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Digital Gaming: A Comparative International Study of Youth Leisure in a Peaceful and War Zone Country

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In recent years, playing digital games has become one of the most influential forces that shape youth culture (Buckingham, Carr, Burn and Schott, 2006; Castranova, 2003; Fromme, 2003; Foreman, 2004; Kolo and Baur, 2004; King, Borland and Stewart, 2003; Livingstone and Bovill, 2001; Subrahmanyam, Greenfield, Kraut, and Gross, 2001). In the past, playing digital games was the realm of dedicated heavy gamers. Today it is ubiquitous, regardless of geography, ethnicity, culture, socio-economic status, or gender (Bryce and Rutter, 2003; Christakis, Ebel, Rivara, and Zimmerman, 2005; Fromme, 2003; King et al., 2003). Digital games can be characterized by the platform that is used to play them: online and CD-ROM personal computer games, video games using a TV monitor and connected console/s, "gameboy" games (using small hand-held devices that have a display screen and control buttons), cellular phones, personal digital organizers, and arcade games that are played in public arcades or shops. In their research, Buckingham et al. (2006) used "computer games" whereas others (e.g., Fromme, 2003; Juul, 2003; Roberts, Foehr, Rideout, and Brodie, 1999) distinguished between computer and video games. "Digital games" will be used as the term for the following: computer games, video games, hand-held games, arcade games, and Internet games while "eGamer/s" (electronic Gamer/s) is the term utilized for those who play any of these types of games.

Two significant theoretical research approaches for framing our understandings of the digital games culture, or "lifeworlds", of young teenagers are the media-centred approach and the young teen-centred approach (Livingstone, D'Haenens, and Hasebrink, 2001, p. 6). The former approach tends to trace the diffusion of various media through commercial and public domains, then down to the actual use and impact in shopping malls, museums, school or home. It tends to focus on one medium, such as TV, internet, digital games, and music and provides media-grabbing labels, such as, unimaginative television teenagers or aggressive digital game players. This article adopts the latter media-centred approach that eschews labelling young computer-video playing teens as nerds, addicts, obese, and isolated. It places them in their context of home, family, own bedroom, friends, school, internet, arcade shop, and digital and non-digital gaming leisure preferences. Hence, the article is not a theoretical paper on digital gaming youth culture or genderized youth gaming culture. It reports survey results on the characteristics and preferences of 13-14 year old eGamers in Australia and Israel, countries in which digital technologies and games have proliferated in recent years.

The article's theoretical approach is further enhanced by framing this privatized (e.g., home and friends' home) and individualized (e.g., physical home space and digital game ownership) context within a comparative globalized digital gaming culture in

Australia and Israel. This model of comparative analysis qualitatively treats each country as a unit of analysis thereby investigating various digital gaming aspects within and across each country by gender. In terms of commonalities, the countries are both political and economic democracies with similar socio-economic divisions. Both are racially and ethnically diverse. The countries are different in terms of geography, language (in Australia, English is the only lingua franca while in Israel, both English and Hebrew are dominant), and religion as the Jewish religion has a dominant demographic (80% identify as Jewish; Livingstone, et al., 2001) and political place in government. The major difference is that one country is peaceful while the other is constantly on military alert.

There have been a number of surveys establishing children's, teenagers' and young adults' usage patterns, game preferences and opinions on various issues associated with recreational digital game playing (e.g., Australian Bureau of Statistics, 2000; 2003; 2006; Biddle, et al., 2004; Centre for Research on Innovation and Competition, 2002; Chang et al., 2006; Christakis et al., 2005; Downes, 2000; Drotner, 2001; Fromme, 2003; Griffiths, 1997; Livingstone and Bovill, 2001; Media Analysis Laboratory, 1998; Roberts, et.al., 1999; Roberts and Foehr, 2004; Subrahmanyam et al., 2001; Walsh, 2001). These surveys have mostly been country-specific, targeting different age groups but not all types of digital games. Many of their research questions were not identical, making cross-culture and international comparisons incomplete (Buckingham et al., 2006).

The present article enhances the research quantum by presenting empirical results from an international exploratory qualitative study that was designed to shed additional light on the characteristics of 13-14 year old teenagers' digital gaming culture by examining its privatized, individualized and global leisure role across five platforms in Australia and Israel. The selection of the two countries allowed us to make comparisons and draw conclusions on leisure digital game usage and preferences between teenagers living in a peaceful country and those in a war zone. This was the aim of the study. Derived from the aim, and the literature, the research questions were:

1. What are the country-by-gender patterns of digital game usage by the Australian and Israeli 13-14 year old teens?
2. What are their leisure and social preferences by country and gender?
3. What genre, design and content issues are identified by the teens as significant by country and gender?
4. In what ways, if any, can the differences be attributed to the political climate in Australia and Israel?

The article is structured according to these question themes. Within each section, that includes comparison with international findings, the data and some discussion of these findings are provided along with a summary conclusion for its research question. Finally, the last section, *Bringing it Together*, allowed implications to be drawn with contextualization within theoretical and/or genderized research findings, albeit, within its qualitative limitations

Methodology

Participants

The 716 volunteer participants in this study were 13-14 year old, 8th and 9th grade teenagers attending schools with a similar socio-economic mix in a regional city in Australia (555) and urban Israel (161). Thirty percent were female (149 Australian; 68 Israeli) and 70 percent were male (406 Australian; 93 Israeli). For this paper, the figures exclude those who had never played. This age group was selected because it had not been specifically targeted in other surveys and represents the first generation to be born into the digital game environment (Buckingham et al., 2006).

Two Australian studies, Cupitt and Stockbridge (1996) and Durkin and Aisbett (1999) grouped 12-14 year olds together, although the former Australian research also contained a few tables that provided separate data for 13 and 14 year old teenagers. Later surveys by the Australian Bureau of Statistics (2000, 2003 and 2006) provide data on 5-14 year olds' recreational activities in a particular two week period during a school term. Beentjes, Koolstra, Narseille, and van der Voort (2001) canvassed 6-16 year olds in Europe and Israel. Livingstone and Bovill (2001) examined aspects of the changing media environment targeting youth in 12-13 and 15-16 age bands, ignoring 14 year olds; however their study reported participants' digital game playing in 12 European countries and Israel.

Non-Australian and non-Israeli research is also of comparative interest. Rideout, Roberts and Foehr's (2005) USA study targeted 8-18 year olds with some data reporting 11-14 year olds' digital gaming activities. Gentile and Walsh (2002) divided their USA cohort into 8-12 and 13-17 year old groups. A Canadian study (Media Analysis Laboratory, 1998) targeted 11-18 year old participants. Fromme's (2003) study of German youth concentrated on 7-14 year old children with some data distinguishing 12-13 year old computer/video game players. Two other German studies by Feierabend and Klingler (2000, 2001, cited in Fromme, 2003) grouped participants aged 12-19 years and 6-13 years, respectively. Biddle, et al's (2004) UK report grouped students by school grade levels. Thus 13 and some 14 year olds were in Grade 9 but other 14 year olds as well as 15 year olds were in the older Grade 10 cohort of participants.

This study therefore offers substantive insights into the digital gaming recreation of teenagers, specifically 13 and 14 year olds in Australia and Israel.

