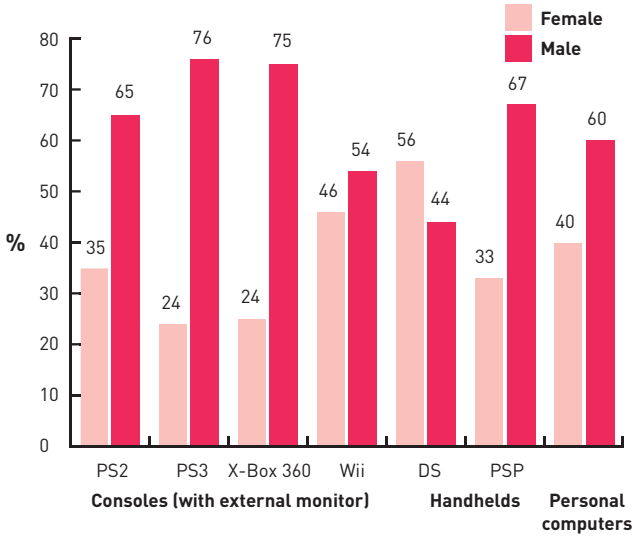


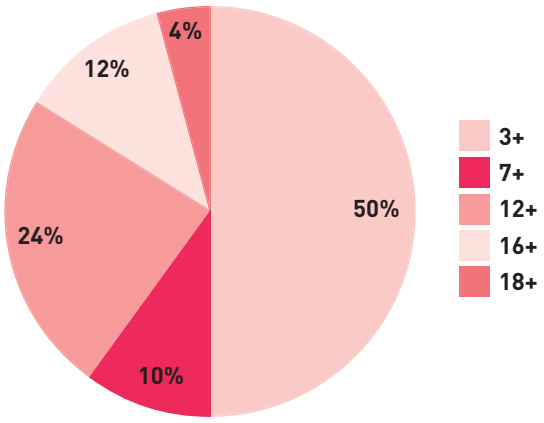
Figure 2: Percentage of active UK game players on key platforms by gender

Family video games availability

As discussed Nintendo are currently leading the console market since their release of the "family-friendly" Wii in 2006. It was marketed in the UK as a family system with family games; the first commercials in November 2006 showed a family playing together, a theme repeated throughout the years (Nintendo 2009).

The success of Nintendo may have contributed to other platforms promoting family-friendly games, such as Sony PlayStation 3 with "LittleBigPlanet", the cross-platform "Guitar Hero" and "Rock Band". Only three of the ten top selling games in the first half of 2009 were rated M or 18+ and the top three were all for the Wii (GameZine 2009). The sheer volume of family games, that is, those rated by

the Pan-European Game Information (PEGI) for 3+ and 7+ (see the Appendices for a description of game ratings and game types), illustrate the size of this family market, as shown in Figure 3.



Age class	3+	7+	12+	16+	18+
Number of ratings	4899	1031	2329	1165	423
As a percent	50%	10%	24%	12%	4%

Figure 3: A breakdown of PEGI game ratings by June 2008

Now both hardware and software manufacturers aim to encourage adults and children of all ages to play, have fun, and be active together.

Family video game playing

Surveys into families playing video games are plentiful. However, meaningful comparisons are difficult. Most surveys provide no definition of what type of video game is being played, it may be a flash game from a site such as CBeebies played for ten minutes or it may be Guitar Hero played for a couple of hours - though it should be noted that time spent playing is often inconsistent as it can be dependent on the newness of the game, the weather and season and, for children, whether or not it is during school term (Dawson et al 2007). In the surveys reviewed there is no break-down by child's age and role of parents within games – are they players, teachers or observers, for example? Moreover, there does not appear to be any current information on the amount of time parents and their children talk about games, even if the parents do not play with their children.

One set of UK figures come from 2008 when ISFE commissioned Nielsen Games to do a European wide survey around video game playing (Nielsen 2008)[5].

From the face-to-face omnibus survey 23% of the UK population are active gamers and 42% of parents are active gamers, which would represent 9.66% of the population as a whole. However, this contrasts with the Ofcom research which found that 26% of parents to under 16 year olds are gamers (Ofcom 2009a). From the 25 minute quantitative survey of the parents who were active gamers in the UK, 82% said they had played video games with their child or children. There were no significant gender differences between males and females playing with their children. However, the survey provides no definition of what constitutes video games or play and there is no break down by child's age (Nielsen 2008). Given that we do not know the percentage of the UK population who are parents, or who are taking a parenting role to an under 16 year old, we cannot infer the proportion of parents overall who play video games with their children from this research. However, in 2008 16% of a nationally representative group of UK parents said they used computer games to learn as a family (Grant 2009). Again there is no information on the game type or age of the young person.

From the British Board of Film Classification (BBFC) report, males are more likely to make time to play, with females fitting playing around other interests and activities (Dawson et al 2007). While children aged 6-10 are the most sociable players of all the age groups interviewed; 54% said they preferred playing games with others rather than on their own (BBC 2005).

[5] A 25 minute quantitative survey was administered online to 400 respondents from 15 countries who claimed to be active gamers, that is, they have personally purchased at least one legitimate video game in the last 6 months, and they play video games on at least one of the following: PC, home-based or portable console. In addition, in the UK, they also conducted a face-to-face omnibus survey with 1,000 respondents aged 16 plus who demographically aligned to the age/gender profile of the population as a whole.

However, despite informal and formal feedback from parents that gaming in families is fun, rewarding, and enhances family cohesion and communication (eg Microsoft 2009; Nielsen 2008), there is still a large disparity between the number of young people who play video games (98.5% of children aged 6-15 (BBC 2005), and the number of parents who are regular gamers. Therefore even with the potential for family video gaming there are a large proportion of families in the UK who are not playing games together, despite having the technology access and capability.

The figures around family gaming in the US show that video gaming as a family is more common than in the UK. From a study by Peter D Hart Research Associates quoted by the Entertainment Software Association (ESA):

> More than a third (35 percent) of parents play computer and video games and 93 percent of these parents have children who also play them. These parent gamers report spending just over nine hours a month playing games with their kids, and 49 percent of parents say they play games with children at least once per month. Nearly half (47 percent) of the computer and video game-playing parents are women and more than a third (37 percent) play games with their children at least once a week. (ESA 2009)

The ESA work indicates an increase of family video game play sessions when compared to the 2007 survey by AOL and the Associated Press (no true comparison can be made given different audience and different definitions). From a survey of 2,016 adults (including 770 people who considered themselves to be gamers, that is, they played for more than 6 hours a week) they found that 27% of parents played video games with their children for more than an hour a week, and 30% played for less than an hour a week (Boyer 2007).

However, despite the numbers reported of family gaming sessions, the most popular mode of playing is alone. Research by GameVision presented by Sean Dromgoole

