COMPUTER GAMES AND AUSTRALIANS TODAY

Written by Kevin Durkin and Kate Aisbett

Office of Film and Literature Classification

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Computer Games and Australians Today is a major national study about computer games and the way in which they are perceived and used by Australians.

The research was commissioned in three stages by the Office of Film and Literature Classification in 1995 under the auspices of Commonwealth, State and Territory Censorship Ministers. It was conducted by three independent research firms with assistance from an expert reference group.

The Censorship Ministers have agreed to release the research findings as a matter of public interest.

The Censorship Ministers are:

The Hon. Daryl Williams, AM QC MP
Attorney-General

The Hon. J W Shaw, QC MLC
Attorney-General and Minister
for Industrial Relations, NSW

The Hon. Rob Hulls, MP
Attorney-General, VIC

The Hon. Judy Spence, MLA
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The Hon. Peter Patmore, MHA
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EXECUTIVE SUMMARY

OVERVIEW

The research project 'Computer Games and Australians Today' was a nationwide investigation completed in three stages during 1995–1999. The research was an initiative of the Commonwealth, State and Territory Ministers with censorship responsibilities. It is one of the largest projects ever conducted into the nature of computer game play. The primary focus was on the role of aggressive content: the ways in which this dimension of games is experienced and perceived by players, parents, and other members of the community. Other issues of interest included time use, implications for social interaction, gender differences in play and attitudes, and consumers' uses of the classification system for computer games. This report reviews the background to the project, summarises and integrates the findings of the three stages, and discusses the implications of the results for future research and for policy.

STRUCTURE OF THE REPORT

The report is presented in five main chapters. These deal in turn with the background to the project, the industry and market for computer games in Australia, qualitative studies conducted in video arcades and homes, a nationwide survey of adults and young people, and the implications of the findings for policy. Each chapter is summarised below.

CHAPTER ONE: THE POLICY AND RESEARCH BACKGROUND TO THE PROJECT

BACKGROUND

This chapter describes the policy context within which the research was initiated, and then summarises the main conclusions that could be drawn on the basis of the available scientific research into computer games and their effects; several recent studies are reviewed in detail.

In 1994 Commonwealth, State and Territory Ministers with censorship responsibilities were prompted to take immediate action on the development of a computer games classification scheme when some games reportedly containing stronger adult oriented content became available on the Australian market. At the time of the development of the computer game classification guidelines little research had been undertaken to ascertain contemporary community standards in regard to computer games and their potential impact. To address this shortcoming the Censorship Ministers requested the OFLC to commission the research, the results of which are presented in this monograph.

The broad objectives of the research were to:

1. Determine the nature and extent of aggressive content in popular computer/arcade games in Australia today.
2. Find out about the aspects of particular games, which make them popular, and the role of aggressive content within this context.
3. Investigate whether aggressive content is perceived as such by young players and the extent to which playing the game mitigates the impact of such aggressive content.
4. Examine the usage patterns in the computer/arcade games children and young people play in terms of age and gender differences.
5. Explore the nature and level of concern regarding aggressive content in the Australian community.
6. Establish whether aggressive content in computer/arcade games is perceived to have more impact than in films and TV.

The research was conducted in three stages to ensure a comprehensive account of the place of computer games in the lives of young Australians today.

The first stage involved constructing an overview of the market and products, together with a content analysis of the top 20 bestselling games in Australia at the time of the commencement of the project. *Entertainment Business Review* and *Longshot Communications* undertook this stage.

The second stage involved qualitative investigations in arcades and homes, inviting young computer game players to explain the attractions of the games, the nature of their experiences, and their views about the contents. The market research firm *Keys Young* completed this stage.

The third stage drew on the earlier findings to conduct a larger quantitative study of contemporary Australian uses of and attitudes towards computer games; a large sample of adults and young people, players and non-players participated in this stage. The market research firm *AMR: Quantum Harris* conducted this stage.

Hence, overall, the project addresses the nature of the product and its market, and provides detailed qualitative and quantitative information about the perceptions of members of the Australian community with varying levels of familiarity with computer games.

REVIEW OF THE LITERATURE

A review of the international research literature on computer games available up to the commencement of the project was prepared by Kevin Durkin and published separately by the Office of Film and Literature Classification (Durkin, 1995a). The present report includes a summary and updated account of that literature.

Research addressing various issues relating to the possible negative and positive effects of computer games is discussed. Negative issues include the possibility of addiction, impairment of family life and school performance, undesirable health effects, and the encouragement of

aggression. Positive issues include the possibility of improved cognitive and spatial skills, heightened interest in computer education, and enjoyment of leisure time.

It is stressed that the amount of research available is small relative to that on other media, especially television. Nevertheless, a body of work is accumulating which indicates that early fears of pervasively negative effects are not supported. Importantly, several well designed studies conducted by proponents of the theory that computer games would promote aggression in the young have found no such effects. In contrast, other studies focused on cognitive and spatial benefits have yielded positive results.

This does not lead to the conclusion that computer games never have undesirable consequences or correlates, nor that they will be invariably beneficial. It does mean that the place of computer games in the lives of young Australians need not be approached on the premise that this form of entertainment is inherently problematic. Above all, it suggests that the time is ripe to listen to what young Australians themselves, as well as their parents and other members of the community, have to say about their experiences and perceptions of the games. This is the purpose of the research reported here.

CHAPTER TWO: THE INDUSTRY, THE MARKET AND THE PRODUCT

This chapter presents Stage One of the project: a review of the industry structure (how games are produced and distributed, the kinds of equipment used for play), the market (indicators of revenue, proportion of the population with access to games), and the product (the different types of games). In relation to product, a summary is provided of a content analysis conducted to investigate the production quality, the degree of challenge, and the aggressive content of 20 games popular at the time this project was commenced.

The computer games industry is large and multifaceted: several different formats are produced and used in different environments. Computer games are an integral product in the expanding entertainment/information business arena.

Substantial proportions of Australian households possess either game consoles and/or PCs which are equipped for game play. Access to the Internet is growing rapidly among Australian households, and this medium has the potential to provide not only information about games but a means of transmitting them and a milieu for playing them. Games are also widely available in a variety of public places. While computer games have been thought of as a leisure activity for children and teenagers, it appears that as the first generations of players move into adulthood they are retaining their interest in game play.

In an exploratory content analysis of the current top 20 games in 1995, the focus was on production quality, inherent challenge, and aggressive content. On the first two factors, most games scored highly: it appears likely that reasonably high standards in these respects are prerequisites of commercial success. In respect of aggressive content, the top 20 games varied from no aggressive content at all to high levels, however, no clear link between the presence or degree of aggressive content and market success was found.

In short, computer games are big business, and have a large market. The industry is continuously developing and games are not static entities — in particular, as technology advances they are appearing in more formats, with more capacities, and are more integrated with other entertainment media. There are certainly aggressive games in the market, though these do not predominate.

CHAPTER THREE: A QUALITATIVE STUDY OF PLAYERS' PERCEPTIONS AND EXPERIENCES OF GAME PLAYING

This chapter presents Stage Two, the qualitative phase of the project. Two research approaches were employed to investigate how young people perceive computer game play, with particular emphasis on aggressive content. One approach was an observational study of players at video arcades with follow-up interviews and the second was focus group sessions with regular players.

MAIN FINDINGS – OBSERVATIONAL STUDY IN ARCADES

The main findings of the observational study in arcades were as follows:

- Players showed high levels of enjoyment when playing the games.
- There were high levels of laughter and talking with others around the game.
- Very little overt aggression occurred.
- The main type of aggression was robust treatment of the equipment.
- Verbal or physical aggression towards others was negligible and, if it did occur, laughter and playful talk accompanied it.
- High numbers of the players reported feeling challenged when playing the video game and indicated that this was a major attraction.

Small focus group sessions were conducted with regular computer game players aged 5 to 25 years. They were asked a series of questions about their experiences of game play, and in particular their perceptions of any aggressive content they had experienced. Participants had the opportunity to play computer games during the sessions and were then questioned about their perceptions of the specific game's content and their feelings while playing the game.

MAIN FINDINGS – FOCUS GROUP SESSIONS

The main findings from these sessions were:

- Computer games are clearly regarded by young people as offering distinctive experiences among their media activities.
- For most, game play was one among several forms of enjoyed recreation, often serving as a time-filler when other activities were not possible. Periods of excessive use, typically of new games, were acknowledged by some, but such intense preoccupations usually waned after a while.

- The participants expressed a general preference for joint play, with peers and family.
- The participants stressed that they sought variety and challenge in the games they play, and that they derive satisfaction from developing skills; games which were perceived as overly simplistic held little appeal.
- Interactivity was the key feature that allowed young people to control the games. Games are popular because they afford a degree of autonomy and control that is not possible in older audiovisual media, such as television and film.
- These features of the medium and the game's task mean that specific content — including aggressive content — is perceived differently from the way it is seen in other settings.
- Aggressive content appeared not to be a prevalent aspect of the younger (5 to 7 years) children's experience of games, but was more prevalent in the experiences and choices of older children, especially boys.
- Children report that they find games less scary than other media.
- Identification with game characters did not emerge as a substantial issue in these young people's relationships to computer games, largely because they perceived the characters as fantasies.
- Males, in general, play more. The games tend to be directed towards masculine interests, and this gives them less initial appeal to females. As males play more, they gain greater skills.
- According to these participants, their computer game use is not a major focus of parental concern. They tended to be aware of computer games classifications, but regarded this as more a matter for parents.