Data Collection

Data were collected using a 20 item questionnaire (Appendix 1) that was designed to identify the major aspects of the digital games culture by obtaining information on aspects such as gamers' playing preferences, reasons for playing, sociological aspects of digital gaming and game and content design as well as gender and cultural issues. Identical questionnaires were written in the participants' official language (Hebrew and English for the Israelis and Australians, respectively) and were distributed in each country during school time to the participants. To maximize rigor, the survey included delivery protocols, directions, and what could/could not be said to possible questions raised by students when completing the survey.

Questionnaire items (Appendix 1) consisted of: circle or check-the-relevant-box as most were presented as table grids; Likert scale questions to which the teenagers could add additional items and then rank them on the scale; the “yes/no” or “often/sometimes/never” type; and open-ended questions. Two open-ended questions, for instance, included four rows by two columns for written answers. This combination of question types permitted as short a survey as possible, in length as well as in number of questions, in order to meet the research aims while simultaneously providing a wealth of data about a particular digital gaming issue.

Items and categories utilized in other surveys were included as well as questions that allowed teenagers to add their ideas. For example, selecting their preferred game-genres from a researcher-predefined list was eschewed because there is apt to be errors because a digital game that could be considered a simulation, for example, *Civilisation*, is defined as belonging to the Strategy genre (<<http://www.allgame.com>>). Some games also include multiple genres. Therefore we opted to ask participants to write the names of the game they were currently playing and the two best games they had played. On the one hand, these types of questions involved considerably more work collating and categorizing the answers; indeed, there were 278 different titles given by the teenagers. On the other hand, the decision helped minimize researcher bias through slanting the data. Overall, the survey instrument acknowledged the youth as experts of their leisure digital gaming culture and, therefore, their views as relevant and valid (see, e.g., Potter, 2000; Fromme, 2003).

Data Analysis

Questionnaires were encoded and processed statistically using SAS[©] system software. In order to facilitate data analysis and help pattern recognition, data from the open-ended questions were coded and categorized into higher-order categories (e.g., the current and favourite games that participants played were grouped into genres), following the constant comparative method (Glaser and Strauss, 1971; Strauss and Corbin, 1998). Each researcher was responsible for allocating a code to answers from one or more open-ended questions for one cohort (e.g., students from one school); these were then confirmed or debated. When approved, the coding was adopted for coding other cohort responses; new responses were given a different code number and ratified by the other researchers. Next there was discussion in relation to identification and allocation of the coded items to higher level categories. The original researcher then finished categorising for their allocated questions and cohorts. In summary, although there was constant back-and-forth re-checking that the coding and categorising of items were accurate, the categorizations were validated by the other researchers. When there were differences, the researchers justified their reasoning until consensus was achieved. Because this occurred, we did not have to discard data and were able to maximize reliability. Indeed, we averaged 98.2 percent inter-rater reliability for initial agreement.

Teenagers' Digital Gaming Patterns

Pertinent aspects that delineate teenage digital gaming culture are now addressed. The results analysis and discussion are intertwined for clarity.

How Many Play Digital Games?

The students were asked how often they played and when and for how long (Qs. 2 and 16, Appendix 1). Virtually everyone (98%) reported playing digital games! Only 0.5 per cent and 2.5 per cent of the Australian and Israeli teenagers, respectively, reported that they do not play or had never played any kind of digital game (and, as previously mentioned, have been excluded from this and subsequent analysis). A comparison with other international participation rates of youth's digital gaming culture demonstrates different rates.

With respect to Australian eGamers, 95 percent of 415, 12-14 year olds had played in the preceding year (Durkin and Aisett, 1999) while, in other national surveys, 65.2 percent of 13-14 year olds and 71 percent of 5-14 year olds were recorded as playing in the preceding two weeks in 2001 and 2003, respectively (Australian Bureau of Statistics). Rideout, et al (2005) stated that 59 percent of 11-14 year old youth played in their large USA survey. Biddle, et al's (2004) United Kingdom study revealed the lowest number of eGamers with a range from 37 percent to 22 percent of Grade 9 and 10 students indicating that they played either during the preceding week or weekend. Two German studies (Feierabend and Klingler, 2000, 2001) reported 63 percent of the 6-13 year olds (2001) and 47 percent of the 12-17 year olds (2000) as eGamers. However, our study is more in line with the findings from two other studies. One is van der Voort, Beentjes, Bovill, Gaskell, Koolstra, Livingstone, and Marseille's (1998) study of 12-14 year British (N=1309) and Dutch (N=1355) students of whom 76% and 93%, respectively, played computer games. The other is Fromme's (2003) German sample of 1 111, albeit 7-14 year olds, of which 97.8 percent played digital games.

Of course, these surveys targeted different age groupings, had different time periods, canvassed wider areas, and did not include various types of digital games. Nevertheless, the percentage of Australian (99.5%) and Israeli (97.5%) eGamers is striking in comparison with Australian (except the 1999 study) and most other international studies.

Number of Years and Amount of Time Playing Digital Games

The average for number of years playing digital games varied (Q.9). For the Australian females, it was 4.8 years whereas for the Israeli females, it was higher at 6.3 years. For the male teenagers, there was a mean of 6.6 years for the Australians and 5.9 years for the Israelis. This indicates an average eGaming commencement age of six to seven years of age; some were therefore younger. What is intriguing is the longer length of time that Israeli girls had been playing digital games in comparison with their Australian female, and Israeli male, peers and warrants further exploration.

The average playing time during a week was 17.5 hours for the Australians and 22 hours for the Israelis. In comparison, the Australian Bureau of Statistics reported that 12-14 year olds averaged 8.6 hours per week in 2001 and 11.6 hours in their 2003 study. Beenjes et.al's (2001) study indicated an average weekly time of approximately 3.7 hours (or 0.5 hours per day) for eGamers in 11 European countries and an average of 4.9 hours (0.7 hours per day) for 6-16 year old Israelis. When comparing our study with Beenjes et al's study, both reveal that Israel eGamers had slightly higher averages than did their counterparts. This also occurred in Mullis, Martin, Gonzalez and Chrostowski's (2003) survey of 50 countries: the Australian and Israeli Grade 8 students respectively reported spending 0.9 hours and 1.9 hours playing computer games on a normal school day. Rideout, et.al. (2005) and van der Voort, et.al. (1998) reported similar weekly averages, respectively: 6.6 hours (0.9 hours per day) for 11-14 year old United States' video and handheld eGamers and 3.3 hours (0.6 hours per day) and 3.8 hours (0.4 hours per day), respectively, for 12-14 year old United Kingdom and Dutch computer game players. Our data equates to an average of 2.5 hours *per day* for the eGamers in Australia and 3.14 hours *per day* in Israel. This is a substantial difference even when acknowledging that the other surveys used differing age groups and/or did not include the weekend.

Some possible reasons for the differing number of leisure hours the teenagers reported playing digital games in our study are offered. For teenagers in both countries, because sport and cultural activities were optional supervised after-school pursuits, this does not emerge as a significant factor. Most Australian teenagers in our survey lived in a house situated on a reasonably sized plot of land that allowed physical activities while the nearby suburban public park allowed a free range of sport and skateboarding possibilities and the private or local council-operated open-air swimming pool, aquatic activities. The easy access to these pastimes may have resulted in less time spent on digital games. In comparison, substantially more of the Israeli teens lived in apartments and, although Israelis go about living life as normally as possible, it is likely that the conflicts have an impact on unsupervised outside leisure activities. In turn, this likely influenced the time spent on playing digital games.