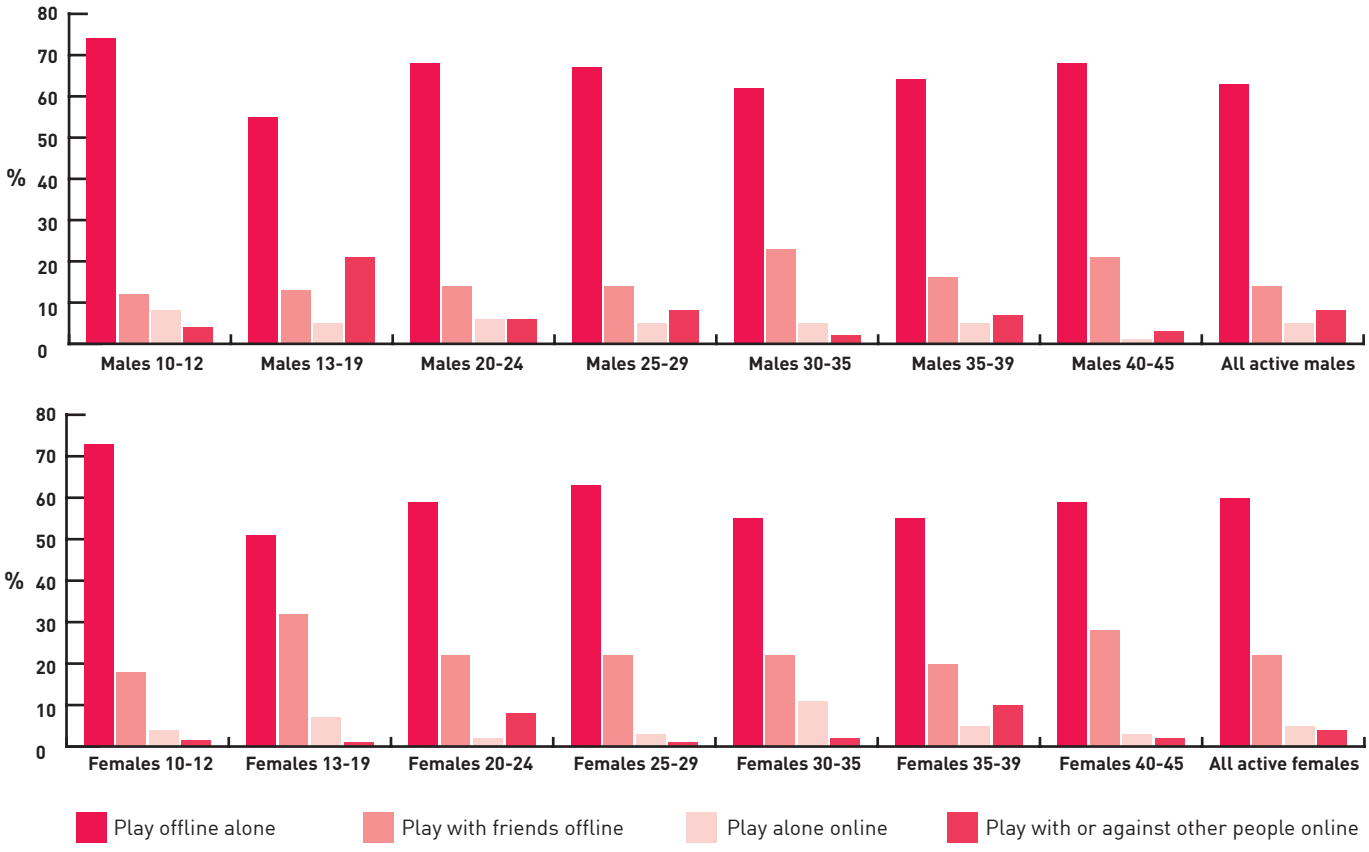


Figure 4: GameVision research 2009

in the 2009 Game Based Learning conference (Dromgoole 2009) shows that across genders and ages the most common format is playing alone and offline (see Figure 4). Playing offline with friends, with the assumption this includes families, is more common amongst females.

Reasons for the absence of multiplayer or social gaming, in addition to the fact many games are for single players, may be as suggested in the BBFC research. Some of those interviewed argued that playing alone allowed you to become immersed in the game and that having others around was a distraction, while others claimed that it was more challenging to play against the system. However, it should be noted that many preferred playing in groups as there was more variation in game structure (especially in sports games) and they liked the "competitive ambience", and in massively multiplayer online games there is no defined end to the game (Dawson et al 2007).

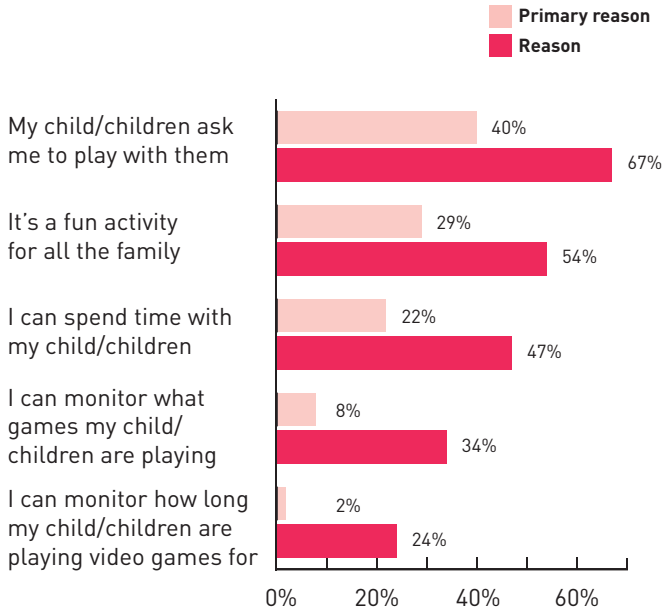


Figure 5: Reasons for playing video games as a family in EU, 2008

Arguments for and against family video game playing

The benefits of structured games, such as board or card games as well as video games, include the development of social skills such as turn-taking, following rules and becoming gracious winners or losers. They can also help to develop analytical skills, having to plan moves, estimating risks and calculating probabilities – sometimes under stress. Depending on the type of game they can support and improve mathematical or linguistic skills[6]. Moreover, the importance of families in developing technology skills has been established (eg Barron et al 2009; Davies et al 2008). This is reflected by the number of sites that support parents selecting family games and setting parental controls. In this section we look at why families play video games together, as well as the advantages, disadvantages and guidance that currently exists.

The five main reasons given by the parents in Europe for playing video games with their children are shown in Figure 5.

The bottom bar on the graph (the higher percentage) reflects the number of times it was chosen in any position by parents, the top bar the number of times it was given as the primary reason (Nielsen 2008).

These are similar to the reasons given by parents in the US (ESA 2009) as shown in Figure 6.

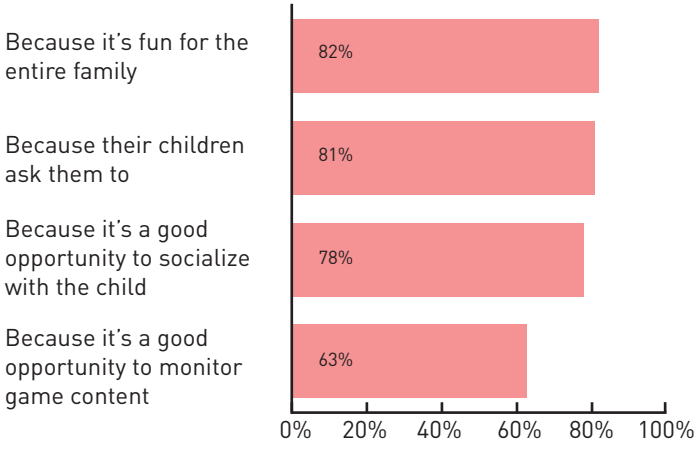


Figure 6: Reasons for playing video games as a family in US, 2009

[6] For a description of structured games and how video games relate to playing generally see the Appendices.

The idea that playing video games is a shared activity and supports family relationships is repeated in the findings from the BBFC (Dawson et al 2007). This report also mentioned that simply watching others play games is not that interesting (ibid, p8). The statistics are backed up with anecdotal evidence in websites that support family gaming. For example, these give the reasons for video game playing as fun, it exposes you to experiences you would not have otherwise, and it is social (eg www.familygamer.co.uk/start_whyplay.htm).

Although not asked specifically about reasons for not playing as a family, the Nielsen survey asked why people did not play video games. The results are shown in Figure 7 (as before the bottom bar with the higher percentage is the number that gave it as a reason, the second bar the number that gave it as a primary reason).