CHAPTER FOUR: A QUANTITATIVE STUDY OF AUSTRALIANS' VIEWS ON COMPUTER GAMES

This chapter reports Stage Three of the project, a large scale, nationwide telephone survey of Australian adults and young people. 1,310 people participated in the survey: 895 adults and 415 young people aged between 12–17 years. Respondents were asked a wide range of questions about their experiences of and attitudes towards computer game play.

MAIN FINDINGS - NATIONAL TELEPHONE SURVEY

The main findings include:

- Computer games have wide appeal across the community.
- 94% of 12–17 year olds and 53% of adults have played a computer game in the last year.
- Popularity of computer games with adults is highest among younger adults under 35 years of age (71% compared with 41% of over 35 year olds).
- Males are more likely to be players than females (68% compared with 48% among adults; 98% compared with 89% among 12–17 year olds).
- Computer game play is experienced as a social and enjoyable activity.

- 87% of youth and 47% of adult players report playing with others at least once a month.
- Most people associate positive feelings such as enjoyment, happiness, exhilaration, relaxation and challenge, with playing computer games.
- Few people reported feeling of anger or aggression (3%).
- A wide variety of game genres are played by young people (12–17 years) although individuals show a distinct preference for certain types of games.
- Preferences were:
  - 20% prefer driving games,
  - 23% fighting games,
  - 13% adventure games,
  - 9 % strategy games,
  - 9% children's games,
  - 8% sport games.
- G rated games are the most popular with young people.
- Players rate high resolution graphics, multiple player capability, realistic action and sound effects and lots of levels, as the most important features of a game. Aggressive content per se has low appeal.
- Adults rated computer games low among a list of concerns bearing on the wellbeing of young people. Less than 1% of adults rated computer games their major concern.
- When prompted for concerns, 45% of adults and 24% of young people mentioned violence or violent content.
- The majority of adults (63%) felt no more concern about violence shown in computer games than that shown in movies.
- The two media (computer games and movies) were perceived to have some important distinguishing features. The most commonly reported differences were:
  - The lack of perceived realism of the aggressive content in the games environment. Over a third of the adult respondents(37%) and more than half the youth (52%) spoke about this difference in the two media.
  - The interactive nature of games and thus the ability to have control of the action was another key element of distinction between the two media. Nearly a quarter (24%) of the youth respondents and 21% of the adults made a reference to this distinction. The element of control was a particularly important distinction for the 12–17 year olds.
- About 28% of parents say they have stopped their children from playing games they judged to be too violent, and about 17% of young people report that they have been stopped for this reason; about 21% of young people report that they have chosen to stop playing because the content was perceived as too violent.
- Young people were more likely than adults to say that they were aware of the classification system for computer games (71% young people compared with 38% of adults).

CHAPTER FIVE: IMPLICATIONS AND FUTURE RESEARCH

This project has generated a wealth of data about the place of computer games in Australia today. It is clear that computer games are very popular and played widely: almost all young people play them at least occasionally, and so do many adults. Several implications of the findings are discussed.

The predominant motives for game play, among young people and adults, are enjoyment, diversion, and challenge. These are psychologically healthy motives, common to many leisure activities. There is little reason to believe that the activity itself should be a cause for concern, and little evidence that it is a major source of anxiety within the community.

Aggressive content is a feature of many games, though not a majority. Games with aggressive content appear among, but do not dominate, the best selling titles. Young players reported that aggressive content is not the central attraction of games. Many players said that they perceive the aggressive content as fantastic and preposterous, with the result that they do not take it seriously: they do not perceive their own actions as harming others since they do not believe that the characters on screen are real or suffer pain. Very few respondents to the quantitative survey mentioned aggression as a feeling that they associate with their preferred games.

There is some community concern about the aggressive aspects of some games and it remains important to monitor carefully this aspect of content. Nevertheless, there is no evidence that members of the community perceive computer games as a major social problem, and none of the independent research published to date has demonstrated serious effects of aggressive game play upon young people's behaviour.

A notable development is that as the first generation of computer game players reach adulthood, they have sustained their interest in this leisure activity. The adult market for games is large and growing. As a result, the types of games available have diversified. A proportion of games contains elements that most would agree are not suitable for young children but may be of interest to some adolescents and adults. However, under the current regime, there is no provision for games which exceed an MA(15+) classification. Games that contain themes or other content which may warrant restriction to adults only are not currently permitted, even though comparable content in other media is permitted. It appears anomalous, and without scientific basis, to treat one medium as different from others in this respect.

There is some level of community awareness of the relevant classification scheme, but it is variable and in many cases confused with other classification categories (eg, from movies or television). Some strategies for addressing this issue are suggested, and issues for future research are identified.

1 CHAPTER ONE — POLICY AND RESEARCH BACKGROUND TO THE PROJECT

This chapter sets out the background to the project, explaining first the policy context within which this research was initiated and then summarising the relevant prior literature.

1.1 BACKGROUND

Commonwealth, State and Territory Ministers with censorship responsibilities agreed to the establishment of a classification scheme for computer games at their meeting on 18 February 1994. A computer games classification system was introduced on 11 April 1994 based on an amendment to the ACT Classification of Publications Ordinance 1983.

It was intended that the scheme would be progressively introduced by all other jurisdictions. The scheme provided for in the Ordinance allowed the commencement of the scheme as soon as possible. Swift action was taken following concerns by some sections of the community about the content of some computer games reportedly entering the Australian market. The scheme provided for in the Ordinance was superseded by the Commonwealth Classification (Publications, Films and Computer Games) Act 1995 which came into effect on 1 January 1996.

The computer games classification structure has five categories. These are:

G:	Suitable for all ages
G(8+):	Suitable for children 8 years and over
M(15+):	Suitable for persons 15 years and over
MA(15+):	Restricted: This category is restricted to persons 15 years and over.
RC:	Refused Classification: may not be sold, hired, exhibited, displayed, demonstrated or advertised.

Further details on the computer game classification guidelines are provided in Appendix 1.

The scheme has two features which distinguish it from film and video classification schemes. Firstly, it excludes games with content that would receive an R classification, restricted to persons 18+, in other media such as film or video. Second, the Ministers directed the Classification Board at the Office of Film and Literature Classification (OFLC) to apply more strictly the computer games guidelines than those for the classification of film and videotape. The more stringent approach to this medium was premised on concerns that the interactive nature of computer games might mean that they have the potential for greater impact, and hence greater harm, on the child consumer.

At the time of the development of the computer game classification guidelines little research had been undertaken to ascertain contemporary community standards in regard to computer games and perceptions of their potential impact. The Censorship Ministers therefore requested that the OFLC commission a review of research on computer games and their potential impact on young people.

The review was undertaken by Kevin Durkin (Durkin, 1995a), and the main conclusions it offered will be summarised below. The review highlighted the need for further research, in particular, research relevant to the Australian context. In response, Ministers agreed to provide funds for the conduct of research into community perceptions and attitudes to aggressive content in computer games and its place in the game playing experience. This led to the project reported in this monograph. The project was titled 'Computer Games and Australians Today' (CGAT) and was aimed to complement other research undertaken by the OFLC such as the 'Families and Electronic Entertainment' research, conducted in conjunction with the Australian Broadcasting Authority. Overall, the goal was to develop a sound information base to assist Ministers and the Classification Board.

The broad objectives of the research were:

- To determine the nature and extent of aggressive content in popular computer/arcade games in Australia today.
- To investigate the aspects of particular games which make them popular, and the role of aggressive content within this context.
- To investigate whether aggressive content is perceived as such by young players and the extent to which playing the game mitigates the impact of such aggressive content.
- To examine the usage patterns in the computer/arcade games children and young people play in terms of age and gender differences.
- To explore the nature and level of concern regarding aggressive content in the Australian community.
- To establish whether aggressive content in computer/arcade games is perceived by the community to have more impact than in film and TV.

The research was managed by the OFLC under the advice and assistance of the Research Reference Group (RRG). The RRG was comprised of Kevin Durkin, Professor of Psychology at the University of Western Australia , Kate Aisbett, then Research and Policy Manager at the Australian Film and Television School, Andree Wright then Deputy Director of the OFLC, the OFLC Policy Manager and Senior Classifier for Computer Games.

1.2 STAGES OF THE RESEARCH PROGRAM

The research was undertaken in three stages.

Stage One involved:

- the development of an industry profile, and
- a content analysis of the 20 top selling games.

Entertainment Business Review and *Longshot Communications* undertook this stage.

Stage Two comprised:

- a video arcade phase involving the collection of observational data on players and a follow-up survey with the players, and
- intensive focus groups (14) involving game play and discussion with computer game players between the ages of 5 and 25 years.

Research firm *Keys Young* completed this stage.

Stage Three included:

- A national telephone survey of 1,310 Australians. Sample coverage: 415 people 12– 17 years old and 895 adults including 360 parents of children under 18 years.

The market research firm *AMR: Quantum Harris conducted this stage*.

Each stage of the research fulfilled a particular purpose and employed the methodology appropriate to the particular information needs agreed by the Research Reference Group. Qualitative research methods, such as those employed in Stage Two, are useful for exploratory research into perceptions and the dynamics of the game playing experience. A structured survey on a large representative sample was used in Stage Three to quantify particular patterns of use, interests and attitudes across the community. The results of the quantitative survey also permit comparisons among different segments of the community.