Unequal amounts of homework do not appear to be a reason if the times recorded for science and math homework can be used as an indicator. Of the Grade 8 students surveyed, the Australians reported spending approximately 1.4 hours and the Israelis, 1.2 hours daily on this homework (Mullis, Martin, Gonzalez, and Chrostowski, 2004). The length of the school day was approximately six hours for both countries. However, the school day is 8.00am to 2.00pm in Israel while, in Australia, the school day is 9.00am-3.00pm. This difference in available hours for after-school recreational activities may partially account for the larger Israeli digital gaming percentages of the teens in our study.

In keeping with the findings in the previously mentioned studies, our survey found a gender difference in the average weekly playing time. The female and male eGamers reported 13 hours versus 22 hours. These are more than double that reported in the Australian Bureau of Statistics' studies which had female to male ratios of 6.0 hours:10.3 hours in 2001 and 2.8 hours:4.5 hours in 2003. For Israelis, a weekly average of 4 hours for females and 5.5 hours for males were reported (Livingstone and Bovill, 2001). These comparisons warrant consideration.

Besides the social explanations previously mentioned, four reasons for the comparatively very high number of hours playing digital games per week by country and gender in this study seem plausible: (a) an increased involvement in digital gaming in the early teens; (b) students factored in their holiday playing time into their recorded daily averages; (c) allocating a daily time commitment for each type of digital game platform could have led to this higher amount when totalled for the week (Q.13; Appendix 1), and, more conceivably, (d) the larger age span and the omission of some types of digital games reduced the averaged number of hours in the other studies. The heavy eGamers time commitment to digital games could be blamed for skewing our data. However, this would also be the case in the other studies as their data were also averaged.

In summary, the high average number of digital gaming hours daily and weekly implies a weekly pattern in which Australian and Israeli eGamers engaged in a recreational activity that delineated the young teenagers' life styles. Aspects of their digital gaming choices are now investigated.

Types of Platforms Played Weekly

The gaming patterns presented in Table 1 provide insights into our youth's eGaming culture not identified in previous research.

Table 1: Types of Platforms Played Weekly

	Males			Females			Total Country		Total	
	Aust.	Israeli	Total	Aust.	Israeli	Total	Aust.	Israel		
Number of answers	406	93	499	149	68	217	555	161	716	
Total (%) played daily/most days	63.3	82.8	66.9	42.3	51.5	45.2	57.7	69.6	60.3	
Playing daily/most days (%):										
Computer games	38.7	79.6	47.2	20.9	48.5	29.6	34.5	66.5	41.8	
Video Games	44.3	11.9	38.3	14.9	2.9	11.1	36.3	8.2	30.0	
Internet	17.9	14.3	17.2	10.3	10.3	10.3	15.8	12.6	15.1	
Handheld	16.6	9.8	15.3	7.0	6.0	6.6	14.0	1.9	12.7	
Arcade	6.1	2.2	5.3	1.4	1.5		4.9	1.9	4.1	

N=number of answers. Students could give more than one answer. "Aust." is the abbreviation for "Australian". The bolded percentages indicate the favourite platform by gender and country.

Three-fifths (60.3%) of the teenagers reported playing some type of game daily or most days of the week (Table 1). More significant than the percentages revealed in Table 1 are the following patterns: a little over one-third (36.7%) played *all* types of games everyday; one half (49.9%) played *all* types everyday or most days of the week; and two-fifths (41%) played *more than one* kind of digital game daily or most days of the week. Of those who only sometimes played digital games, more reported playing arcade games (37.3%) and handhelds (35.6%) than they did any other platform (video games, 28.9%, computer games 22.7%, and internet games, 21.9%). Overall, the data demonstrate the youth's desire to be versatile in the use of all or multiple gaming platforms.

Table 1 and the platform preferences for those who only played sometimes further indicate that some of the players did not have a home computer and/or video game console (Livingstone, 2002) and handhelds and arcade game costs were minimal in comparison. Additionally, it is logical to assume that players swapped platform depending on their physical location: arcade games on their way home from school and at weekends; handhelds on the way to and from school by car or bus and on other journeys; computer, video, and Internet games in a family room or study or their own bedroom.

Three anomalies stand out in the percentages recorded in Table 1. First, the Australian eGamers had appreciably closer percentages between their first and second digital gaming choices than did the Israelis. Second, computer games were the preferred platform for the Israelis and Australian female eGamers while the Australian male teenagers preferred video games. However, for the Israelis, the computer CD-ROM was by far the dominant digital gaming platform, especially for the male Israelis (79.6%). Third, approximately three to six times as many Australian males played handheld and arcade games than did their respective male and female peers. Although we did not ask the question, these digital gaming characteristics (Table 1) (a) appear to support research that shows a high percentage (49.5%) of 12-13 year old Israelis had a computer with CD-ROM in their bedroom (d'Haenens, 2001) and, consequently, (b) imply a pattern delineating higher rates of a digital gaming "bedroom culture" for those who have their own computer in their own room (Livingstone, 1999; Roberts, et al., 1999; Rideout, et al., 2005).

The basis for the appreciably lower percentage playing arcade games daily or most days of the week but higher percentages for sometimes playing these games are also informed by answers to Q.6 (Appendix 1). This question asked for the participant's thoughts about teenagers who played various game platforms. The responses pertaining to playing arcade games included comments that these players are "rich", the "mother pays while she does the shopping" and "they [girl players] want to be with their boyfriend" or "they're tomboys". Certainly, common to both countries was the general concern about the safety and societal perception of young female teens playing in arcade gaming places. Another contributing factor would seem to be the disparate safety issues within each country: 4.9 percent of Australians reported being daily/most days arcade eGamers with 6.1 percent of these

being the male players versus 1.4 percent of the Israelis of which 2.2 percent were male arcade gamers (Table 1).

Competition and Self-Rating

In order to examine aspects that are related to competition and achievement among gamers, the participants were asked about the skill level of their eGamer friends (Q.16, Appendix 1). There was less agreement across countries (86% in Australia and 61% in Israel) and gender (81% of the males and 78% of the females) that the preferred game-partner should be of the same skill level. There was a decided drop, but slightly higher preference among the males over the females, for playing with partners who are better than themselves (43% and 31%, respectively). These preferences are reinforced by the finding that a quarter (26%) of the participants said that they stopped playing because they were losing or had lost the game.

Given the various digital gaming patterns, it is not altogether surprising that more than 60 percent of all the teenagers rated themselves as either very good or good in the five digital gaming platforms investigated in this study (Q.12; 62% of the females and 80% of the males; 78% of the Australians and 90% of the Israelis). From reports on gender differences in using digital games (e.g., Buckingham et al., 2006), it was predictable that the female players would rate themselves as less confident in their gaming abilities than the males. However, what was not predictable was the finding that approximately three-fifths of the female players evaluated their game play as good or very good in *all five* gaming platforms. For these young teens, digital gaming is proving to be as much a female as male skill domain. Certainly, most of the male and female teenagers demonstrated a healthy self-image of themselves and their gaming status as more than competent eGamers.

These Australian and Israeli eGamers had become captivated by the diverse experiences afforded by the five different types of digital gaming platforms demonstrating a quest to test, extend and re-test their performances on each platform. The profile of a 13-14 year old eGamer in Australia and Israel appears to be one for whom digital game playing is a noteworthy part of their weekly lifestyle.