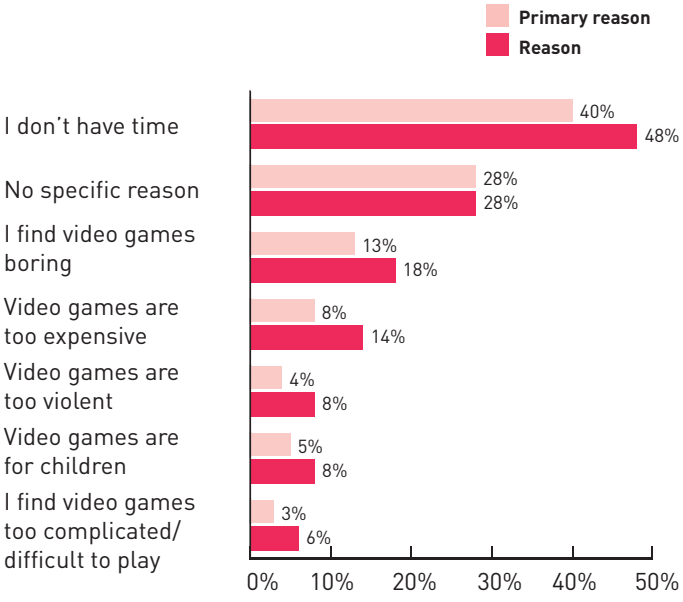


Figure 7: Reasons for not playing video games in EU, 2008

It is interesting to note that there is a perception that video games are for children, and that time is the key reason for not playing. This complements the 2001 research by Casas around why parents let their children play. He argued that parents use games as a reward, but they have concerns that games mean their children do not complete school work and are wasting time (Casas 2001).

Finding video games too complicated is a frequent anecdotal reason given by parents for choosing not to play video games with their children. The following quotes are taken from the BBFC study (Dawson et al 2007):

> Inability to master the controls is often quoted by parents as a reason for not being interested in games. The Nintendo Wii control is said to be modelled on a TV remote in the hope that this familiarity will make it easier to master and thereby make gaming more accessible to older audiences. (p18)

> It is worth noting however that non-gamers, notably parents, are often deterred from playing because they **lack** the necessary skills. Acquiring skills with a view to applying them elsewhere in life is not a motive for playing, but having a go and discovering that your level of skill is hopelessly inferior to that of your offspring certainly discourages many parents. (p50)

> Perhaps unsurprisingly, parents who have played video games usually have more positive attitudes towards their children playing than parents who have not. The latter's alienation often expresses bewilderment. They do not understand games, cannot play them, and consequently feel excluded – out of the loop, especially if their children are very committed players. Their mental set is unsympathetic to gaming in part because of the dissonance between their children's absorption and their own ignorance. Unfamiliar with the challenges and delights of gaming, their tendency is to assume it is just a waste of time. (p87)

In the IFSE survey they also asked what would encourage non-gamers to play (Nielsen 2008). The results are shown in Figure 8.

The fourth reason, physical fitness, may change with the arrival of the Wii Fit; however, the exercise benefit of using this platform is often perceived rather than actual. A study by John Moores University in Liverpool showed that it was not strenuous enough to count towards the government's recommended amount of exercise for children, although it is better than sedentary games (Harris 2008). 69% of all Wii users surveyed by TNS

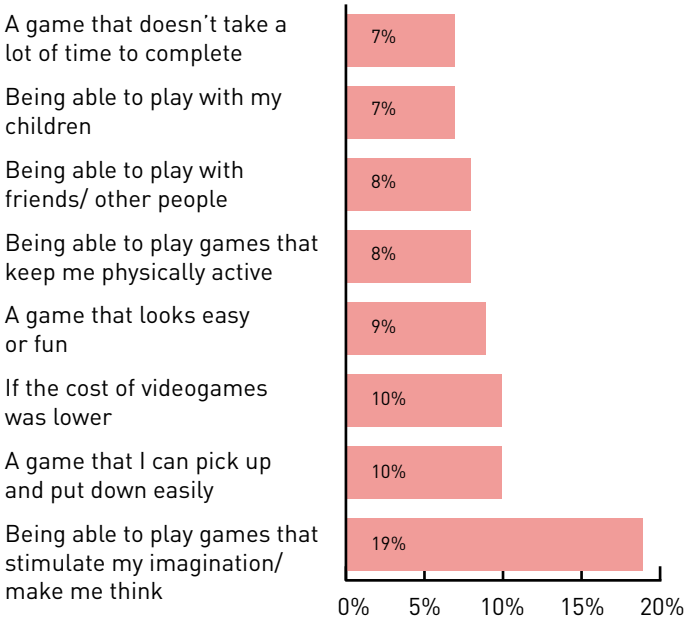


Figure 8: Things that would encourage video game play in EU, 2008

claimed that playing with their Wii rather than with more traditional video games makes them feel more active (TNS 2008).

It is worth investigating whether or not these reasons apply to families and video games. Is there really a shift to casual gaming, for the non-gamers at least? Do young people share the adult reasons for not playing? What is the impact of more intuitive casual games and platforms that simplify interactions?

Current support for families to learn and play video games

As mentioned in Figure 7 one reason given by adults not to play video games is a lack of understanding; and this could be an argument used by parents for not playing with young people. In this section we look at how parents learn about digital technology and what support currently exists for learning about video games in particular.

To learn how to operate digital technology (specifically digital television and radio, the internet and mobile phones) the Ofcom (2009a) found the most popular method of getting help, regardless if a parent or not, was to ask family and friends for help, as shown in Table 2:

Method	Adults over 16	Parents with children under 16
Asking friends or family	48%	48%
Reading the manual	45%	48%
Through trial and error	40%	45%
Supplier/store	12%	14%
Class	6%	5%
None	9%	7%

Table 2: Learning about digital technology (Ofcom 2009a, p31)

Learning by trial and error is 5% more likely to be chosen by parents of under 16s than the general adult population (45% v 40%).

Surprisingly using the internet to access information wasnot mentioned, especially given that 91% of parents with under 16s were confident or fairly confident they could find material online and 61% were confident or fairly confident the site would be reliable (Ofcom 2009a).Given this confidence level and the fact many games are played on PCs or consoles with internet access, unsurprisingly there is online material supporting families playing video games. Table 2a lists some examples.

Site	Content
familygamer.co.uk	Reviews of games from all family perspectives
familygamer.org	Reviews of games from all family perspectives
gamerdad.com	A blog with game reviews
www.esrb.org/about/news/downloads/ESRB_PTA_Brochure-web_version.pdf	The importance of safety and detailed accounts of how to set up parental controls
www.careforthefamily.org.uk/pdf/supportnet/ComputerGames.pdf	Some guidelines and glossary
www.careforthefamily.org.uk/pdf/supportnet/InternetSafety.pdf	Includes a section on online games stressing needs for guidelines around safety and giving personal information
www.askaboutgames.com/assets/Good_Gaming_AAG.pdf	How to set up parental controls and game ratings
www.askaboutgames.com/assets/GoodOnlineGamingGuide_AAG.pdf	Do's and don'ts for online safety

Table 2a: Examples of online guidance for parents around video games

As shown in the table the content of these sites focuses on game reviews and instructions for ensuring consoles are set up with parental controls in place.

In addition to these independent guides, many of the main console platform manufacturers now host their own family support websites, where family settings and advice are clearly laid out. Indeed, many modern consoles include advanced parental control settings, allowing parents to prevent their children from playing any game with a 15 or 18 rating (and, in the case of Sony, allowing them to block movies as well). These are easy to use with clear instructions for parents. They can be found on the platforms' websites (eg xbox.com/playsmartplaysafe).

These websites may have taken over the role that magazines started in the 1990s such as Family PC (the last issue was in 2002), and Parents and Computing (also no longer published) (Buckingham, Scanlon and Sefton-Green 2001).

If the parents who are more inclined to panic are those with the least confidence around new technology, then this information is not readily accessible to those who need it the most. However, these parents can access books on this subject. Many of these do not offer guidance but take a standpoint around the use of gameplay, either for (eg Don't Bother Me Mom - I'm Learning! (Prensky 2006) and How Computer Games Help Children Learn (Shaffer 2008)) or against (eg Grand Theft Childhood: The Surprising Truth about Violent Video Games and What Parents Can Do (Kutner and Olson 2008) and Help! My Child Is Hooked on Video Games (Maier 2006)).