This monograph follows the stages of the research program. The next section of this chapter provides a summary and update of the review of the available scientific literature on computer games and their potential impact. Chapter Two provides an overview of the computer games industry and reports the findings of the content analysis of computer games conducted in Stage One. Chapter Three presents the research undertaken in Stage Two reporting the methodology and findings of the arcades study and small intensive group sessions. Chapter Four reports the method and findings of the national survey. Chapter Five considers the implications of the completed project for policy and also indicates some issues for future research.

1.3 FINDINGS OF 1995 LITERATURE REVIEW

Prior to the commencement of this project, Kevin Durkin had been commissioned by the Office of Film and Literature Classification to conduct a review of the available literature on young people and computer games. That review was published as Durkin (1995a). It discusses most of the research published in international research journals since the emergence of electronic games in the early 1980s through to early 1995. This chapter presents the main conclusions from the 1995 review, and then goes on to consider the research that has emerged since that time. Several new studies have been published, addressing various aspects of computer game play, and these strengthen the conclusions offered in 1995.

Because the 1995 review was a lengthy and detailed document, only the main conclusions will be repeated here. The review focused mainly on the possible negative effects of playing computer games. These naturally attract public concern, and many claims had been aired, chiefly in the media but sometimes by policy makers and academics, that computer games were bad for children. For example, it was feared that the games were addictive, that they impaired family life and school performance, that they might have negative health effects and, above all, that they promote aggressiveness. Durkin (1995a) examined carefully all of the available evidence in respect of these concerns. The main conclusions were as follows:

1. Are computer games addictive?

Several studies of young people's leisure patterns were available. These showed that computer game activity is popular among the young, but that it ranks low compared to traditional leisure activities. Children spend much more time viewing television, or even reading, than playing computer games. Self-report studies, teacher-based surveys, small scale investigations of home usage, and observational/ interview research in video arcades all point to the conclusion that addictive involvement in computer games is quite rare.

2. Do computer games impair family life and school performance?

Studies of families during the first few months after acquiring computer games indicated that they are played with great enthusiasm at first (often by all family members), but interest tends to subside (though not disappear) subsequently. Researchers have concluded that, with few exceptions, playing computer games is a minor part of children's and adolescents' lives, and usually held in perspective with other activities.

3. Do computer games have negative health effects?

Computer games have been accused of reducing the fitness of the young, exposing people to risks of tendonitis, and causing epileptic seizures. Very little evidence was available to support these claims. However, as with any repetitive activity, there is some risk of minor strains and headaches in individuals who spend very long periods playing games. The main conclusions emerging from the medical literature would appear to be that healthy, experienced young game players are unlikely to suffer serious problems. When physical symptoms have been recorded they have usually been found in players' adult relatives who have been caught up in enthusiasms for the games and suffered for their temporary zeal.

4. Does computer game play promote aggression?

Durkin (1995a) stressed that the amount of research into this important topic was at that stage rather small. Some correlational studies provided evidence of a modest relationship between video game play in arcades and aggressiveness ratings, but no link between home play and aggressiveness ratings. This leaves us uncertain as to causal direction. Even if we assume a causal relationship due to the video arcade, we cannot distinguish on present evidence whether the problem is the games played or the social milieu of the arcade itself.

A small number of experimental studies had been reported. Either no or minimal effects have been obtained. Some very tentative evidence indicates that aggressive game play may be cathartic (promote the release of aggressive tensions) for some individuals, though this work is open to methodological criticisms. Durkin concluded that 'Overall, evidence is limited, but so far does not lend strong support to the claims that computer game play promotes aggressive behaviour.'

5. Does computer game play impair social involvement?

Contrary to some fears that computers inevitably draw people into solitary activities, one major study found that social play with computer games is twice as high as social involvement in other media use. Studies of home life indicate that computer game play appears to have improved relations within some families, and brought some together in enjoyable joint activities on a scale rarely experienced in many Western homes since the advent of television.

6. Are there positive consequences of playing computer games?

Durkin (1995a) also examined research concerned with the possible positive consequences of playing computer games. The bulk of research into possible benefits has been conducted by researchers interested in cognitive abilities, symbolic representation and motor skills. Many, though not all, studies in this tradition show gains following practice in specifically designed educational games.

7. Do particular types of people play computer games?

The review also considered research addressed to the possibility that particular types of individuals are attracted to computer games. Studies of personality variables and motivations had failed to provide strong or consistent evidence of differences between players and non-playing peers. The main characteristic which does differentiate players from non-players is gender: virtually every study available to 1995 had found greater male involvement in computer game play.

Overall conclusions of the Durkin (1995a) review:

The review concluded that the most dramatic anxieties about the negative effects of computer games had not been supported by the research to date. Some research indicated that there may be positive outcomes associated with computer game play, in terms of cognitive, perceptual and social development. Durkin stressed that:

> *'At this stage of our knowledge, neither negative nor positive effects should be overstated but both are important issues in the face of the likely continuing appeal of this form of entertainment among young people.'*

Durkin (1995a) pointed out that the available research was far from exhaustive, and much of it (conducted in the 1980s) necessarily concerned the early generation of computer games. It should be borne in mind that the anxieties and claims about negative effects had been raised about these early games, and the evidence had not been forthcoming. Nevertheless, the computer games industry is growing rapidly and its products are becoming more diverse, more sophisticated, in some respects more realistic and in some respects more fantastic; hence, it is possible that more current studies would reveal different outcomes. The purpose of this section of the report is to examine the findings of the studies published from 1995.

1.4 POST-1995 RESEARCH INTO COMPUTER GAME PLAY

Six main types of studies have appeared in the recent literature:

1. a large Australian survey of patterns of use of electronic entertainment,
2. a field study of addiction,
3. experimental studies of the effects of aggressive content,
4. field/correlational studies of the effects of aggressive content,
5. studies/reports of possible positive effects, and
6. a study of classification decisions among consumers.

These will be reviewed in order.

1.4.1 FAMILIES AND ELECTRONIC ENTERTAINMENT IN AUSTRALIA (FEE, 1996)

A large study of patterns of use of electronic entertainment in contemporary Australian households was commissioned by the Australian Broadcasting Authority (ABA) and the Office of Film and Literature Classification (OFLC) in 1994, and the results were reported in a monograph by Cupitt and Stockbridge (1996). This study involved a qualitative stage of focus group discussions with groups of parents, children and teenagers, and a quantitative stage based on a nationwide survey of 743 parents and 743 8 to 17 year olds. Five hundred of the young people also completed a detailed diary of their leisure activities over three days. The study was well designed and drew on a substantial random sample.

Among the main findings were the following:

Parents indicated that issues such as education, personal safety and quality of life were of more concern to them than their children's use of electronic entertainment. Only 6% of parents nominated electronic entertainment (which included television, computer games, video arcades, videos and other media) as of greatest concern (compared to 35% for education, 25% for personal safety and security, 13% for quality of life, and 12% for drugs).

A majority of parents (75%) indicated that they were happy with the balance their children achieved between electronic entertainment and other activities. Only 2% said that they were 'very concerned' and 13% said they were 'concerned' about the amount of time their children spent on computer games (comparable figures for television were 6% and 26%, respectively).

Children and teenagers themselves reported that electronic entertainment had not displaced other activities. Playing computer games absorbed, on average, about 11 minutes of the young people's time per day (compared to over 2 hours spent watching television, and 29 minutes spent playing sports). Computer game play was often undertaken as a social activity: about 48% of the time computer games were played was in the company of other young people or parents. The primary source of information about games for most children was friends, supporting the assumption that computer game play is integrated with young people's social lives rather than detracting from them.

Most parents (75%) set rules about the amount of time that could be spent on computer games, and many (56%) set rules about the content of games that could be played. There was also evidence of informal monitoring of computer game activities by parents. Interestingly, the parents' level of familiarity with the technical side of computers had no bearing on their supervision of computer game play: that is, parents do not need to be computer experts, or even computer literate, to monitor what their children are playing and to decide whether or not to approve.

Most girls and younger children expressed a preference for games classified G. Older children, especially boys, tended to favour the most recently released and more challenging games, some of which included games classified MA(15+).

The most popular games were platform games: 34% of the sample said they played these the most, followed by 10% for combat games, 10% for strategy games, and 9% each for simulation and educational games. Specific games nominated as most liked were *Mario Brothers* (G rated, nominated by 29%), *Sonic the Hedgehog* (G rated, nominated by 25%), *Mortal Kombat* (MA(15+), 23%), *Doom* (MA(15+), 14%) and *Tetris* (G, 14%). In other words, the most popular games were relatively innocuous, though some aggressive games did appear in the top 10. Interestingly, when children were asked to identify the games they most disliked, four games with aggressive contents topped the list (*Streetfighter, Doom, Wolfenstein, and Mortal Kombat*).

Cupitt and Stockbridge (1996, p. 88) conclude:

> *'New technologies are generally accepted by parents as a part of the modern world and parents control their children's access to these in similar ways as they do for older technologies.'*

Overall, the findings of this large scale study are consistent with several of the points made in the review of earlier research summarised above. Specifically, computer games are popular but not predominant among young people's leisure activities; computer game play does not displace traditional recreations, and it does not impair social lives; the fact that only a small minority of parents are concerned about time spent on the games suggests that any incidence of 'addiction' is low; younger children are not generally attracted to or experienced with highly aggressive games, though these are among the games favoured by some older children and teenagers.