Leisure, Fitness and Isolation

Games in general and digital games in particular reflect the leisure and social preferences of the players (Carlsson, 2006; Foreman, 2004; Fromme, 2003; Subrahmanyam et al., 2001). With digital games, the situation is more complex because, in many instances, they allow eGamers to play the same game alone (e.g., against the computer or the video player), with other gamers who are physically present in the gaming environment, or with remote gamers on the Internet. In the present research, data were gathered on social aspects of digital gaming, such as the amount of leisure time devoted to playing digital games and aspects of the isolated eGamer.

According to the literature (e.g., Fromme, 2003; [Larose](#), Gagnon, [Ferland](#), and [Pepin](#), 1989; Rieber, 1996), the reasons for digital game playing among teenagers are both

psychological and social. They concern what Grodal (2000) termed, "the pleasures of control" (p. 197), and point to aspects found in digital games, such as fun, fantasy, motivation, interactivity, challenge, competition, and difficulty levels (see e.g., Carlsson, 2006; Gee, 2003; Malone, 1981; Prensky, 2000; Rieber, 1996).

Leisure Activities: Reasons for Playing

In order to offer confirmation of the literature with respect to this area, the teenagers were allowed to self-identify why they played digital games. Thus Question 3 (Appendix 1) was opened-ended and eschewed providing categories delineated in other research. The respondents provided 71 reasons. Alike reasons were grouped into higher order categories (e.g., see Figure 1). Four groupings fell naturally into higher ranked items shown in Figure 1. There was a 50% drop to the 5th grouping of reasons - "relaxing, reduces stress and takes mind off other things" – and then another 50% drop to the 6th grouping for "immersive, atmosphere and fantasy". For some, the digital game was a relief from their real world. For most, the enticement of digital gaming was more about having fun.

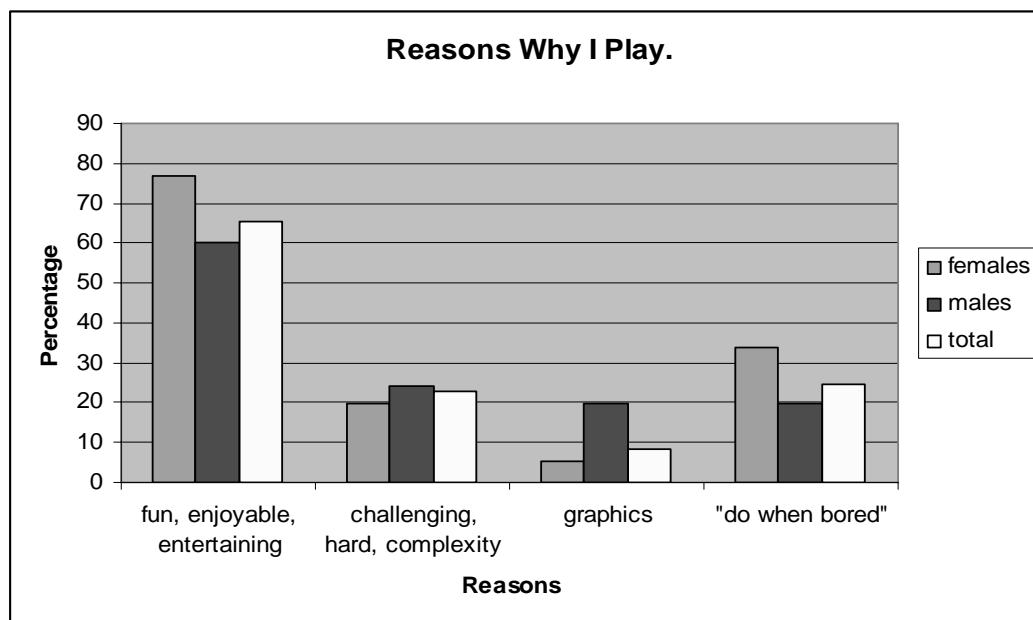


Figure 1: Reasons for playing digital games

According to our findings, there were no significant country differences as to why they played but there were obvious gender differences in three of the top four categories (Figure 1). Graphics were four times more important to the male eGamers while preventing boredom was more significant for the females (Figure 1). In contrast, "to stop being bored", was doubly significant for males (6-16 years) in Israel and 10 European countries (Beentjes, et al., 2001, p. 104). Approximately 18 percent more girls than boys ranked the top preference for the fun and entertaining aspect of digital gaming (Figure 1). This dominant reason for playing digital games has not changed with 70 percent also citing fun in Griffiths and Hunt's 1995 research sample (383, 12 to 16 year olds). This is further supported by our findings in two ways. First, approximately 32 percent of the female and 19 percent of the male teenagers

reported playing some type of digital game to ward off boredom (Figure 1). Second, and conversely, most participants (70%) also asserted that they stopped playing digital games because they were bored (Q.17, Appendix 1).

Studies and the media (see, e.g., Juul, 2003; Subrahmanyam, 2001; Woudhuysen, 2003) are concerned about how children and youth spend their leisure time, and whether it is dominated by playing digital games as the media so often portrays. In the present study participants were asked to list their top four favourite free-time activities (Q.4). Fourteen leisure pursuits were identified (Table 2).

Table 2: Leisure Activities

Activity	Australian			Israeli			Total N=2681 (%)
	Females N=562 (%)	Males N=1535 (%)	Total N=2095 (%)	Females N=250 (%)	Males N=336 (%)	Total N=586 (%)	
Physical activities	19.1	35.4	31.0	11.7	23.9	18.7	49.7
Digital games	13.7	23.8	21.1	12.4	23.9	19.1	40.2
Watching TV	8.9	10.6	9.8	18.7	15.7	16.9	26.7
With friends	11.5	7.5	8.6	11.7	10.0	10.7	19.3
Reading	10.6	2.5	4.7	6.6	4.6	5.4	10.1
Eat/sleep	0.9	4.0	3.1	3.9	8.0	6.2	9.3
The Arts	3.8	1.7	2.2	12.1	2.0	6.2	8.3
Listen to music	5.0	2.8	3.4	5.4	0.0	2.3	6.7
Hobbies	1.5	1.8	1.7	6.2	2.6	4.1	5.8
Internet/chat	3.6	2.5	2.8	1.9	2.8	2.5	5.3
Shopping	7.9	0.8	2.7	2.3	0.0	1.0	3.7
Movies	3.1	1.8	2.2	1.2	0.8	1.0	3.2
Pets	3.2	1.1	1.7	1.9	1.1	1.5	3.2
On the phone	3.4	0.0	1.2	1.2	0.3	0.7	2.9

N=number of answers; multiple answers could be given. Bolded percentages are the two highest for each cohort. Those in italics are < 2.0 percent

The top rated preference was physical activities except for the Israeli females (equal fourth preference, Table 2). Playing digital games came second for all participants, except for the Israeli males who rated them as their equal first leisure preference. Watching TV was much more popular for the Israelis (16.9%) than the Australians (9.8%). It ranked first for the Israeli females, third for the males but fifth for the Australian females. The low preference for reading compared with digital games and, particularly when combined with, TV would seem to confirm popular fears about their cause effect relationship though the Australian female teens preferred reading to watching TV.