If parents have failed to learn how to play video games from the internet or books there are other options. To learn video games other than casual games (simple puzzles etc) Gee argues that it is not books, websites or other gamers that are the best sources of information, but games themselves that are the best teachers for an individual player (Gee 2003). The introductory levels for games, such as Age of Empires, is an enculturation practice that involves not only learning the mechanics of gameplay, but learning how to negotiate the context of play, the terms and practices of a game's players, and the design choices of its developers. You are not merely being told "press CTRL F to move forward" but have an opportunity to determine how to control the game events through a real task.

Casual games, including those on the Wii, do not have the same issues concerning enculturation. Steering by moving a wheel, playing music by strumming on a guitar, dragging and dropping jigsaw pieces, or selecting answers, is based on offline conventions. This could explain the popularity of these games within the family as they are readily accessible even by those who are not confident with this technology.

Implications

Video games and associated technology are becoming more widespread in the UK. Specific gaming platforms in families are less common than internet access via a PC but their number is increasing, especially the Wii which is geared towards group play and the marketing strategy targets the family.

The surveys discussed (Nielsen, BBFC, Ofcom etc) are of limited applicability, however, as there is no clear definition of gaming. For example, somebody who bought and spent five minutes playing LittleBigPlanet could count as an active gamer, yet someone who spends half an hour each day playing simple games on Club Penguin would not. To determine meaningful trends, data around those playing, and what is being played, will need to be collected.

The reasons for playing games as a family are consistent: it is fun, parents can spend time with their children, and they can monitor the games and the time spent playing. Adults would play more if games made them think, were easy to pick up, less expensive, were fun, kept them physically active, were social, could be played with their children and were not time consuming. The reasons for adults not playing include: lack of time, games being 'boring', expense, violence, a belief they are for children and they are too complicated. It would be interesting to discover the reasons that children played games with their parents.

Finally, a review of current support materials around playing as a family shows there is a focus on setting up the parental controls or selecting a game and generic rules about limiting usage and ensuring age rating is appropriate. General advice on actually playing is scarce. This would have to be generic given the diversity of games and platforms, and although there is strong evidence that most parents could find it if available online, there is a need to ensure that all parents can find it. Those most likely to benefit would be those who have difficulty in undertaking internet searches.

3. Challenges around the role and perceptions of games in families

Reasons given by adults in surveys for and against video game playing as a family were discussed in the section on family video game playing. In this section these are explored in greater depth, along with some of the other challenges faced by parents, such as where gaming occurs and the exposure to violence. The goal is to identify possible reasons why families in the UK have not universally embraced playing video games together, and to highlight areas that need further research to overcome this if necessary.

Games and gender

One challenge that parents may face when thinking about playing computer games with their children is that sons and daughters may have different tastes, attitudes and priorities with regards to gaming. This could conceivably cause difficulties when trying to unite the whole family with one game or activity.

A common assumption is that teenage boys are the principal consumers of video games, whereas girls are considered to be largely disinterested, and not targeted by games developers (Dawson et al 2007). However, in the last four years a number of survey reports have been published indicating that the gender difference in video gaming is far less significant than was previously supposed (eg BBC 2005; Ofcom 2008; and ESA 2009).

There is evidence that boys are more likely to own their own games console than girls, with figures showing this to be true in both the 8-11 and 12-15 year-old categories (Ofcom 2008). Nonetheless, the gender discrepancies are not enormous (8-11: 92% of boys and 81% of girls. 12-15: 96% of boys and 80% of girls).

However, a survey into gamers in the UK commissioned by the BBC in 2005 suggested that, regardless of ownership, game activity was almost equal for boys and girls. In the 6-10 year age range 52% of all gamers were boys and 48% were girls, and in the 11-15 age category 53% of all gamers were boys and 47% girls. The GameVision report found similar gender divide for older active game players, both sexes played, but a greater number of males under the age of 30 (Dromgoole 2009).

However, like the Nielsen and BBFC surveys the definition of a 'gamer' was very broad, including anyone who had played a game on a mobile, handheld device, console, PC, internet or interactive TV at least once in the last 6 months. However, there is evidence that the type of gaming differs. In the BBFC research it was found that, whilst there were a large number of female gamers in their sample, there were noteworthy differences in gaming habits, preferences and attitudes between boys and girls:

> Female players seem to see video games as an entertaining option for occasions when there is nothing more sociable or dynamic on offer. It does not seem that they **make time** to play as often as many male players do. Broadly, girls seem to fit gaming around other interests, whereas for many boys/men it is an important interest in itself. (Dawson et al 2007, p 23)

Research indicates that boys and girls are largely in agreement about popular genres in the 6-10 age category (puzzles/board games, action/adventure, popular characters/films and simulations), but they begin to diverge in the 11-15 age category, with boys tending to prefer first person shooters, racing, and action games, and girls largely sticking to puzzles and simulations (BBC 2005; Krotoski 2004). This idea that girls prefer casual games and god-like type games like The Sims (see Appendix Table 28) is because of the control they have. The increase in female gamers has been observed in papers with titles like "New study reveals that women over 40 who play online games spend far more time playing than male or teenage gamers" (Angelo 2004) and "Chicks and joysticks: An exploration of women and gaming" (Krotoski 2004).

Both adults and young people reportedly distinguish video game choices in line with more traditional gendered differences:

> "A lot of them are fighting and action games and girls want to do their hair and makeup and things, and not many games do that."

> "The Sims you can dress up and all that, change outfits, build a house. Girls play Sims."
> Male, 13-14 (Dawson et al 2007, p32)

> "(Girls) won't play shooting, will they? Like [...] shotguns in people's faces and stuff, blowing their heads off. But they might play Nintendo or Spyro or something like that. Or Crash Bandicoot."
>
> "Boys like more gore, don't they? Blood and guts and stuff."
> Male, 14-15 (Dawson et al 2007, p32)

Such reports are supported by both a BBC Worldwide report (Marsh et al 2005) which focuses on media usage by 0-6 year olds, and the previously mentioned BBC (BBC 2005) survey of gamers, which tracks the changes in preferred video game genres in 6-65 year-olds.

With respect to the age of gamers Digital Beginnings (Marsh et al 2005) reports that since few 0-6 year olds own a games console (less than 17% play console games regularly), their platform of choice for gaming was the home computer, using the internet or CD ROMs. The most popular website for gaming for both boys and girls was the gender-neutral CBeebies, but boys also enjoyed Bob the Builder and Thomas the Tank Engine, where girls favoured Barbie and The Tweenies.

Why might gender differences pose a challenge to parents wishing to play video games with their children? In simple terms, it may well be difficult to find an activity that will please everyone. Boys usually prefer different genres to girls, and tend to become more engrossed within a game. Therefore it may be difficult to create a positive family video gaming environment when the game genre and length of play cannot be agreed.

If the key to successfully interacting with the whole family is to keep every member focussed, engaged, happy and challenged, the chosen game will need to take these differences into account, particularly in mixed-sex families.

Video games as a bonding activity

It is worth considering not only gender differences in the gaming habits of children, but also of their parents. Though a growing number of games are marketed at the "whole" family, the opportunities for children to play with both their mother and father concurrently are, in reality, unlikely. Statistics from the National Family and Parenting Institute (NFPI 2005) indicate that 24% of children live in single parent families, where 90% of such households are headed by lone mothers rather than fathers (NOS 2009). Furthermore, in families where parents do cohabit, fathers are more likely to work extensive hours, with the average UK father working 46.9 hours per week, and 12.5% of all fathers working more than 60 hours in an average week (O'Brien and Shemilt 2003). The data implies that it is more difficult for fathers than mothers to spend quality time with their children.