1.4.2 A FIELD STUDY OF ADDICTION TO COMPUTER GAMES

Other researchers have attempted to find new evidence of addiction to computer games among young people. In a large scale British study discussed in more detail in Durkin (1995a), Shotton (1989) found that when children's self reports of addiction were elicited, only about one child in 300 hundred regarded themselves as dependent. In a more recent British study, Griffiths and Hunt (1998) comment that Shotton's research was conducted with people who were familiar with what is now the 'older generation' of computer games (ie, those available in the early 1980s). They reasoned that the games of today 'require more complex skills, improved dexterity, and feature socially relevant themes and better graphics' (p. 475). They suggest that today's children begin to play at an earlier age and may therefore be at risk of 'far more detrimental' effects (p. 476). They also criticise Shotton's research on the grounds that her estimates of the rate of addiction depended on the players' own judgments of whether they were addicted. (In fact, Shotton did also collect teachers' assessments, and these pointed to considerably lower rates of dependency, at one child in 700.)

Griffiths and Hunt propose that addiction to computer games should be measured against criteria similar to those employed in respect of other addictions and dependencies. To this end, they surveyed 387 British 12 to 16 year olds with items adapted from the American Psychiatric Association's DSM III-R criteria for pathological gambling. Participants were asked the following questions:

Do you frequently play most days?

Do you frequently play for longer periods of time?

Do you play for excitement or buzz?

Do you play to beat your personal high score?

Do you make repeated efforts to stop or decrease playing?

Do you become restless if you cannot play?

Do you play instead of attending school related activities?

Do you sacrifice social activities to play?

If a participant answered 'yes' to four or more of these questions, he or she was assumed to be 'dependent' upon computer games.

On this basis, 19.9% of the sample were diagnosed as dependent, and a further 6.8% were defined as formerly dependent.

What can be concluded from these figures? One interpretation might be that of the authors, that 'one in five adolescents were currently dependent and that one in four adolescents had been at some point in their lives' (p. 479).

However, consider some of the questions above. 'Playing computer games most days' is very vague. An affirmative answer to this question could be provided by children who play for 5 minutes or 15 hours. There are many activities that can be done on most days: for example, some adolescents might read the newspaper this often, and this would not necessarily be seen as an 'addiction'. 'Frequently playing for longer periods of time' is equally vague. 'Playing for excitement or buzz' is redundant: almost any activity that children, adolescents or adults *play* is chosen for this reason, and there is no dispute that young people find playing computer games exciting. 'Playing to beat your previous high score' is not a psychological weakness: human beings strive to get better at a whole range of activities, and it would be more disturbing to find young people not aiming to improve upon previous performance. Yet note that answering 'yes' to these four questions alone is sufficient to earn the diagnosis of 'dependent'.

The next four questions arguably address more problematic issues, though each suffers from similar problems of vagueness. Is trying to stop playing computer games akin to trying to stop smoking? Is 'restlessness' a serious and previously unknown malaise in adolescents? Is distraction from homework unique to children who have been exposed to computer games? How serious is 'sacrifice'?

Griffiths and Hunt (1998) acknowledge that the 'dependency' interpretation is in fact implausible, and concede that their scale 'may be more a measure of preoccupation than dependence' (p. 479). It is not obvious why they retain the term 'dependence' in the title of their paper, except perhaps that it is more eye-catching and media-friendly than the more credible terms 'preoccupation' or 'enthusiasm'.

In sum, there is little reason from this study to amend the conclusion that addiction to computer game play is relatively infrequent. Certainly, many young people go through periods of intense involvement in computer game play, but this does not appear to be an enduring obsession for the majority.

1.4.3 EXPERIMENTAL STUDIES OF THE EFFECT OF AGGRESSIVE CONTENT

1.4.3.1 Competitive versus cooperative play in adults (Anderson and Morrow, 1995)

Anderson and Morrow (1995) compared university students' performances on the game *Super Mario Brothers* under two conditions: 'cooperative' (the players took turns to operate a single character) or 'competitive' (the players operated one character each, in turns, and the experimenters told them that they would be compared against each other). The characters could 'kill' deadly creatures that they encounter in the course of play. The players had not met previously and, although they met briefly at the outset, were separated by a partition throughout the play.

Anderson and Morrow compared the 'kill' ratios of participants in the two groups (cooperative vs. competitive). The 'kill' ratio for the competitive players was 66%, and that for the cooperative players was 41%.

Anderson and Morrow interpret this finding as revealing 'huge effects on aggressive behavior' (p. 1027), 'vastly different rates of aggressive game play' (p. 1028) and evidence that competitive game play 'increases [players'] aggressive tendencies even though the aggression is not directed at the competitor' (p. 1028).

These are eye-catching assertions, and the kind of claims that are often translated into simplistic media accounts of the alarming effects of computer game play. In fact, the behaviours measured are not convincing indicators of aggression or aggressive tendencies, and the same results could have been obtained without involving computer games.

Unfortunately, Anderson and Morrow rely on a notion of aggressive behaviour that differs from standard definitions employed by most social scientists. Aggression is normally understood as behaviour which is aimed at causing hurt or injury to another party or property. The 'deadly creatures' that roam the world of the *Super Mario Brothers* are not animate beings, and their destruction causes no pain. Indeed, their destruction is very shortlived, since they can reappear instantly, and are there again, every time one plays the game.

The critical manipulation in this study is that of cooperative versus competitive play. Certainly, there is evidence that people perform differently under competitive conditions. The purpose of the game chosen for the study is to 'kill' deadly creatures, and what seems to be demonstrated is that people perform better (within the terms of the game) under competitive conditions. This is not a surprising discovery. The assumption that competition spurs achievement underpins many human activities, from schoolwork through choral singing to the Olympics. Had Anderson and Morrow compared performance on a 'kill-free' game, such as a sports game, or on a non-computer based activity, they may well have found a similar difference between the cooperative and competitive conditions, with people performing to a higher level in the latter. Competition is motivating.

The researchers also collected several other measures relating to the players' perceptions of the game, their liking of the partners they had been assigned, and their feelings of hostility and agreeableness. No statistically significant differences between groups were obtained. *In other words, playing the game under different conditions made no difference at all to the kinds of feelings that might arguably be associated with real world aggression.*

Anderson and Morrow (1995) are frank in acknowledging that they have an ideological aversion to competition, which they regard as 'inherently frustrating' and inevitably promoting aggression. They dwell on the problems of American society as examples of what they perceive as the consequences of competition. But this is a more general issue of personal values, and should not be confused with the scientific investigation of any effects due to playing computer games. Computer games, like many other activities, may be played under solitary, or cooperative, or competitive conditions. It seems, from Anderson and Morrow's results, that people are motivated to achieve higher scores in competitive conditions. The researchers may regret this fact, but it is scarcely evidence of 'huge effects on aggressive behavior'.

1.4.3.2 Responses to Mortal Kombat among adults (Ballard and Wiest, 1996)

Ballard and Wiest (1996) investigated the effects of playing the violent game *Mortal Kombat* on males' hostility and cardiovascular responses. *Mortal Kombat* is a best selling game which has been the subject of considerable controversy because of its aggressive content; as noted above, Cupitt and Stockbridge (1996) found that it was then among the top 10 preferred games of young Australians.

The participants in Ballard and Wiest's study were 30 male American undergraduates. They were divided into three groups of 10. Members of one group played *Mortal Kombat* (MK) at Level One: 'the combatants kick, punch, electrocute, et cetera one another until one has been killed'. Members of another group played the game at Level Two, with the same actions, 'but the aggressive moves are accompanied by spurting blood and gore.' The third group played a billiards game, *Corner Pocket*, which involved no violence.

Measures of physiological arousal (blood pressure and heart rate) were before and immediately after play. A hostility questionnaire with three sub-scales was completed shortly after play.

The results showed that players of the MK Level Two had higher systolic blood pressure, after play, than the members of the other two groups. Both MK Level One and MK Level Two had higher heart rates than the players of *Corner Pocket*. Diastolic blood pressure did not vary among the groups. Scores on the hostility measure differed among groups, with those in the MK groups scoring higher than the billiards players, and MK Level Two scoring higher than MK Level One. The experimenters comment: 'Arguably, these results could indicate that the more violence contained in a videogame, the greater the potential for negative outcomes, such as aggressive behavior' (p. 726).

However, aggressive *behaviour* was not measured in the study, and the experimenters do not mention any instances of it occurring. Hence, their comment is a speculation, not a description of the findings.

There are also some limitations to the study which affect interpretation. It is not clear that the variations in physiological and hostility measures were due to the aggressive content of the games. The experimenters acknowledge that the billiards game differed from the MK games 'not only in regard to the level of violence involved, but also in regard to the level of action' (p.727). The MK games are dynamic and fast-moving, while the billiards game calls for deliberated decisions, careful aim, calculation of possible moves, etc. It is not surprising that the action games are more likely to provoke physiological arousal.

It should also be noted that the mean heart rates of the participants varied from 64 in the billiards game to 72 in both of the MK games. This appears to be a marked difference and it is tempting to conclude, as Ballard and Wiest do, that this is evidence that the 'higher levels of videogame violence elicited greater [cardiovascular] reactivity' (p. 726). However, the excitement of this conclusion should be tempered by the observation that the resting heartbeat of the healthy young male adult is around 70–80. The logic of Ballard and Wiest's experiment leads to the conclusion that playing the MK games causes a normal heart rate. An alternative interpretation, more consistent with these results, is that playing a game such as *Corner Pocket* is so relaxing that people's heart rates decelerate.