Another societal anxiety concerns the relationship between digital game playing and fitness. To examine this concern, all the leisure preferences in Table 2 were divided between physical and sedentary leisure preferences. Because they could realistically include both sedentary and physical activity, the “With Friends”, “The Arts”, “Hobbies”, and “Pets” percentages were divided in half, with each half allocated to the physical and sedentary categories in the following discussion. Naturally, further research, that included questionnaires identifying types of physical and sedentary recreational activity (e.g., ballet, art, flying model aeroplanes, and walking the dog), would be an improvement on this method and tentative assumption.

Table 2 supports research conducted with 1 493 teenagers in the United Kingdom (Biddle, Marshall, Gorely, Cameron, Murdey, Mundy, Vince, and Whitehead, 2004) that concluded, as does this study, that obesity cannot be attributed solely to digital gaming. Nevertheless, society’s anxiety about sedentary behaviours and fitness is supported with respect to the Israelis and the Australian females in this study. Each of these three teenage cohorts had the following preference ratios for their physical versus sedentary leisure lifestyle: the Israeli males’ ratio was 32.3 percent versus 63.4 percent; the Israeli females, 31 percent versus 66.3 percent; and the Australian females, 30.7 percent versus 60.25 percent. Thus, their sedentary preferences were approximately twice that of their preferences for activities involving physical activity. In contrast, the ratio for the Australian male teenagers’ leisure preferences was 50.75 percent physical vs 53.45 percent sedentary activities, thereby demonstrating a more balanced leisure preference lifestyle. Even though some of these sedentary activities would have been simultaneous, such as listening to music while reading or jogging, such multitasking by our Generation M teenagers does not overly counteract the trends reported.

Isolation

Besides concerns about the recreational profiles of teenagers, isolation as a correlation factor of playing digital games is another fear expressed by politicians, media, teachers, parents and psychologists (see, e.g., Buckingham, 2001; Foreman, 2004; Livingstone and Bovill, 2001; and Subrahmanyam, 2001). Williams (2003) cleverly identified digital gaming as a “lightning rod” or conduit for these and the previously mentioned societal anxieties. In the present study, participants were asked to indicate their preferred playing situation when playing their two favoured types of digital game platforms (Q.14, Appendix 1).

Table 3: Digital Gaming with Whom?

Played Alone or Comp Simultaneously with:	Australian				Israeli			
	Females		Males		Females		Males	
	N=221	N=301	N=1010	N=1348	N=106	N=91	N=245	N=170
	%	%	%	%	%	%	%	%
Myself	78	60	77	72	60	26	76	37
Male friends	13	23	42	63	4	-	61	51
Brothers	27	58	25	45	21	24	31	27
Relatives	20	42	20	38	9	9	30	20
Male and Female Friends	24	34	17	31	24	25	15	16
Sisters	19	34	13	24	15	15	14	10
Female friends	28	40	15	23	26	19	6	9
Father	15	26	10	21	4	4	4	5
People on Net	10	-	31	-	8	-	29	-
Mother	12	17	5	8	3	1	2	2

N = number of answers: multiple answers could be given. Comp: abbreviation for Computer Game; Video: abbreviation for Video Game. Percentages rounded to whole numbers.

Table 3 indicates that most participants preferred playing digital games alone (70% in Israel and 77% in Australia; 71% females and 77% males). This is rather worrying. However, these aggregates hide some important differences. For the Israeli males, the tallied percentage preferences for playing both platforms alone and playing with male friends were virtually the same. This was also the case with the preference percentages for playing video games of all the females alone and with brothers and for Australian males with male friends. Compared with their Australian peers, results also indicate that it was less common among the Israeli participants to play with the opposite gender, except when both male and female friends are present, and for the Israeli females to play with relatives (Table 3). Collaborative playing with people on the net was found to be roughly half that of playing with another person physically present, and involved mainly the males and much less so the females (Table 3). The common reasons given as to why they played Internet games (Q.17) was "to meet

people" and "make new friends". The scintillation of diminishing distance by interacting with someone – particularly of the opposite sex - on the opposite side of the world has an easiness often missing in establishing face-to-face relationships.

Choosing parents as digital gaming partners was considerably further down the list of preferences for the Israelis than for the Australians (Table 3). The preference for playing with their father rather than their mother for both genders indicates the gender divide in game playing of the parents' generation as well as the research delineating the greater number of hours spent on various home tasks by mothers and daughters in comparison with the fathers and sons (Stevens, et al., Roberts, et al., 1999; and Rideout, et al., 2005). Possibly, it was a matter of time availability for the Israeli parents. It could also be because more Israeli teens may have digital games in their own bedroom than, perhaps, did the Australians. Available evidence to support this tentative contention is from an European and Israeli survey (D'Haennes, 2001) that shows 13 percent of 12-13 and 15-16 year old Israelis had a video game, 25% a computer game, and 17% Internet connection set-up in their own bedroom. Overall, the Australians appeared more inclined to play, particularly video games, with others than were the Israelis (Table 3). Therefore, given the digital gaming context included family, relatives and friends, Australian-Israeli isolation variations were not simply a matter of the differences in the countries' political state of affairs.

Table 3 demonstrated that, although there was a significant number of teenagers who preferred playing alone, they also enjoyed playing in contexts that included others. Table 4 affirms this pattern. Home was found to be the most favoured playing place, with decreasing percentages for their friends' and relatives' homes (Table 4). As the costs of playing arcade games was equivalent in both countries, the reason that the arcade shop was a less favoured place for playing for the Israelis could be related to the security situation in Israel. However, nearly two-fifths of the male Israeli responses reported playing in digital gaming arcades (Table 4).

Table 4: Playing Locations

	Australian			Israeli		
	Females	Males	Total	Females	Males	Total
	N=403	N=1220		N=132	N=243	
	%	%	%	%	%	%
Home	95	97	97	63	81	73
Friend's house	67	84	79	43	69	58
Arcade shop	43	61	56	15	39	29
Relative's home	55	49	50	37	41	39
School	10	10	10	37	30	34

N = number of answers. Participants could give more than one answer.

Approximately one third of the Israeli participants stated that they played digital games at school in contrast to one tenth of the Australians (Table 4). There are three plausible reasons for this, given that educational games were an under-utilized learning tool in the schools canvassed in our survey. First, perhaps this large difference has to do with the two countries' respective safety situations. Second, in Israel, those not living close enough to their school to walk home or to a relative's or friend's place were more likely than their Australian counterparts to be picked-up from school after work, one or two hours after the school finish at 2.00pm. Australians generally work till 5.00pm, thus, within 15 minutes of the 3.00pm school bell, the teenagers would commence walking, bicycling, or catching a bus to their own, a relative's or friend's home, the nearest recreation park, or the arcade gaming shop. Third, and more probable answer, is that the time between the Israelis finishing school and being collected, allowed them significant digital gaming time while (waiting) at school.

Table 5: Friends Who Play Digital Games

eGamer Friends	Australian		Israeli	
	Females %	Males %	Females %	Males %
All	4	15	6	17
Most	25	32	30	26
Some	58	43	47	46

Another aspect that affects concerns about the isolated eGamer is that of friends. Specifically, the anxiety focuses on whether the teenage eGamers only associate with other eGamers. Question 7 (Appendix 1) addressed this concern; Table 5 presents the aggregate percentages. From Table 5 it can be seen that approximately one fifth of the Australians and one quarter of the Israelis (19% vs 23%, respectively) reported only having friends who played digital games, though the male teenagers were more prone than the girls to have friends who played. Comparing the combination of "All my friends" and "Most of my friends" with "Some of my friends" implies that the majority of our eGamers, particularly the Australian females, had healthy relationships as their friendships were not dictated just by whether friends or possible friends were eGamers.