Since fathers are more likely than mothers to regularly play console/computer games (34% v 21%) (Ofcom 2009a), video gaming could be seen as an appropriate way for fathers to engage with their children if it is a shared pastime. It is worth noting that adult women may be less likely to play due to having less free time due to other responsibilities, rather than fostering a specific aversion to video gaming (Winn and Heeter 2009). This is particularly the case for those who only see their children intermittently, sometimes colloquially known as "weekend dads" - only 34-43% of children see their non-resident parent on weekly basis (Peacey and Hunt 2008; Blackwell and Dawe 2003).

Encouragement of father-child engagement is generally regarded to have many positive outcomes for children later in life:

> Closeness to the non-resident father is associated with academic and behavioural outcomes in adolescents – positively with grade point average and college expectations; negatively with suspension/expulsion, delinquency and school problems.
> (Manning and Lamb 2003)

Though there is little statistical data to suggest a gender divide among parents who play video games with their children, there is an abundance of personal reports on blogs and other online sites to indicate that video games may present an opportunity for fathers in particular to bond with their children.

> The generation that grew up with "Pac-Man" and "Pong" are now having children of their own. ...fathers and their kids are finding the virtual worlds of video games a popular place to bond. Many fathers say the games bring them closer to their kids by providing a safe, convenient way to stay in touch and talk to their children on their own terms.
>
> One expert said video games equalize the physical size differences between fathers and their kids. That means children often have the edge in a video game, and they may feel more willing to communicate.
> (AP 2007)
>
> It didn't matter what game I played with my Dad. We always had fun beating each other in the games, bragging of our wins, and giving each other advice about games. These games gave us a chance to bond and a chance for him to share his love of video games with me.
> (MissALibra86 2007)

Another group that can apparently benefit from playing video games is grandparents. Having grandchildren "teach" them how to play has been used as an opportunity for gaining time with the young people – and in negotiating how late children can stay up in some instances (Aarsand 2007). This group is the least likely to play games: the BBC (2005) found that only 18% of 51-65 year-olds had played a game on a console, a PC, the internet, a mobile, a handheld device or via interactive TV, at least once in the last 6 months.

This role reversal of the young teaching the old has been observed by US researchers studying the role of parents supporting learning using any sort of technology. They found seven distinct parental roles that supported learning: Teacher, Collaborator, Learning Broker, Resource Provider, Nontechnical Consultant, Employer, and Learner (Barron et al 2009). The idea that an adult or young person may be a teacher, a learner, a resource provider and collaborator within family games is possible, though research is required to determine whether the players take other roles, and if these are impacted by the various game genres, the young person's age and platform.

The cost of video gaming

When examining the use of technology in the home, it must be remembered that technology is not free. Indeed, games consoles and their accompanying games are a major monetary investment, particularly when children feel under pressure to buy the newest releases and ever-improving consoles.

Computer games often cost between £25-40, with the best sellers such as Grand Theft Auto (GTA), Halo and World of Warcraft occupying the upper range. Consoles themselves cost between £100-200 depending on model and how 'old' they are (although consoles are often sold at no profit, eg the Wii returns a $6 operating profit for Nintendo (Magrino 2008). Funding gaming as a family hobby represents a significant expense.

> Many parents complain about how expensive consoles and games are. They quote costs of £40 and £50 per game, and say that their children get through games at a frightening rate. (Dawson et al 2007, p96)

With this in mind, it may be that access to gaming technologies in some formats will be restricted and will vary due to family income, for example, the greater broadband internet access of the ABC1 socio-economic group (Ofcom 2009b). This lack of technology could constitute a major hurdle in family gaming.

Families may seek to overcome this absence of digital technology by purchasing second hand equipment or swapping (as suggested in work by McPake, 2008). These money-saving strategies have also been reported elsewhere:

> The cost of games in some households is mitigated by trading or renting. A few parents were in favour of subscription internet games on the grounds that they worked out cheaper. (Dawson et al 2007, p96)

In addition to the legal sharing of games the Ofcom report found that 3% illegally regularly shared games, while 5% fileshare occasionally and 8% rarely (Ofcom 2009b, p275).

There are also schemes such as the Home Access Programme which indirectly address issues around video game playing. This scheme supplies children without computer or internet access with suitable equipment, and while not the originally intended purpose, it could be used for playing games (www.becta.org.uk/homeaccess).

It seems access to digital media, primarily games consoles and an internet connection, is a priority for parents regardless of cost. A recent report published by O2 demonstrates just how important gaming technology is to families in the UK. When asked what areas of household expenditure they have or would cut back on in tough economic times, parents responded that they would spend less on food, clothes, holidays and energy bills in favour of retaining their current internet subscription (O2 2009). The Ofcom report has similar findings, with families least likely to reduce their spend on mobile phones, television, broadband and the home phone. However, unlike O2, they found that groceries and personal care goods would be less likely to have a reduction in spending (Ofcom 2009b, p26).

So, while household income does not necessarily determine console ownership in families, it does have an impact on access to the internet, with those from less advantaged families suffering limitations. When thinking more specifically about challenges to family gaming, the cost of games and consoles will be a consideration. It is also worth remembering that to adapt a console for multi-player functionality often requires purchasing accessories, such as controllers, remotes, and adaptor sockets. This can further add to the expense of family gaming.

Intergenerational and digital native issues

One of the main trends cited in several of the large survey reports is that parents who are most concerned and anxious about their children's use of video games are those who are not gamers themselves. They do not understand video games, are largely naive as to the content of video games, and therefore feel excluded from the genre.

Indeed, in the Byron review, focussing on children's safety in the digital world, Tanya Byron describes how the generational divide and parents lack of understanding of new media can cause a problem for children's safety playing games both off and online:

> Part of the challenge for adults is that while we want to protect our children from harm or the risk of harm [...] our general lack of understanding, knowledge and skills relating to the online space and with video games means that we lack confidence and often don't know how to use the tools available to keep our children safe. Many parents are unsure about how to teach their children risk management skills in a world they don't always understand. (Byron 2008, p22)

One way this has been described within the literature about technology is that these adults are 'digital immigrants', whereas children and young adults who have been immersed in digital culture since birth are 'digital natives', ie they speak the language of digital tools, pick it up quickly, and process information differently. Marc Prensky describes this as:

> Today's average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not to mention 20,000 hours watching TV). Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives.
>
> It is now clear that as a result of this ubiquitous environment and the sheer volume of their interaction with it, today's students **think and process information fundamentally differently** from their predecessors. [...]
>
> As Digital Immigrants learn – like all immigrants, some better than others – to adapt to their environment, they always retain, to some degree, their 'accent', that is, their foot in the past [...]
>
> Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language. (Prensky 2001, pp1-2)

Though Prensky describes natives and immigrants specifically with regard to formal education at school, the same model may also describe parents' relationship with technology in the home. Many parents have not been immersed in the digital culture since birth, so struggle to understand and see the value in their children's habits. This can have a large effect on parents' enthusiasm for joining in with their children's gaming. This is demonstrated by adults claiming that they do not play games due to their complicated nature (Nielsen 2008).

Despite Prensky's assumption, O2 report that only 9% of parents are intimidated by their children's grasp of technology, with 73% reporting they find digital technology "easy" to use (O2 2009). This is also reflected in the research previously mentioned around confidence in accessing information on the internet by adults; 91% of all parents were very or fairly confident they could find material online (Ofcom 2009a).

Furthermore, a growing number of authors are contesting the idea of the 'digital native'. For instance, Suw Charman-Anderson writes that the digital native argument is largely a myth based on intuition and anecdote with little supporting evidence.

> Young people are also more passive than the digital native description would imply and 'often display a limited ability to successfully use the internet and other research tools'. Studies of American students found that the most common activities were word processing, emailing and accessing the internet for pleasure. Only a minority of students actively created their own content or used emerging technologies such as blogs, social networking and podcasts. And a significant proportion of them had lower levels of technical competency than would be expected of 'digital natives'. From Williams and Rowlands (2007), cited by (Charman-Anderson 2009)

Regardless of whether one can justifiably refer to young people as digital natives, it may be fair to say that one challenge faced by parents is simply keeping up with their children's knowledge and use of technology which may be different to their own, and particularly within the area of video games, overcoming their bewilderment and learning to join in.