Other limitations of the study are that the numbers in each group were quite small, and the participants were all university students. This is not a strong basis for generalisation, and there is a risk that students will adjust their responses to meet what they perceived as the aims of the experiment. The experimenters did tell the students that the hostility measure was for another study, in order to minimise this problem, but it is not clear whether this ruse was effective. Above all, as the researchers acknowledge, 'a behavioral measure of aggression or hostility would have been ideal' (p. 720) but they did not have the time or space to collect one. Overall, this small scale study does not provide strong evidence to help us address the question of the effects of aggressive game play on behaviour.

1.4.3.3 Physiological arousal and personality type among adult players (Griffiths and Dancaster, 1995)

Griffiths and Dancaster (1995) also found that computer game play resulted in higher heart rates. In their study, the participants were British university students. They played for 15 minutes a game in which the aim was to obliterate as many asteroids and alien spaceships as possible. The initial heartbeats of these students were higher than those in Ballard and Wiest's (1996) study, at just over 80 beats per minute; they rose to around 86–88 during play, and then returned to baseline after play.

Griffiths and Dancaster were interested in the possibility that Type A individuals (people who are characteristically competitive, and prone to impatience, anger and hostility), would reveal greater heart rate acceleration than Type B individuals (people who lack the Type A characteristics). The evidence was tenuous in this respect. The main point to emerge is that the heart rates were at all stages substantially higher than those in Ballard and Wiest's study. Perhaps Griffith's and Dancaster's British students were less fit than their American counterparts, or perhaps the inclusion of women in the British sample (women tend to have higher resting heart rates) accounts for the difference.

There is very little that can be concluded on the basis of our present knowledge of physiological changes during computer game play. The few studies that have measured heart rates find considerable differences in baselines. There is some evidence that heart rates increase during play, if the game is lively enough, but then heart rate increases during any lively activity.

1.4.3.4 Hostility after play among adults (Scott, 1994)

Scott (1994) administered a similar hostility measure to that used by Ballard and Wiest (1996) to male and female students who played a non-aggressive game (*Tetris*, involving manipulating geometric shapes as they fall down the screen — found by Cupitt and Stockbridge, 1996, to rate among the top 10 preferred games of young Australians), a moderately aggressive game (*Overkill*, involving shooting at alien space ships), and a highly aggressive game (*Fatal Fury*, involving martial arts violence against realistic human characters and accompanied by sounds of thumps and groans). The games were played for 10 minutes.

This is Scott's account of the findings: 'I had hypothesized that there would be a linear increase in aggressive affect after playing non-aggressive, moderately aggressive, and highly aggressive games, but no such increase occurred. The overall pattern was that the moderately aggressive game substantially decreased feelings of aggression, whereas the highly aggressive game resulted in much less of an increase in aggressiveness than I expected, although no more so than occurred in the control game' (p. 128). The greatest change was among the males who had played the non-aggressive game: they showed the largest increases in hostility after playing.

Scott concludes that individual differences among players are more important than the effects of particular types of game play.

1.4.3.5 Using computer games to induce anger in adults (Wingrove and Bond, 1998)

Wingrove and Bond (1998) placed students in a cooperative computer game which was rigged to result in failure. The player's task was to follow directions, supposedly sent by a partner in an adjacent room, to steer a tank (under time pressure) to avoid invisible mines. In fact, the game was difficult to play and the instructions were designed to result in loss of tanks. After play, the participants scored higher on a self-rating scale of Anger than they had done before play.

The study was not actually designed as a test of the effects of playing computer games per se, and will therefore be discussed only briefly. The main purpose was methodological: to devise a task that would induce anger in the laboratory. Such a task could be useful in subsequent research into anger and aggression. The use of a computer game was largely incidental. Any reasonably complex task, with time pressure and misleading instructions could serve the same purpose.

The experimenters did not include any comparison conditions (eg, exposing people to different types of game play, different types of instructions, or examining the before-after responses of people who had not played the game but had waited the same amount of time, etc.). Hence, little can be concluded from this study about the effects of playing computer games (and this was not the investigators' purpose). However, the study is of interest in relation to Anderson and Morrow's (1995) assumption that cooperative play is inevitably superior to competitive play. Wingrove and Bond's results suggest that play with an inept partner is not necessarily conducive to positive thoughts. Again, the overriding conclusion must be that it is always possible to arrange circumstances to promote frustration and ill-feeling among human beings, but the use of computer games in these studies is largely incidental.

The studies reviewed so far have been conducted with university students. University students are an unusual subset of the population. They tend to be of above average intelligence, are sometimes trained to have a more critical perspective, and may have greater social and political awareness than some other groups. They are convenient for researchers, but it is not clear that findings obtained with them can be readily generalised to other sectors of the population. The next two studies were conducted with school children and, on this basis at least, may be more informative in respect of concerns about effects on young people.

1.4.3.6 Do boys imitate aggressive computer game play? (Irwin and Gross, 1995)

As discussed in Durkin (1995a), experimental studies have not generally provided firm evidence of effects of playing aggressive games on aggressive behaviour. Irwin and Gross (1995) acknowledge the same point but suggest that the failures of previous studies to find such a relationship may be methodological. They note that the few studies that have been conducted tend to measure different types of behaviour than those actually demonstrated in the games. Modelling theory would lead to the expectation that the same behaviours are more likely. These are not always easy

to obtain: for example, children who have been blasting alien space ships on a computer screen cannot be placed in an environment where authentic alien space ships are bearing down upon them.

Irwin and Gross also suggest that the characteristics of the child may make a difference to his or her willingness to engage in aggressive behaviour. Previous research has shown that boys who are impulsive tend also to be more aggressive. Irwin and Gross therefore enlisted 60 7 to 8 year old American boys in a computer game experiment, and on the basis of pre-testing determined that half of the boys were 'impulsive' and half were 'reflective'.

Half of each group played an aggressive computer game (*Double Dragon*, a martial arts game), and half played a non-aggressive game (*Excitebike*, a motorcycle racing game). Each participant played individually for 20 minutes.

After computer game play, the boys were taken to a playroom where they met another boy who was actually a confederate of the experimenters. The boys played together with a set of available toys for 10 minutes. The boys then took part in a colouring contest with the prospect of a one dollar prize to the winner. Only one colouring pencil was provided, and the experimenter left, ostensibly to find another. The pencil was promptly grabbed by the confederate, who began colouring his picture as quickly as possible and bragging about his performance. In short, this manipulation was designed to frustrate the participants (frustration is well established as a potential cause of aggression).

The experimenters measured the boys' heart rate before and during the video game play, and took several measures of the verbal and physical aggression during free play and in the frustration episode. There was no difference in heart rate between the aggressive and non-aggressive conditions. There were no differences in verbal aggression to the confederate during the frustration period, nor in physical aggression toward the confederate during free play. Contrary to expectations, behaviour did not differ according to whether the boy was impulsive or reflective.

The main finding of interest is that boys who played the aggressive video game showed more of what the experimenters classified as 'physical aggression toward objects' in the free play period. The mean rating of physically aggressive acts for those who had played the aggressive games was 10, while for those who had played the non-aggressive games it was about 4.4.

The researchers also claim that the boys who played the aggressive video game showed more verbal aggression toward objects in the free play period, more verbal aggression toward the confederate in the free play period, and more physical aggression toward the confederate in the frustration period. However, the raw figures in all of these comparisons show extremely low occurrences (usually with means of less than one, and in some cells zero); hence, tests of statistical significance are meaningless and it is not valid to claim serious differences in aggressiveness on this basis.

In general, the boys appear to have been quite well behaved, even when the confederate was being obnoxious. The critical difference lies in the physical aggression towards objects (the toys provided by the experimenters), not towards a person. The toys provided included 'an inflatable punching doll, two foam rubber swords, and a set of "Ninja Turtle" action figures', as well as some non-aggressive toys. It appears that the boys who had just been playing a martial arts computer game were more likely to play with the martial arts toys.

This is not convincing evidence of an increase in authentic aggressiveness. It does suggest a carry over from one play form to the next. However, since the 'aggression' was directed at toys that are designed for this purpose, all that can be concluded is that the boys felt encouraged to play this type of game (well known to be very popular among boys of this age range). Importantly, the toys are robust and not readily damaged and, still more importantly, nobody was hurt.

Overall, this small scale experiment is interesting but the findings suggest little effect of playing the particular game chosen on aggressive behaviour. Instead, what appears to have happened is captured in the researchers' report that: (the boys) 'often engaged in fantasy play, assuming the role of one of the video game characters and pretending to physically harm an evil villain or formidable opponent' (p. 347). Boys, and some girls, have been known to engage in this kind of fantasy play throughout history. It is arguable whether it is problematic, but it is clear that it is not unique to computer game players.

1.4.3.7 Mortal Kombat and children's perceptions of aggressive intent (Kirsh, 1998)

Kirsh (1998) conducted another experimental study to investigate the effects of playing a violent video game. Kirsh's hypothesis was that playing violent games should promote the development of a hostile attribution bias — that is, a distorted tendency to assume that the behaviours of others are hostile, aggressive and potentially harmful to oneself. Previous research has established that individuals who are prone to aggressive behaviour tend to have this bias.

The participants were 52 third and fourth grade American schoolchildren (ages ranging from 8 years to 10 years). The children played either a violent game (*Mortal Kombat II*) or a nonviolent sports game (*NBA JAM: TE*, a basketball game). Thus, one strength of the study is that the games were reasonably matched for action and excitement, while controlling for violence.