Taking into account Tables 3 (Playing With Whom?), 4 (Playing Location), and 5 (Friends Who Play) together with Table 2 (Leisure Pursuits), that identified playing digital games as only one of the teenage eGamers' recreational preferences, indicates that the isolation aspect of playing digital games is not as worrying as the media and politicians propose.

Genre, Design, and Content Issues

As an entertaining and challenging environment, game genres and their associated game design play major roles in creating a highly motivating and engaging milieu for the eGamer (Foreman, 2004; Hartmann and Climmt, 2006). Because of these enticing attributes, there are constant debates regarding the contribution of digital games to the promotion of negative behavioural and physical consequences on youth (e.g., Anderson and Bushman, 2001; Boyle and Hibberd, 2005; Buckingham et al., 2006; Carlsson, 2006; Hall, 2000; Funk, 2001; Griffiths, 1997; Lee and Peng, 2006; and Subrahmanyam et al., 2001). The survey included questions to establish what genres they played, why they played, and what gaming features troubled them.

Game Genre Preferences

In order to identify the preferred game genres, participants were asked to provide the name of the game they currently play and those of their two favourite games (Qs.10 and 11). These were then clustered into game genres, based on the game-genre taxonomy and descriptions used in one of the leading digital games Internet sites, "All Game Guide Search" (<http://www.allgame.com>). Eleven categories were identified (Table 6). The analysis of participants' preferred genres indicates that there were some noticeable differences in game preferences across gender and countries. Of interest are the major anomalies in Table 6 which call for some discussion.

Table 6: Favourite Game Genres

Genre	Australian		Israeli		Total Both Countries %
	Males N=710	Females N=212	Males N=122	Females N=43	
	%	%	%	%	
Action	8.7	31.0	7.1	36.4	83.2
Racing cars	28.7	21.2	11.1	2.3	63.3
Strategy	9.8	4.9	18.3	9.1	56.8
Sport	11.9	4.9	23.0	6.8	46.6
Shooter	22.4	6.1	9.5	6.8	44.8
Role playing	10.3	7.3	12.7	4.5	34.8
Simulation	1.8	4.1	7.9	15.9	29.7
Puzzle/Card	0.6	8.1	1.6	9.1	19.4

Adventure	2.7	4.5	1.6	6.8	15.6
Fighting	2.7	4.1	4.0	0	10.8
Educational	0	1.2	0	0	1.2

N = number of responses; teenagers gave up to three names of games (Q.11 and 12, Appendix 1. Italicized and bolded percentages are lowest (<2%) and two highest, respectively, by country and gender.

The action genre was the highest preference of both Australian (31%) and Israeli (36.4%) females with the males reporting this at a low 8.7 percent and 7.1 percent, respectively. The following definition throws plausible illumination as to why they attract young female teenagers. The action genre usually involves

moving a character through a game world by running, jumping, climbing, or leaping, with the goal of discovering the doorway to the next stage or level. Action games often feature hero characters battling a cast of ‘baddies’ as they move through each level. A basic plot may provide an overall goal, such as defeating an arch-villain or rescuing a princess, but the manipulation of onscreen elements is the crux of gameplay.

(Allgame, <<http://www.allgame.com/cg/agg.dll?p=agg&sql=6:20>>)

The action digital games the girls reported as their favourites, included: *Super Mario World*, *Tomb Raider*, *The Longest Journey* with *3D Munch Man* and *3D Frog Man* being labelled “action maze”.

The second highest genre preference for the female Israelis was simulation (15.9%), which puts the player in control whereby “a realistic sense of cause-and-effect is often more important than fast action” (Allgame: <<http://www.allgame.com>>) and are often related to real life. *Sim’s House Party* and *Theme Hospital* are examples reported by our eGamers. Given the combination of what both simulation and the action genres allow, it is surprising that the simulation genre was rated significantly lower by the Australian females (4.1%). It was also rated very low by the males, but particularly the Australian males (1.8%, Table 6).

Digital racing games were considerably more popular with the Australians (28.7% males vs 21.2% females) than with the Israeli youth (11.1% males vs 2.3% females). This genre was the Israeli females’ lowest score other than their zero rating for the fighting and education genres. Completing a defined course in the shortest possible time or being the first to cross the line are the dominant characteristics of this genre. The thrill of speed when racing against time is popularly cited as a major factor for interest in this digital gaming genre. The digital games reported by the eGamers included *Need for Speed*, *NASCAR Racing*, *Super Mario Kart*, *Excitebike* and *Speed Freaks* and would therefore support this contention. Another reason portrayed by the media is one of teenagers becoming increasingly impatient of waiting to drive a car or motorbike, so it could be presumed that the younger teenagers would have been interested in learning how to drive digitally. This certainly holds true for the Australian youth who are more likely to buy or be given their own car, albeit second-hand, once they obtain their driving license than Israeli youth. In the area for the Australian

eGamers in our survey, the ratio was 1:3 passenger cars and motor bikes per head of population in 2003 (Australian Bureau of Statistics) and 1.0 passenger cars per head of population in 2006 (Australian Census, 2006) while the ratio for all Israelis living in urban areas was 0.43 passenger cars per head of population (Encyclopaedia Britannica, 2006). Because car and motorbike races are not held in Israel, there is little mention in the media; this may translate to a lack of interest in virtual experiences. A further possibility for the disproportionate racing genre percentages is that, because Israelis males and females are conscripted into the armed forces or allied services at 18 years for three and two years, respectively, they postpone car or motor bike ownership and, *ipso facto*, interest in the racing genre.

The shooter genre was the Australian males' second most favoured genre (22.4%) in comparison with its fifth ranking by the Israeli gamers (9.5% males and 6.8% females) and Australian females (6.1%). The shooter genre requires "the player to perform two basic actions: shoot enemies or avoid being shot" (Allgame: <<http://www.allgame.com/cg/>>). Those played included *Twisted Metal*, *Army Men 3D*, *Hidden and Dangerous*, and *Hitman Codename 47*; all involved realistic aspects of warfare. Except for conscientious objectors who are deployed in non-fighting areas, the Israelis who took part in our survey were headed for conscription where handling guns and learning to shoot would be all too real. Interaction with people carrying weapons is a daily experience for the Israeli teens. This is where the differences in living in a war zone compared with living in a peaceful country seem to persuasively influence genre preferences.

Only the Australian female teenagers (1.2%) gave more than a zero preference rating to the education genre, the primary goal of these "is to teach skills or concepts that are applicable in real-world situations" (<<http://www.allgame.com>>). We sought the teenagers' attitudes to educational games (Q.20) because of the slow uptake of using digital games in the lower secondary grades, at least in the areas canvassed by our survey. The teenagers' opinions of educational games were more negative than positive across gender and countries. Out of 1081 statements, 58.4 per cent were negative, 34.1 per cent were positive, and 7.5 per cent were neutral. The negative statements included comments such as: "boring", "stupid", "geeky", "doesn't help learning", "pointless", "no plot", "bad graphics", and "only played at home because your mother makes you". Among the positive comments were: "great", "fun", "different way of teaching", and "doesn't instruct violence [sic]". The neutral statements included statements such as "I play them at school" or "used during geography lessons". These findings obviously have implications for interactive multimedia and online educational developers.