However, the generational divide in families need not always be considered a challenge. Indeed, Aarsand (2007) says that the use of technology in families can be viewed as a way of developing parents' media literacy, by learning from their children. He also suggests that parents often promote the generational divide deliberately, in order to engage their children in an instructor's role.

> Adults [...] seem to exploit a digital divide, but for other purposes than children. In the present examples, it could be argued that displaying a lack of knowledge can work as a resource to enter into social intercourse with children. Being the person who does not know, the person who asks questions in order to understand the practice, is to enter the position of novice. Being positioned as a novice means that a situation has been created that opens the way for the adult to enter the activity as ratified participant, while the child controls the activity. (Aarsand 2007, p252)

Knowledge, however, is less important than parental attitude. This can strongly affect children's acceptance of digital media into the home, and subsequently their media literacy, a topic of great importance in current policy. For example, McPake et al (2008) cite case studies of two girls, Grace and Catriona, who have remarkably similar family profiles, but where Catriona's family enthusiastically embraces digital technology in all its forms Grace's family see technology as unnecessary and dangerous. The result was that at age four, Catriona had become literate in many forms of digital media, whereas Grace was not able to even use a TV remote. Similarly in Scotland the 'Entering e-Society: Young children's development of e-literacy project' found that 23 of the 24 parents with children aged 3-5 agreed with the statement: "If children are playing with interactive toys, electronic games or new technologies they are missing out on more important activities" (Plowman, McPake and Stephen 2008). They concluded that it was not the technology that determined whether a family communicates, plays together or supports their children's learning, but rather their cultural practices and values. Thus it appears that parental attitudes could have a detrimental effect on their children's digital literacy.

Ensuring safety as a family

Much research in the field of family video games in the UK is around safety. A 2009 survey commissioned by the BBFC found that almost 80% of the 2143 adults asked were concerned that video games could affect the behaviour of some children. This is corroborated by Byron's concerns around children's ability to access unsuitable video games and new technologies and the recommended creation of the working group to provide guidance on video game safety.

Though video games played on consoles or the internet can be a fun, engaging way for parents to spend time with their children, one primary challenge for parents is to be confident that they can ensure their children's safety when using new technology.

> The internet allows for global exploration which can also bring risks, often paralleling the offline world. Video gaming offers a range of exciting interactive experiences for children, however some of these are designed for adults. (Byron 2008, p3)

With regard to video games, the main worry tends to be about keeping younger children safe from violent content (Dawson et al 2007). However, since the rating system is only for guidance, it is possible for parents and young people to ignore the ratings, assuming that "a game is only a game" (ibid, p105). Moreover, an important factor influencing the choice of games is peer-group pressure, rather than what is age appropriate. As noted in the BBFC report, there is kudos in owning the games that 'everyone is talking about', particularly if such games are difficult to get hold of due to age restrictions or violent content. For example, one parent comments:

> "I was a bit reluctant for her (she's 13) to have GTA because I find some of them a bit violent. It's peer pressure as well; you tend to do it (buy games) against your better judgement." Parent (ibid, p101)

It is also possible that ratings can be misunderstood and thought to correspond to 'ability' or 'skill' (Byron 2008). If this is the case then preventative measures, such as parental controls, will be ineffective; as parents will not be using them. Work on publicising and improving ratings falls under the scope of the UK Council for Child Internet Safety (UKCCIS) recommended by Byron.

However, worries about child safety using video games should not always be seen as a challenge in family gaming. A primary benefit of family gaming is to provide parents with an opportunity to monitor both the content and duration of their children's game play (Nielsen 2008; ESA 2009). If families play together, parents are automatically in a position where they have control over the games that are selected, and they can observe the content of the game without feeling like they are 'spying'. Instead they take on different roles; following the US research parents appear to take on the role of collaborator and resource provider (Barron et al 2009).

Violence

A potentially detrimental factor in parents' acceptance of video gaming into their family culture is the frequent negativity with which gaming is portrayed in the tabloid press, particularly with regards to violent content. Paranoia, uncertainty and panic are all likely to be fostered with such attitudes in the media. To illustrate this, the following are recent headlines from The Daily Mail:

> "Parents horrified as most violent video game ever to launch on "family friendly" Wii" (August 2008)

> "Judge blames ultra-violent video game Grand Theft Auto for teenage thug's sex assaults" (November 2008)

> "Outrage over the computer game which glorifies suicide bombing" (November 2008)

> "Mother's fury over Nintendo Scrabble game that taught her son a string of vile swear words" (December 2008)

The panic fostered by such headlines is reflected in survey data:

> The media has of course speculated about an association between the violence in games and violence in real life, and this association is in many parents'

> minds when the subject comes up. Some appear to have concerns that delinquent behaviour generally may be encouraged by its prevalence in games. (Dawson et al 2007, p 93)

Furthermore, as previously stated, 8% of adults who are not gamers give violence as a reason for this (Nielsen 2008). In addition 40% of adults in the 36-50 age group felt that there were too many racing, shooting and fighting games on the market at the moment; although 12% ranked first person shooters as their favourite genre (Dawson et al 2007).

This concern around the volume of violent games contrasts with the PEGI rankings already discussed. As stated only 16% of games reviewed by PEGI are 16+ or 18+, suggesting that violence in games can be avoided. Violent games are popular however, as already noted, three of the ten best selling world-wide games are rated 18+. Despite this, all the top selling Wii games so far in 2009, which outnumber those sold for the Xbox and Sony consoles, are family friendly (Matthews 2009).

The fear expressed by The Daily Mail reporters contrasts with surveys such as the Microsoft 'Play Smart, Play Safe' study. This found that almost two-thirds of parents believe that video games provide a great social experience, while more than half think gaming helps to bring their family together (Microsoft 2009). Similarly, a report by TNS Technology states:

> More than half of all users (52%) think social gaming encourages children to bond with their friends, rising to 64% among parents with 16 to 17-year-olds, who played games in the past six months. Concerns about children locking themselves away in their rooms to play computer games, seem to have subsided, as 60% of all parents who have played games in the last six months say their family now like to play social games like the Wii together - rising to 68% for parents with 10 to 15-year-olds. (TNS 2008)

Spaces for video games play

Many parents are unwilling to attach a games console to the main family TV, as this leads to arguments, unfairness and children 'taking over' the space entirely. This is age dependent: a survey by the BBC reported that 92% children aged 6-10 regularly play games in the family living room, whereas 90% children aged 11-15 play in their bedroom (BBC 2005). Thus it appears there is a migration of games consoles into young people's bedrooms as they get older, which is a far more private space. In fact, children can often feel an intense lack of privacy if parents stray into their territory (Horst 2008), and this situation, common among 11-17 year-olds, could present a significant challenge for family gaming. Moreover, children's bedrooms are likely to be smaller and more cluttered (or simply untidy) than public family spaces, such as the living room, and therefore family gaming in this environment may simply not be practical.

Such migration is noted in several survey reports:

> Children have more and more technology in their bedrooms and are acquiring items at a younger age. Our survey indicates that 63% have a TV in their bedroom, 50% a games console, 31% a laptop and 28% broadband access. (O2 2009, p5)

> Many parents want to avoid the main family TV being dominated by games playing and this consideration argues for consoles to be bedroom-based. Most parents are much more reluctant for their children to have a PC in their bedrooms than a games console. (Dawson et al 2007, p17)

However, the game platform is influential when deciding its location. According to the TNS survey of parents there are fewer concerns about young people "locking themselves away in their rooms to play computer games". Instead, 60% of parents who have played games say that social games, such as the Wii, are being enjoyed by the entire family, this rises to 68% for parents with 10 to 15 year-olds (TNS 2008).

Ensuring sociability

The BBFC report stresses that gaming is social, especially for boys and men, even if the game is played as a solitary activity. Gaming is an important talking point within peer groups, and sports games are played in pairs or groups with an atmosphere not unlike a 'real' sporting event. Players of online games feel they make significant connections with people they have not met (Dawson et al 2007).