After playing for approximately 13 minutes, children were read five short stories about ambiguous provocative situations. For example, a story character was hit in the back by a ball thrown by a peer — the intentions of the thrower were not clear. The interest lies in whether the child interprets the action as hostile, whether he/she judges retaliation to be appropriate, how the person would feel, etc. Children with a hostile attribution bias should interpret the situation as aggressive, and elect for aggressive responses. The hostile attribution bias was expected to be promoted by playing MK.

Kirsh collected six measures in this way, and compared the MK group with the JAM group. On three of the measures there were no differences. On three, the MK group responded more negatively to the ambiguous provocation stories. The questions where differences were obtained were of the forms 'Why did the kid ...?', 'What would you do next ...?', and 'Do you think that the boy/girl [in the story] liked you?' Kirsh concludes that these results 'offer some support for the contention that violent video games lead to the development of a short-term hostile attribution bias' (p. 181) and that 'children exposed to the violent video game come to perceive the world through Mortal Kombat-coloured glasses' (p. 183).

Unfortunately, these conclusions are not warranted on the basis of the results. First, the statistical analysis is a generous one: several tests were conducted[1], and this increases the likelihood of finding a significant result by chance alone .

Second, the measures actually reveal rather low levels of hostile interpretation: the possible range was from 0 to 5 (where 5 represents greater negativity) but the means were in the range 0.7 to 2.7, ie, rarely exceeding the mid-point of the scale.

Third, even if it can be assumed that the three differences obtained are meaningful, it has to be balanced with the recognition that on three other measures there were no differences — in particular, on the one measure that might arguably be related to a readiness for aggressive response, namely 'should the kid be punished a lot, a little or not at all?' there was no reliable difference (actually, the JAM group marginally, though non-significantly, exceeded the MK group: respective means 2.7 and 2.6). While the experiment is interesting, one would need to don very strongly coloured anti-computer game glasses to find the evidence of hostile attribution bias that Kirsh infers from these results.

In sum, several new experimental studies of the effects of playing aggressive computer games have appeared in the recent literature. Most of these have been conducted with university students, though some have involved children. None has provided firm evidence of effects. Sometimes effects are claimed, but the claims are not consistent with the data and seem to reflect the investigators' preconceptions and hopes rather than their own findings.

[1]On a technical note, the study did not include any attempt to gauge communality among results. For example, a MANOVA was not conducted, interrelationships among dependent variables were not examined. There was no correction for Type 1 errors.

1.4.4 FIELD STUDIES OF THE EFFECTS/CORRELATES OF AGGRESSIVE GAME CONTENT

Four substantial recent studies have appeared, two conducted in The Netherlands and one in the US.

1.4.4.1 Correlates of game play among children (Van Schie and Wiegman, 1997)

Van Schie and Wiegman (1997) conducted a study of 346 school children (average age 11 years) in The Netherlands to examine possible positive and negative correlates of playing computer games. This was a good quality study with the benefits of (a) a large sample, and (b) a behaviour-based measure of aggressiveness (peer nomination). As well as perceived aggressiveness, several other measures were collected: prosocial behaviour (helping others), social isolation, loneliness, popularity, social status, school performance, and intelligence.

This study was conducted by researchers committed to the theory that children's social behaviour is stimulated by the examples provided by media models (such as aggressive computer game characters). They contrasted their position with the catharsis theory, that playing a computer game can be a way of channelling aggressive tensions harmlessly. The researchers expected that 'the amount of exposure to videogames will correlate positively with aggressive behavior' and that 'children who spend a great deal of time on videogames will display less prosocial behavior' (p. 1181).

The correlations between the amount of time playing computer games and both aggressive behaviour and prosocial behaviour were examined. *No relationship was found between amount of play and aggressiveness*. A slight negative correlation ($r = -0.12$) was found between the amount of play and prosocial behaviour: that is, there was a slight tendency that the more children played, the less likely their peers were to perceive them as helpful and supportive classmates. (In statistical terms, the relationship is weak, accounting for less than 1.5% of the variance.)

Van Schie and Wiegman conclude:

> *'By establishing no relationship between playing videogames and aggressive behavior, we find no support for any of the theoretical approaches we mentioned earlier: neither the stimulation model nor the catharsis model was supported' (p. 1190).*

Although this is one of the better studies available, one limitation (acknowledged by the authors) should be noted: the study did not take account of the type of computer games played. It remains possible that playing a particular type (eg, aggressive) of game is associated with aggressive behaviour.

However, this remains a possibility rather than a likely outcome. It should be borne in mind that many of the games on the market are aggressive (Chapter Two), and presumably aggressive games were being played by some of this large sample. The children who played most were presumably most likely to be exposed to aggressive games. Van Schie and Wiegman did find, in common with all other studies, a sex difference such that boys played more than girls. Hence, in their sample as a whole the individuals scoring high on amount of play would tend to be boys.

In a study of behavioural aggression among schoolchildren we would expect to find boys scoring higher than girls (Durkin, 1995b). In this respect, then, the study was biased towards finding a correlation between amount of play and aggressiveness. No such correlation was found.

Very few of the other variables measured in this study correlated with amount of time spent playing computer games. That is, there was no relationship between amount of play and any of: social isolation, loneliness, popularity, general school performance, language skills, or arithmetic skills. There was a slight positive relationship (r = 0.09) between amount of play and intelligence, reflecting a slight tendency for children with higher IQs to spend more time playing (again, this is a very weak statistical relationship).

Van Schie and Wiegman conclude that longitudinal research is desirable to investigate more fully the relationship between computer game play and social behaviour (including aggression) in children. Nevertheless, their substantial and well conducted study provides no support for simplistic assumptions of a straightforward causal relationship.

1.4.4.2 Game play, aggression and prosocial behaviour in children and early adolescents (Wiegman and van Schie, 1998)

Wiegman and van Shie (1998) report another survey of 278 children from The Netherlands aged 10 to 14 years (mean age 11 years). The purpose of this study was to investigate the relationship between computer game play and aggressive and prosocial behaviour. Again, the investigators subscribed to the theory that modelling of aggressive behaviour in computer games should lead to greater aggressiveness in players. The children completed a diary of video game play for a one week period, as well as a questionnaire about the video game preferences. Aggressive behaviour and prosocial behaviour were measured using peer nomination techniques.

Three groups of players were constructed: nonplayers (who indicated in their diaries that they did not play at all during the week), moderate players (playing on average, less than half an hour per day), and heavy players (more than half an hour per day). The groups' scores on the measures of aggressiveness and prosocial behaviour were compared.

There were no differences for aggression. For prosocial behaviour, a slight but significant difference was obtained: heavy players scored lower (mean = 1.18) than both the nonplayers (1.44) and the moderate players (1.45).

The researchers also examined aggressiveness scores as a function of preference for aggressive games. This analysis revealed that children with a high preference for aggressive games showed the highest level of aggression. Children with a high preference for aggressive games also showed the lowest levels of prosocial behaviour.

Taken at face value, these results are consistent with the interpretation that playing computer games does not in itself increase the likelihood of aggressiveness (there was no difference among nonplayers, moderate players, and heavy players). However, when people are divided according to game preference, those who like aggressive games turn out to be the people most likely to be nominated by their peers as aggressive.

Unfortunately, this account has to be qualified. Wiegman and van Schie repeated all of the above analyses for boys and girls separately. In these analyses, the significant differences between groups were not found. This indicates that the overall effects were confounded. The researchers report that (as in most other studies) the boys indicated a greater preference for aggressive games than did girls. Boys also tend to score higher than girls on measures of overt aggressiveness. Hence, what is really being demonstrated in the analyses of the total data is a gender difference.

As the researchers conclude, further research is required before causal relations can be inferred, but it would appear plausible that the direction of effect is from player to game. Computer games cannot turn players into boys. A more reasonable interpretation is that people with certain characteristics seek out certain types of game: aggressive children like aggressive games. It remains uncertain whether involvement in aggressive games by already aggressive individuals contributes to the exacerbation of their aggressive tendencies, provides a harmless avenue for its discharge, or makes no difference. These are important questions, but at present a conclusive answer is not available.

1.4.4.3 Violent games and adolescent self-concept (Funk and Buchman, 1996)

Funk and Buchman (1996) examined the relationship between playing violent video games and self-concept among 357 American high school students. Their view of the existing literature was that:

> *'As yet, there is insufficient research to support strong causal statements about the impact of playing violent electronic games' (p. 20)*

and that:

> *'The prevalence of game play indicates that it is unlikely that playing video or computer games causes severe psychopathology in the average player' (p. 22).*

They suspected, however, that frequent exposure to violent games might have a subtle effect on individuals' outlooks and self-perception. In particular, they reasoned that involvement in violent games might encourage young people to discount the importance of some dimensions of competence. For example, playing violent games might lead young people to regard scholastic performance as less important. This is a complex study, but the results are relatively straightforward: there was no relationship for boys, and only a very weak one for girls.

Among girls, amount of time *playing in an arcade* was associated with self-concepts of scholastic competence, social acceptance, and athletic competence. Amount of time spent *playing in the home* was associated with self-esteem. In each of these cases, the relationship was negative: that is, the more computer game play in a given environment, the lower the score on the other measure. It is important to note that these findings vary, but they are intelligible: perhaps girls who hang around video arcades a lot are less interested in school activities, social acceptability and sports, and perhaps girls who stay at home playing violent video games have lower self esteem than their peers.