Design Features

In order to shed light on the design elements in digital games, the research participants were asked to check the major features as well as add others not listed that make up a good game (Q.18).

As indicated in Table 7, the most important feature for the female eGamers was the ability to replay the game. Quality graphics was approximately twice as important for the males, particularly the Australian male teenagers, than for the female eGamers.

This supports the third ranking given to graphics as a “reason for playing” digital games (Figure 1). The ability to play at multiple levels was of less importance to the Australian females than for the others as was the pace of the game.

Table 7: Very Important Game Features

Digital Feature	Australian			Israeli			TOTAL N=2606 %
	Game Females N=572	Males N=1521	Total N=2093	Females N=165	Males N=348	Total N=513	
	%	%	%	%	%	%	
Good to replay	63	69	67	62	69	67	67.0
Really good graphics	36	72	58	35	58	49	53.5
Interesting story or plot	45	57	52	53	55	54	53.0
Lots of levels	35	53	47	49	45	46	46.5
Characters act like real people	25	53	43	22	53	42	42.5
Very real action effects	29	67	53	15	31	25	39.0
Very real sound effects	37	60	51	15	26	25	38.0
Fast moving	20	43	34	35	44	40	37.0
Two players	40	60	52	20	20	20	36.0
Includes humour	38	38	38	50	20	31	34.5
Violence looks real	9	51	36	2	27	18	27.0
No violence	17	5	10	16	1	7	8.5

N = number of answers. Students could give more than one answer.

Interestingly, given the concern about boys underperforming in literacy (Gilbert and Gilbert, 1998; Martino, 2001; Smith and Wilhelm, 2002), the quality of the story line

or plot that forms a basis for the virtual reality activities rated slightly higher for the males in both countries than for the female teenagers (Table 7). Humour was the third most important feature for half the Israeli females, the fourth for the Australian females (38%) but second last for the males (38% Australian; 20% Israeli). Digital gaming appears to be serious business for the majority of the teenage males! Digital games that allowed two players was much more important for the Australians; this supports the findings in Table 3 that identified many of them valuing contexts that allowed them to play with others.

The male eGamers' percentages demonstrate that they valued games that depicted reality (Table 7). In particular, they wanted the characters to act like real people. However, approximately twice as many Australian than Israeli males required sound effects, violence and action to be authentic. The females', particularly the Israeli females', concern about these game attributes buttresses their first genre choice for action games because this genre generally depicts minimal or no realistic "blood and gore". This finding supports the contention that game genre preferences (Table 6) and, now, game feature preferences (Table 7) are affected by the differing political situations in Australia and Israel.

Table 8: Game Features that Concern Young Teenagers

	Australian		Israeli	
	Females N=471	Males N=327	Female s N=173	Males N=70
	%	%	%	%
Violence	47	12	36	6
Killing	48	12	43	11
Rude language	40	16	24	15
Nudity	63	19	62	19
Sex scenes	67	20	61	15
Gender stereotypes	55	19	79	19

N=number of very concerned/concerned answers. Students could give more than one answer

The low Israeli male concerns about the violent and killing features in games (Table 8) would seem to refute the previous contention. A plausible alternative explanation is that these percentages are reflective of the fact that only 10 - not 10% of - Israeli male eGamers put themselves into a digital gaming context that was certain to deliver violence towards, and killing of, people (shooting and fighting genre

preferences, Table 6). Obviously, digital games contain decent, informative, and engaging content. However, Table 8 reflects the reality of digital game content also containing offensive sexual images, rude language, stereotyping, violence and racism (see, e.g., Anderson and Bushman, 2001; Buckingham et al, 2006; Carlsson, 2006; Funk, 2001; Rutter, 2007).

Israeli girls were approximately 18, 17, 43, and 36 percent more concerned about gender stereotyping (79%) than they were about, respectively, sex scenes, nudity, violence, and killing in digital games. In comparison, approximately half the Australian females rated gender stereotyping (55%) as less of a concern than nudity (63%) and sex scenes (67%) and were approximately twice as concerned about the rude language. Perhaps the reasons for the females relatively high lack of concern about killing and violence can be explained as follows: first, their favoured genre is action games; second, the blood and gore depicted in this genre is minimal and usually unrealistic; third, the “health”/death of a character can be reversed; and fourth, there is gender equity in that the female can be the main champion for right or usually one of the main protagonists. Only between a tenth and a fifth of the males viewed nudity, sex scenes and gender stereotyping as a concern. This appears to be indicative of the portrayal of full-busted, tiny-waisted females and male characters as the heroes and, where the females are the protagonist, such as Lara Croft, they are more often presented as a scantily-clad sexualized character (Rutter, 2007).

Table 9: Who is Affected by Violent Digital Games?

	Australian			Israeli		
	Females	Males	Total	Females	Males	Total
	N=343	N=670	N=1013	N=105	N=145	N=250
	%	%	%	%	%	%
Adults	22	13	15	9	15	13
Female teenagers	36	25	28	9	17	14
Male teenagers	72	33	43	59	45	51
You	15	12	13	5	12	9
Younger children	92	85	87	83	76	79

N=number of answers. Students could select more than one option.

In the present research, participants were also asked to indicate who they believe is affected by violent games. While a substantial number of the females were convinced that their male counterparts were appreciably affected by the violence in games, a third to two-fifths of the Australian and Israeli males, respectively, believed this, too

(Table 9). As has been pointed out (e.g., Buckingham 2001; Buckingham et al., 2006), teenagers maintain that young children are the most affected group and that, personally, they are hardly affected by violent games. These beliefs were confirmed for the majority of teenagers in our study (Table 9). The teenagers rated themselves as the least affected group. This was a particularly noticeable opinion held by the Israeli female eGamers (Table 9). In fact, the Israeli female teenagers appear naïve in comparison with the other eGamers as very few indicated that adults and other females would be affected.

Bringing it Together

The findings of the research illustrate aspects of the digital games culture. Targeting Research Questions 1 and 2, for the Australians and Israelis in this study, playing digital games was a pivotal element in their daily life and occupied a noteworthy proportion of their time, interests and social life. If a decade ago this phenomenon was relatively marginal (Brown, 1995), our findings, that virtually all played digital games and most across all platforms reinforce present-day reports on an emerging global digital gamers' society (King et al., 2003) which encompasses most of the youth who have access to game technologies (Beentjes et al., 2001; Fromme, 2003; Foreman, 2004; Livingstone and Bovill, 2001). The dynamics and rapid growth of the eGamers' culture can be demonstrated by comparing the findings reported by Fromme (2003) who found that six percent of the boys and 20 percent of the girls (in nine Western European countries and Israel) did not play digital games, to the findings of the present research where only three percent of the participants reported they do not play or had never played.

Since its early days, digital games culture continues to be regarded and reported as a "boys' culture" (e.g., Agosto, 2004; Funk, 1993; Harrell, 1997; Krotoski, 2004; Haartmann and Klimmt, 2006; Liff and Shepherd, 2004; Roberts et al, 1999; Rutter, 2007). With respect to Research Questions 3 and 4, results from the present study demonstrate that, although the males and females played all digital game platforms, this breadth was more popular among males than females, suggesting that the gender gap still exists but is certainly being eroded. This diminishing gap was reported by Weaver and Cooper (2003) and Buckingham, et al. (2006).