However, many families are concerned about how much time young people spend playing games and seek to balance their access with other external offline activities such as sports, though according to the TNS survey this number is decreasing. Now 52% "think social gaming encourages children to bond with their friends, rising to 64% among parents with 16 to 17 year-olds, who played games in the past six months" (TNS 2008). Note that this contrasts with the findings of GameVision, where the majority of game play is spent alone and offline (see the discussion around technology ownership).

Lack of time for video game play as a family

Though many parents are happy and willing to embrace gaming with their children at home, many cite that their main reason for not doing so as simply the lack of quality family time. Indeed, in the Nielson (2008) report, when asked for reasons why non-gamers don't play games, the most common reason was that they simply do not have enough time.

Particularly in economically difficult times, parents are more likely to work long hours, and be exhausted on their return home. Similarly, as the children get older their focus may turn into socialising and staying away from home till as late as possible. These issues are summarised in a report by the National Family and Parenting Institute called 'Time for Families' (NFPI 2005).

However, statistics show that parents spend on average 85 minutes per day with their children, compared with 25 minutes per day in the 1970s (NFPI 2005), and this is backed up by large scale Social Trends data (NOS 2009) – perhaps it is just the higher expectations placed upon parents which makes them feel like they have less time.

Health concerns

Those parents who do feel negativity towards video games often cite the duration of their children's play sessions and unproductive use of time as their main worry rather than the impact of staring at a screen or avoiding exercise (Dawson et al 2007, p98). There were some concerns over repetitive strain injuries (ibid).

The time spent playing is a concern of some parents (Casas 2001). Throughout the BBFC report, there are excerpts from parent interviews demonstrating concerns about the length of time their children play, their "addiction" to games, and their enthusiasm for violence in games – in almost all these cases, the children they are referring to are boys:

> One parent in the sample said that her 15 year old son regularly played "from eleven to eleven", stopping only briefly for lunch and tea. (Dawson et al 2007, p 26)

This concern is being addressed. Not only in the online guidance which often stipulates that time should be limited, in a similar manner to watching television, but by tools within consoles. For example, Microsoft has a tool for its Xbox 360 that allows parents to limit the amount of time spent on video games.

Boys also said that they tend to become more agitated, frustrated and fiercely competitive when playing games.

> "When I play games, they can get me quite frustrated and agitated and I can't get to sleep." Male, 14-15 (Dawson et al 2007, p39)

Yet other males and females claimed that games were used as a method of relaxing:

> "Sometimes when I get really angry I go upstairs and play some games and it calms me down." Female, 12-13 (Dawson et al 2007, p37)

Implications

Playing video games as a family is a time for socialising; it allows adults a way to interact with young people, often where young people are at an advantage as they have a better understanding of game genres and game play. Game playing allows the parents to physically know where their children are and, like the television, the time spent is often monitored.

However, there are still numerous concerns.
These include:

- finding a game which appeals to all family members of whatever age and gender
- the cost of games and platforms
- understanding of the technology and game play
- ensuring age-appropriate games and access
- the amount of violence within video games
- the location for family video game playing
- concerns over video gaming improving or detracting from social skills
- the time spent playing these games.

These points highlight the need to identify what games families are playing, and how they overcome issues such as selecting a game, vetting the game content, learning how to play, and finding time to play.

4. Conclusions

As discussed in this report video gaming as a family has the potential to bring generations together, provide experience of digital technologies to all ages, and develop social skills such as turn-taking - all in activity described as 'fun'. Although not yet widespread, the increase in video game platform sales and an increase in family-friendly games indicate that game playing as a family will increase. However, to assume that all families will adopt this as an activity is naive. Adults, for example, may not necessarily understand the technology for playing, or the structure of games. Children may not appreciate what games are suitable for them in terms of age or difficulty. There are also considerations around the technology the family possesses and the amount of interaction between family members outside of the video gaming environment.

Detailed guidance for policy makers cannot be inferred given the discrepancy in the research described. However, it is clear that for family gaming to increase, access to appropriate consoles needs to be consistent across all socio-economic groups. Parents may be willing to partially fund this given the value placed on communication and entertainment media. There also needs to be a clear strategy for disseminating the positive reasons for family game play to counteract the reasons for not playing, though it is noted that game playing is not the only beneficial activity that families can do as a group.

The implication for parents, again with the caveat that existing research is inconsistent in terminology, is that gaming needs to be moved into family living spaces. Initially games need to be intuitive, an idea already incorporated into some games played on the Wii platform. Furthermore the support material should contain not only practicalities but look at possible roles of players to improve game play and communication, and to avoid issues such as children perceiving adults as spying. This does not detract from advice around playing age-appropriate games or limiting time spent playing games. Both of which are valid concerns.

Research areas raised

In order to corroborate the suggested policy recommendations and guidance to adults and young people around family video gaming more information is needed around the existing game play not addressed in surveys and around the information required in order to play. The key questions are listed below:

1. What sort of video games do families play together – especially given gender differences?

2. Does it improve family relationships? If not, why not?

3. Why do they play together? Does it vary by age, gender, and game and platform type?

4. What platforms do families prefer? Is it the Wii as its marketing would suggest? Does it depend on the numbers playing?

5. What are the roles taken by family members; when do they become teachers, learners, technology experts, or mediators for example?

6. How long do these video game sessions last and how frequent are they? (And how long and frequent should they be?)

7. Are the generic reasons already identified for playing, or not playing, games applicable in all cases? Or are they dependent on the game, those played with, or other external factors such as cost or preferring other family activities?

8. Is the support content available sufficient for those playing video games?

9. Is the available support of the right format and structure? Should it be built into family games so the group learn by playing?

10. How much information is required to reassure adults about video game content?

11. More specifically, could video gaming provide a useful medium for parents to engage with their children, particularly those who no longer live in the family home?

12. If so, would that support differ from the generic guidance?

13. Assuming there is not exactly a 'digital divide', but there are some parents who have not played video games themselves and who are often bewildered by the technology, what can be done to help them? Specifically, could the generation gap be used as a 'way in' for parents to engage with their children given the shift in status due to different levels of knowledge? Would this apply to grandparents and grandchildren?

14. How can those that would benefit from socialising with their family through video games access the technology if their family cannot afford it?

Appendices

Who are the families in this research?

What do we mean by families playing video games? The traditional nuclear family can no longer be assumed (DCSF 2008); the number of divorces rose until the 1980s, although is now decreasing slightly, and step-families are becoming the fastest growing family form. Other groupings include same sex couples, 'extended' families (where more than one generation of parents cohabits with their children), lone-parent families (where one parent raises children living on their own or with relatives), cohabiting couples, and families with adopted or fostered children (Cranmer, 2006). In order to be inclusive of these changing types of families, we will use the term families to refer to all of these groups. We will use adults when referring to those over 16 and young people for those under 16. In addition, to distinguish family video game playing from video game playing more generally the former will need to include different generations, for example a grandparent with grandchild, an uncle with his nieces, a step-parent with their step-children etc, while the latter can be groups from a single generation, for example, siblings or just adults. The reason for specifying intergenerational game play reflects the research questions addressed by this literature review, specifically focusing on how adults support younger people and vice-versa.

What games are included in this research?