The researchers also examined the relationship between the proportion of violent fantasy games listed among favourites and perceived job competence. This relationship was positive, indicating that the more violent fantasy games a girl liked, the more competent she perceived herself in respect of employment.

It might be tempting to conclude that playing violent computer games furnishes young women with a more robust sense of their employability. A more plausible interpretation is that some teenage females who are more assertive will be more likely to experiment with activities (like video games) that many of their peers regard as a male domain, and also more likely to have confident aspirations for their prospects in the workplace. In other words, video game play or choices are not a cause but a correlate of a particular personality style.

In any case, Funk and Buchman's results should not be over interpreted. As the authors themselves note, only a small proportion of the variance in self-competence scores was associated with the computer games measures. They suggest that this may be 'socially significant', but it is not clear why. After all, computer game play is predominantly a male pastime, and no relationships were found for males in the study. Despite the emphasis on violent games, the study was not designed to measure impact on aggressive behaviour or attitudes, and nothing in the results suggests such a relationship.

1.4.4.4 Adolescents' attitudes toward games (Barnett et al., 1997)

Barnett et al. (1997) surveyed 229 American 15 to 19 year olds about their experiences with and attitudes toward videogames. In this study, participants who indicated that they played videogames for at least 1 to 2 hours per week were classified as frequent players (157, or 68%, of the sample met this criterion). The researchers also collected measures of personality variables (self-esteem, empathy, conscientiousness, and introversion).

As in previous studies, Barnett et al. found that males spent more time than females playing computer games. There were gender differences in favourite games: 41% of males selected sports games, 29% selected violent games, 21% selected action/fantasy, and 9% preferred intellectual/creative games. The corresponding figures for females were 8%, 4%, 44%, and 44%.

In general, the respondents' attitudes towards videogames and players ranged from positive to neutral. Females tended to agree more than males did with statements that 'videogames are bad for people and parents should monitor their children's videogame playing'.

There were few indications of a relationship between attitudes towards computer games and personality measures, though there was some hint in the data that people who had low self-esteem or were introverted were more likely to prefer computer games to interactions with peers.

In sum, four reasonably large scale field studies of the correlates of aggressive game play have failed to find evidence of strong links between play and behaviour, or play and self-concept. It is worth noting that some of these studies were conducted by researchers expressly committed to the theory that playing violent games promotes aggressive behaviour and other problems. In fact, they conclude scrupulously that they have been unable to find evidence consistent with their hypothesis.

1.4.5 STUDIES OF THE POSITIVE USES OF COMPUTER GAMES

Two studies have examined either ways in which computer games can be deployed to promote positive developments in young people or the relationship between play and cognitive development.

1.4.5.1 Promoting moral development (Sherer, 1998)

Sherer (1998) investigated the effects of playing computerised simulation games on the moral development of Israeli high school students. This was a substantial investigation, involving two groups (Experimental and Control) of 15 year olds who met for 20 weekly sessions.

Children in the Experimental group were presented with a series of illustrated stories via computer. The games involved characters who were about to commit immoral acts (stealing, cheating, theft, property damage, etc.). The task for the player was to attain as high a score as possible by selecting the most moral solution from a set of choices made available.

Participants also had opportunities to create their own dilemmas, and took part in class discussions of the issues the dilemmas raised. Participants completed a measure of moral development before and (five months) after playing the games.

Sherer's study involved specially constructed educational materials and was conducted under relatively formal conditions (in classrooms, and with input from teachers and researchers) over a sustained period. In many respects, then, it was a quite different experience from young people's use of the commercial products that are the main focus of this report. We cannot assume that any changes were due to the effects of games alone. There are some limitations to the methods used, not least in that participants had to determine the moral choices of fictional characters in the stories rather than provide their own decisions — it is possible that their own choices would be different. The report does not make clear what the children in the control group did. There are also limitations in the statistical treatment of the results, and the findings can only be regarded as tentative.

Nevertheless, some evidence was obtained of slightly higher moral scores among children in the Experimental group. Sherer concludes that:

> *'computerized therapeutic simulation games may contribute to the process of moral development of youth as part of the teaching curriculum in our formal educational system' (p. 385).*

This possibility requires further research, but it does open the prospects of positive uses of computer games in imaginative educational interventions.

1.4.5.2 Developmental changes in attention to games (Blumberg, 1998)

Blumberg (1998) interviewed American children after they had been playing the 'relatively nonviolent' platform game, Sonic the Hedgehog 2 for 10 minutes (as noted above, Cupitt and Stockbridge, 1996, report that this was then one of the most popular games among young Australians). The children were in second grade (mean age 7 years) or fifth grade (mean age 10 years).

Blumberg was interested in developmental differences in attention to the games. He found that the younger children tended to focus on evaluative issues (eg, commenting on whether they liked features of the game) while the older group tended to focus on goal and strategic issues (eg, how to get to a higher level, how to win, which moves to make). This study was not concerned with the effects of the games on social behaviour, but it does indicate that game play is associated with developmental progress: older and more experienced players develop a more sophisticated, skill and strategy oriented approach.

In sum, the recent literature on positive uses of computer games is small, and the findings modest. It appears plausible that some specifically designed educational materials may contribute to positive developments, though it may well be that this will depend also on input from other parties (especially, teachers and other mentors). It does appear that children apply more sophisticated skills and strategies to computer game play as they get older, though whether the development of these skills can be attributed to computer game play or to general cognitive development is not easily determined on the basis of the present evidence.

1.4.6 CONSUMERS' CLASSIFICATIONS OF COMPUTER GAMES (FUNK ET AL., 1999)

Funk, Flores, Buchman, and Germann (1999) investigated the relationship between commercial ratings systems for computer games and the ratings of child and adult consumers (in America). A list of favourite games was obtained from 201 fourth graders who were also asked to categorise the games. The games were also subsequently categorised by sixth graders, university students, and parents. The games were categorised with reference to the criteria of the commercial ratings system.

In general, for games at the extreme ends of the continuum (nonviolent to violent) there was a high level of agreement among consumers and between consumers and the commercial ratings system. That is, nonviolent educational games were easily categorised as such, and violent games such as *Doom, Mortal Kombat,* or *Street Fighter* were widely recognised as violent. There were some differences in terms of the type of violence categorised: for example, half of the fourth graders recorded *Mortal Kombat* as 'sports violence' while most adults recorded this game as 'human violence'. (*Mortal Kombat* is a martial arts game.)

The main discrepancy between the commercial ratings system and the consumers' judgments arose with respect to games in which cartoon characters engage in violent actions (*Aladdin, Donkey Kong, Mario Brothers, Pacman, Sonic*). The commercial system rated these as unrestricted (suitable for all ages), but substantial proportions of the consumers, especially the children, rated them as violent (usually, 'fantasy violence'). For example, while the commercial system placed *Aladdin* in the GA category (General Audience), a majority of sixth graders and over 40% of adults placed it in one of the violent categories. The authors summarise the implication in the subtitle of their report: 'Violence is in the eye of the beholder'.

Two points should be made about these findings. First, with respect to the types of games that are typically (in American commercial ratings) awarded higher level categories because of their violent content, most consumers would also categorise them as violent. This suggests that the categorisation system is meaningful to children and parents (although it does not confirm that the system is widely observed when making purchases or play choices). Second, where there are discrepancies between the commercial ratings and consumers' ratings, they tend to reflect the consumers' greater awareness of violent content. Hence, (American) consumers are not dependent on commercial ratings in deciding whether a game has violent content.

It is less clear from the Funk et al. study how much importance consumers attribute to the different types of violence. It is conceivable that the violence in *Mortal Kombat* or *Street Fighter* would be regarded as more authentic/disturbing than the violence in *Aladdin* or *Donkey Kong*. But this may not be the case: consumers may regard both as equally serious, or as equally trivial. These issues were not addressed directly in the study and call for further research. It should be recalled that all of the games being categorised had been identified as the favourite games of the fourth graders. Thus, these participants may well arrive at accurate classifications of games such as *Mortal Kombat, Doom* and *Street Fighter* (and perhaps more conservative classifications of *Aladdin*, etc.), yet still play them.

In sum, Funk et al.'s (1999) study raises interesting questions about how young consumers, and parents, interpret commercial (or other) classification of computer games. It appears that most consumers agree with the categorisation of well-known violent games, but there may be differences of opinion in the community about the classification of popular cartoon-like games that are typically targeted at a broad childhood market.

1.5 CONCLUSIONS

Overall, there has been little reason on the basis of recent studies to change the conclusions offered in the Durkin (1995a) review.

No new evidence of widespread addiction has emerged, although of course it remains possible that some minority of young people may experience periods of excessive game play. The findings of a large scale recent Australian study suggest that few parents have observed problems of addiction, and most perceive their children as maintaining a satisfactory balance between the various forms of electronic entertainment, including computer games, and other activities. This study also confirmed that involvement with computer games has a strong social component, as games are often played with friends or family.

Despite several attempts to find effects of aggressive content in either experimental studies or field studies, at best only weak and ambiguous evidence has emerged. Importantly, these studies have employed current games or concerned contemporary young players who presumably have access to the latest games.

This is not to conclude that playing violent computer games cannot promote aggressive behaviour, still less that such games should be regarded as suitable for children of all ages. But the accumulating evidence — provided largely by researchers keen to demonstrate the games' undesirable effects — does indicate that it is very hard to find such effects and that they are unlikely to be substantial. In many respects, this brings contemporary understanding of the effects of computer games to that reached about television content many years ago: they may have some effects for some people in some circumstances (still to be uncovered) but they do not have pervasive effects on young people in general.