The international attraction of males to, and lesser interest by females in, digital games is purported to be a result of the male-oriented design and content that characterize most games (Bryce and Rutter, 2002). This claim was illustrated by Kerr (2003) who found that males were not attracted to female-oriented games while females were quite interested in them. Taylor (2003) reported that females are attracted to games that allow gamers to construct and control the development of characters, their traits and their gender while males are more attracted to fast-pace games that incorporate scoring, fighting and killing. This study's Israeli males were much less interested than the Australian males in the shooting genre and more interested in role playing and simulation genres, thus revealing the country context was probably a defining factor (Research Question 4). Gorri and Medina (2000) reported that girls preferred digital games that have elements of collaboration over competition games. This contention is supported more for the Israeli, than Australian, female teens. Action games, which incorporate these elements, were the

most popular genre for both, with the Israeli females also favouring the control allowed in simulation games. However, the Australian females second preference was the single or dual player competition offered in fast-paced racing games (Research Question 3). These contradictions might reflect the closing of the gap between males and females – at least in Australia - in digital game preferences (Krotoski, 2004).

Digital environments in general, and digital games in particular, allow users to better express their inner self (Amichai-Hamburger, 2002) and change their role, status and function in social groups (Subrahmanyam et al., 2001; Juul, 2003). Moreover, according to the Phantom Effect (Barak, 2007), people involved in virtual games tend to do, or prefer, things that they miss doing or cannot do in their everyday life. Buckingham et al. (2006) maintained that the ability of gamers to build characters and affect the storyline in role play games makes these effective narrative tools that promote exploration of gamers' fantasies and hidden worlds. These approaches can be used to help explain some of the present research findings to Research Question 4, particularly. For example, the teenage gamers from Australia, a peaceful country, preferred shooter games much more than eGamers from the war-zone country of Israel. On the other hand, eGamers from Israel, which is not considered to be a world power in sport achievements, favoured sport games much more than eGamers from Australia, which is known for its high achievements in sports and children attending sports clubs from five years onwards. In addition, female teenagers in both countries, whose preference for physical activities in their leisure time was approximately half that of the males, revealed a very high preference for action games.

One of the major characteristics of any game (not necessarily a digital game) is its being a social situation where players interact with each other (Huizinga, [1838] 1949; Larose et al., 1989; Foreman, 2004; Begg, 2005) and share time (Hultsman, 1992). Our findings (to Research Questions 2 and 3), on the social leisure preferences of gamers favour those of Fromme (2003) and Flynn (2003) slightly more so than the claims by Bonnafont (1992) and Buckingham et al. (2006). The former two researchers established that digital gaming is social because it is utilized as a means for negotiating a social space. In contrast, the latter two researchers reported that games in general but digital games in particular are undergoing a change from a social-collective to a solitary home-bound activity. The males and Australian females reported a leisure preference for physical activities (although the Israeli male teens ranked it equal first with digital gaming), within which team and group activities ranked highly. Together, playing digital games with friends, relatives, parents and siblings, particularly brothers, rated quite well in our study.

The findings (from Research Question 3) demonstrate a low level of awareness and sensitivity of the male eGamers to the excess of violent and other harassing and discriminating scenes that are typical of many digital games. Although cause-and-affect relationships between digital games and violence are drawn (e.g., Anderson and Bushman, 2001; Funk, 2001), these claims have been contested by recent studies (e.g., Boyle and Hibberd, 2005; Carlsson, 2006). Obviously, our findings cannot be used to argue that digital games promote violence or antisocial behaviour. Although the Australians were more concerned than their counterparts, no significant differences were found in the concern of participants to violence and killing in digital games between the young teens from the war-zone country of Israel and the peaceful country of Australia (Research Question 4). There was a significant gender

difference though, with the female teens quadrupling the concern expressed by the males (Research Question 3). The Desensitization Model (Cohn, 1995) where the exposure to media violence decreases sensitivity to aggression could be utilized as an explanatory reason, given that fewer than a quarter believed they were affected by violent digital games. Perhaps this also helps explain why gender stereotyping, nudity and sex scenes in digital games were more troublesome than were violence and killing for all participants, but particularly for the female teenage eGamers. Nevertheless, the genre preferences of the Israelis and Australian females for games in which human violence was minimal also needs to be taken into account as a counterweight to the strength of the Desensitization Model as a causal factor.

To reiterate, obviously the findings of the qualitative study are bound by the Israeli and Australian teenagers who participated as well as the questions asked and not asked. Additional localised, national and international research is required to further situate the study. What is of importance are the implications derived from the findings of the research. The issues of violence, social activities, intensity of digital games playing and isolation when using digital games indicate, on the one hand, that the societal belief or "moral panics" (Kline, 1999), concerning the lack of fitness and preference for an isolated lifestyle, are *directly* related to digital gaming cannot be substantiated. On the other hand, the data highlight the pivotal role (Crawford, 1997; Prensky, 2003) of parents' discretion and involvement in order to guide their children's digital gaming recreational behaviours.

A major contribution of the article allows further informed judgements regarding young teens' public and private digital gaming lifestyle balances. Another highlights issues that could influence societal policies and practices. Essentially, although the qualitative study revealed pertinent country differences, the peaceful versus war zone context was not as significant a factor as initially envisaged. What was highlighted was involvement in a global gendered gaming culture in which Generation M's young female teens are no longer so marginalized. Digital gaming was established as a stimulating key characteristic of the recreational lifestyle of these 13-14 year old teenagers.

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Appendix 1

Computer/Video Game Questionnaire

(without the setting out utilized in the actual survey)

1. What sort of computer video games do you play? (Please tick the ones you play.)
2. How often do you play computer/video games? (Please tick which is closest for each of the five (5) types of game.)
3. Why do you like playing OR do not like playing the following types of computer video games? (Leave blank if you do not play that type.)
4. Please list the top FOUR (4) things that you enjoy doing in your spare time. Put the one you enjoy the most on the first line, then the next, 2nd, and so on.
5. What do you think of teenagers who play each of the following types of computer/video games?
6. Do you think that playing violent computer/video/internet/arcade games affect the following people?
7. What my friends play. (Circle an answer on every line.)
8. How many years have you been playing some type of computer/video game?
9. Do you play computer video games recommended by friends?
10. What is the name of the game you currently play the most? (Please print.)
11. What are the two best games that you have played? Give reasons why. (Please print.)
12. How do you rate yourself? (Please give a tick for how well you play for each type of game you play.)
13. When do you play computer/video games and for how long? Write the approximate amount of time (e.g., 10 minutes, about 2 hours) in the empty boxes. If you don't play that game, leave the box blank.
14. With whom do you play computer/video games? (You can tick more than one choice for each type.)
15. Where do you play? (You can tick more than one.)

16. When you play, do you prefer to play computer/video/arcade games ... [Each platform was allocated a separated line in the first column and each preference heading - e.g., alone, with my brother/s, with friends - was provided in adjoining columns.]
17. Why do you stop playing? (You can tick more than one and add other reasons.)
18. Here are some things about computer/video games that teenagers have said make a good computer/video/internet/arcade game (you can add other things). How important are they to you?
19. Do the following things about video/computer games worry you? (You can add other things.)
20. What do you think of educational computer games?