It can be argued that equating Super Mario Bros on the Nintendo DS with Grand Theft Auto on a computer, with a massively multi-player online game like World of Warcraft, and bowling on the Wii is unhelpful. All require different skills, use different platforms, and can have different number of players. Nevertheless, whilst acknowledging these differences, the report will adopt the convention suggested by Tanya Byron. This has been adopted by the UKCCISS working groups. It uses 'video games' for the software and hardware as follows:

> The 'video games' landscape covers a broad spectrum of products, played on different platforms with varying content. They range from very simple puzzle games on mobile phones and the internet and games designed to address specific educational or training objectives, to vast, open-ended, virtual worlds. Some will contain adult material and are not aimed at the child market, but many more are family-orientated.
> (Byron 2008, p142)

One advantage of such broad terminology is that the term video games can encompass future hardware and software as well as that currently existing. Therefore, given a similar audience of policy-makers to the Byron Review we will use this convention unless it is necessary to distinguish a particular platform or game for clarity. Nevertheless we acknowledge that other terminology exists. The academic study of games and industry bodies such as ISFE, for example, use the term 'video games' for television-linked consoles and portable video game systems. Games played on a PC directly are called 'computer games'. Those that can be accessed online in the form of massively multi-player online games or, for example, simple flash based games, are simply termed 'online games'. Alternatively Ofcom use the phrase 'electronic gaming' to cover handheld games consoles, games consoles connected to a television, computer games online, computer games on a PC or CD ROM games. The term used by many in game study research when referring to video, computer and online games is 'digital games'.

Currently the hardware, that is, the platform upon which video games are played, consists of four key devices: personal computers, consoles, handheld gaming devices and devices not specifically designed for games, eg mobile devices and interactive TV. 'Personal computers' allow a player or players to interact with a game installed on the machine or over the internet. A 'console game' is played on a specialised electronic device that connects a player or players to a standard television set or monitor - this category includes the X-Box, X-Box 360, GameCube, Wii, PlayStation 2 (PS2), and PlayStation 3 (PS3). Games can be loaded on a standalone basis or accessed over the internet. Although not strictly a console, in our definition dance mats that can be attached to such monitors are also included in this category. A 'handheld gaming device' is a self contained electronic device that is portable and can be held in a player's hands, like the GameBoy Advance, GameBoy Advance SP, Nintendo DS, Nintendo DS Lite, and PlayStation Portable (PSP). Finally, there

are devices not dedicated to games but can have that functionality, these can be mobile devices like a mobile telephone or fixed like interactive digital television. These games tend to be intuitive, accessible and easy to play, such as quizzes.

It should be noted that guidance needs to be sufficiently generic to incorporate new platforms. Gaming platforms can quickly emerge, for example, the Wii was only introduced in 2005 and available in the UK from 2006. Now global Wii sales have reportedly topped 50 million and it is said to be the fastest-selling games console in history (Shiels 2009).

New platforms are being designed for intergenerational usage. One such is for the game 'Age Invaders' being developed by the IDA lab in Singapore. This platform monitors the physical movement of four players on a grid – and enables external players to prevent repetitious moves or to block certain squares or to set times for staying still. The available spaces, speed of movement, and lives can be adjusted according to the individual player to take into account age and ability hence the intergenerational classification. Games, such as those requiring teams to shoot their opponents, are then overlaid (Khoo, Merritt and Cheok 2009).

Similarly, just as there are various platforms with different interfaces so there are various game genres requiring different skills. The main genres are listed in Table 3.

Game ratings

In addition to genres when discussing families it is important to mention ratings. In June the British Government decided to adopt the Pan-European Game Information (PEGI) age rating system. It was launched in 2003 to replace some national age rating systems. The categories games are now rated are: 3+, 7+, 12+, 16+ and 18+. PEGI also rates casual online games; if they have a marker PEGI OK it means the games fulfil the 3+ criteria. It will replace the BBFC ratings which were used by 4% of games in the UK (Dawson et al 2007). These categories correspond to film ratings, namely: U, PG, 12, 12A 15, 18 and 18R. In the US the ratings are awarded by the Entertainment Software Rating Board (ESRB). The categories are: EC - Early Childhood (3+), E - Everyone, E10+ - Everyone (10+), T - Teen (13+), M - Mature (17+), and AO - Adult Only(18+). Of the 297.6 million video games sold in the US in 2008, 57.4% were rated in the first three categories.

How do video games relate to playing and gaming?

In this report we refer to adults and young people playing together but what does this mean? According to the DCSF (DCSF 2007) 'true' play is usually regarded as 'free'. It refers to activities where the player defines the boundaries and rules – although as play progresses the rules might change to accommodate new actions. Note that free play does not preclude adult involvement; an adult might suggest that the spacemen could get into their rocket to explore another world for example, but the player can decide whether or not to follow that suggestion. The attributes of free play have been defined as:

> 1) it is usually voluntary; 2) it is intrinsically motivating, that is, it is pleasurable for its own sake and is not dependent on external rewards; 3) it involves some level of active, often physical, engagement; and 4) it is distinct from other behavior by having a make-believe quality. (Rieber 1996)

'Structured' play has rules provided externally, usually by an adult, and often has an end goal or reward – for example the creation of a model or picture or to be the first past the post. These adult-directed activities may be playful, but are not true play as they are not self-initiated or managed.

It should be noted that most play may be a combination of free and structured; it may start off structured, an adult providing paints and paper, but end up free as the child decides how to use these materials. Similarly video games may have an element of free play but are usually structured. Mike Zyda defined video games (rather than serious games) as: "a mental contest, played with a computer according to certain rules for amusement, recreation, or winning a stake" (Zyda 2005).

Genre	Examples	Brief description
Action adventure	Tomb Raider, Finding Nemo, Shrek	Having to control a character who has to solve puzzles or tasks in order to complete a pre-defined mission.
Adventure	Monkey Island, Broken Sword	Being assigned roles and then completing a pre-defined mission based on puzzle-solving.
Creative games	LittleBigPlanet	These are between an adventure/platform game and a sandbox for making things.
MMOG (massively multiplayer online games)	World of Warcraft	Interacting with lots of people from all over the world playing the same game at the same time via the internet – often working together to meet shared goals.
Platforming games	Super Mario	The goal is to race to the finish passing through various levels and often jumping from platform to platform avoiding enemies and collecting points to gain skills or enter other areas.
Casual games	Tetris, Zoo Keeper, Cbeebies online games, Miniclip	Intuitive, accessible and easy to play, usually available on handheld consoles or PC via the Internet often involving puzzles and quizzes or Wii games.
Edutainment (Educational games)	Global Conflict: Palestine, Zoombinis	Games with the primary intention of learning.
Role playing games	Final Fantasy	Involving turn-based combat, strategy, and worlds to explore, often fantasy
Rhythm/action games	Guitar Hero, Singstar, Dancemat	Requiring dancing, singing or playing music rhythmically according to instructions with the challenge of being awarded a score.
First person shooter, shoot 'em up and Fighting games	Street Fighter, Grand Theft Auto	Fighting or shooting objects and other game characters, often having to memorise button combinations and requiring fast reactions.
God games	The Sims, Black & White	Where the player controls the environment in addition to characters.
Simulations	Microsoft Flight Simulator	Simulations of real activities.
Racing games	Burnout, Gran Turismo	Having to act as the driver and race against others or complete driving courses within a set time – the courses can be realistic or fantastical.
Sports	Championship Manager or Tiger Woods Golf.	Participating in the sport or acting as the manager in a situation mimicking real life competitive activities.
Active technology/fitness games	Wii Sports, and Wii Fit	Physically taking part in the exercise/activity.
Strategy	Age of Empires, Command & Conquer	Having to plan next move to beat the opponent, often requiring quick thinking
Self improvement games	Brain Training DS	Activities to improve mental, and sometimes physical outlook.
Serious games	Operation Climate Control	Ones that have a primary focus of achieving a learning outcome rather than being played purely for pleasure, it would include all 'edutainment' games.

Table 3: Main game genres

Just as in video games, free play is often divided into two stages: the '**epistemic'** phase is where they try to find out what things do and is a form of gathering knowledge; and the **'ludic'** phase where they work out what they can do with these things.

So why play games? Parents are advised to play with their young children. According to Bruner, for example, peek-a-boo enables the child to learn social conventions, such as turn-taking and language use (Bruner 1983). The learning potential of such play is reflected in the Early Years Foundation Stage guidance, in which the government has published the rationale and some guidance for using free play in an education setting (DCSF 2007). This report stresses that play helps people of any age to be proactive and dynamic, autonomous learners rather than people to whom life happens.

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