Although we have less evidence in respect of positive effects, similar caution is appropriate. Some computer games may be beneficial in some circumstances. Much will depend on the developmental status of the children and the extent to which relevant adults are involved.

2 CHAPTER TWO - THE INDUSTRY, THE MARKET AND THE PRODUCT

This chapter provides a contextual overview of the Computer Games business. It draws partly upon Stage One of the research program undertaken by *Entertainment Business Review* and *Longshot Communications*[2] . Their work provided a valuable account of the nature of the industry and its products at the time the project was commenced in 1995. However, a basic feature of the industry is that it is undergoing continual and rapid change, and new developments have already increased the range and diversity of game platforms and game content. Hence, this overview draws also on recent information obtained directly from the industry and other relevant sources.

The chapter is divided into four main sections, dealing in turn with the industry structure (how games are produced and distributed), technology cycle (technological developments and its impact on the kinds of equipment used for play), the market (indicators of revenue, proportion of the population with access to games), and the product (the different types of games). In relation to product, a content analysis is reported which was conducted to investigate the production quality, the degree of challenge, and the aggressive content of 20 games popular at the time this project was undertaken in 1995.

2.1 INDUSTRY STRUCTURE

The electronic games industry can be divided into two distinct sectors. The major division is between home entertainment and coin-operated games machines located in public places such as arcades, hotels, clubs and cinemas[3].

Within the home entertainment market there is a further distinction between console/video games that use dedicated equipment and games for personal computers.

Increasingly games are less platform specific and are published in multiple versions for the different hardware. For instance, many successful coin-operated games migrate to home systems. Games like *NBA Jam* and *Mortal Kombat* are commercially successful illustrations. Similarly, most console games are now available for PCs.

In the home entertainment sector the important distinctions between PCs and consoles are the price and utility features of the two platforms. Consoles to date have been dedicated games machines while PCs are not necessarily acquired for the sole purpose of game play. This distinction will be less relevant as consoles move towards integrated home entertainment systems including some PC functions like Internet connection. At the same time PC hardware and software developments allow PCs to emulate the console hardware. Price still remains a key distinction as consoles are priced well below the price of state-of-the-art PCs (the latter can cost ten times the price of a console). One could assume that in a competitive home entertainment system market that price differential will reduce.

[2] An overview of the computer games industry and of the nature and extent of aggressive content in popular computer and coin-operated games

[3] Stage One Report p8.

For both consoles and PC games the industry structure is similar to book publishing. The structural chain consists of developer/author, publisher, distributor and retailer. The publishers in most instances are also the distributors. The key distinction is that publishers have a role in financing and planning the game. The console games industry is dominated by three vertically integrated international companies Sony, Nintendo and Sega. These three companies control the development and licensing of games that can be played on their proprietary console hardware. PC games development is a more open market, though access to finance and distribution is still a barrier for developers. Development is primarily financed internally by the major publishers. Distributors also contribute to development financing by providing advance minimum guarantee[4].

The computer games industry is predominantly international: the major developers are in the US or Japan. Australian developed titles account for only about 1% of the local market. International publishers are establishing bases in Australia to utilise local creative and technical skills. A Melbourne based company, Beam International, has developed games for Sony Playstation[5]. Another Melbourne company, Torus Games, has developed a version of *Duke Nukem* for Nintendo's Colour Gameboy and is also developing the next version of *Carmageddon (Deathrace 2000)* for both PC and Sony's Playstation.

Some Australian-developed games have proved very successful. Of the PC games developed in this country, *Bananas in Pyjamas it's Fun Time*, is one of the biggest selling domestic titles, selling 18,000 in eight months and more than 120,000 units worldwide[6] . *Shane Warne's Cricket* is also reported to be currently selling well in the Australian market.

The coin-operated amusement industry is closer in structure to the movie industry. Games sites occupy a similar position to cinemas in the structural chain. There are four tiers: developers, producers (or publishers), distributors and operators. The strongest businesses are at the distribution level. Distributors control developers and publishers' entry to the market as well as supply to venue operators.

Recent business reports suggest dedicated game centres like video arcades are not dropping in profitability[7]. Coin-operated games machines are increasing, however, in other entertainment venues such as cinema complexes and hotels.

[4] Stage One Report p13

[5] Beam International sold its games businesses to Infogrames, a European producer, publisher and distributor of interactive entertainment in April 1999

[6] *AFC Get the Picture*, 5th edition (1998) p38

[7] *The Australian Review*, 6 April 1999 p19

2.2 THE TECHNOLOGY CYCLE

Any commercial hierarchy among games formats is not static. Bean (1995) has highlighted the importance of the technology cycle in the relative dominance of the different segments of the games business. PCs and console machines swap the lead as superior gaming experience comes with better imaging or other technological advances. There is also a clear progress towards the integration of games technology with other forms of entertainment and communications. Again, given the pace of developments in the industry, it is very likely that variants of current formats or other innovations will alter the picture again.

Consider, for example, several of the imminent developments planned by the major international companies. Sega will soon launch in Australia its new machine, Dreamcast, with a 128 bit chip, power graphics processor and built-in modem providing Internet access and online gaming. This will allow users the scope to send e-mails and play games online for the price of a local call. Other services, such as online shopping, are planned. The aim of the increased functionality is to widen the machine's appeal to as broad an audience as possible.

Next year Sony will release a 128 bit machine and already the product is being heralded as technologically superior to Dreamcast[8] . It is said to be faster, incorporate the latest disk drive standard, DVD, and, unlike Dreamcast, be backward compatible, so that a player's existing library of games will be able to be played on the new machine. It is claimed that data processing capabilities of the new Sony are far beyond today's state-of-the-art PCs and approaching those of large scale super computers used in scientific simulation[10]. Reports on Sony's DVD machine suggest that it will not only allow new sophistication in gaming experience but will also be capable of playing DVD movies and enabling access to the Internet. Its manufacturers regard it as representing the realisation of the integrated home base entertainment system.

Nintendo has signed deals with IBM and Matsushita to provide the technology for a new console, code-named Dolphin. The deal with Matsushita is also an attempt to appeal to older more affluent consumers. Nintendo's newest video-game system, based on a variation of the IBM PowerPC chip, will be licensed to Matsushita Electric Corp. to be included in consumer-electronics devices. As part of a strategic alliance, Matsushita will use the Dolphin technology in other devices, such as DVD players giving them games capability. The new Nintendo system will include Panasonic-branded DVD based boxes that incorporate the Nintendo technology, allowing Nintendo games to be played and films to be watched. The wide-ranging agreement with Matsushita Electric Industrial Co. Ltd. designed to make Dolphin the centre of a dynasty of entertainment and home-networking equipment.

Nintendo games will be available on CD-ROM format, instead of cartridges, for the first time. The move to CD ROM format represents a bid by Nintendo to gain more support from developers and publishers. Playstation's CD ROM base has been important in developing relationships with developers and publishers.

[8] *Marketing*, 27 May 1999. London
[9] *Marketing*, 27 May 1999. London
[10] *Screen Digest*, March 1999 p53

The most significant aspect of the new relationship between Nintendo and Matsushita is that the two companies will collaborate on the development of products that merge games and digital audio/video functionality and jointly develop a new digital network platform. Few details are available about the planned new platform and there is a degree of scepticism by industry commentators about how the architecture for specialised graphics and running a proprietary game operating system can be extended to the hypothetical home server. However, analysts have suggested that:

> 'given the rapidly rising performance of game consoles and their obsessive attention to cost, they might be better positioned than Windows-burdened PCs to create a genuine home-computing market with a triple emphasis on games, DVD content and networking[11]'

Summary:

It is important to recognise that the computer games industry is large and multifaceted: several different formats are produced and used in different environments. Most of the equipment and games are produced overseas, although some Australian companies are involved in design and production. The industry is competitive and rapidly developing, continually improving its technologies and the interfaces between game equipment and other entertainment or communication facilities. Current developments suggest computer games are a key component in the converging entertainment/information arena and signal their place alongside established entertainment forms of movies and television. Clearly, computer games are set to become almost as ubiquitous as television is today.

2.3 THE MARKET

2.3.1 HOME ENTERTAINMENT

It is estimated that consumers worldwide spend US$15 billion annually on computer games[12] . This estimate appears to be conservative as last year US sales in the console games business increased 22% to $6.3 billion[13] and sales of games for PCs reached $3.3 billion. In Japan, consumers are estimated to spend $8 billion on games a year.

Since the launch of Playstation and Nintendo's N64, in 1995, the Australian market for games has almost tripled. Table 1 shows wholesale sale figures for games of the Australian Visual Software Distributors' Association (AVSDA) members has increased almost $200 million in the three year period and hardware sales $100 million. Industry sources estimate the current installation level for Sony's Playstation is around 1.5 million and for Nintendo around 600,000 machines. This represents a high penetration level of the 6.7 million Australian homes.

[11] *Electronic Engineering Times*, 17 May 1999. Manhasset
[12] Press release Beam International 23 April 1999
[13] *Discount Store News*, 3 May 1999

	1995	1996	1997	1998
Software	$119,086,312	$128,229,179	$237,293,867	$302,721,572
Hardware	$51,107,917	$62,277,591	$126,303,134	$149,621,635

TABLE 1: Wholesale sales figures reported by Australian Visual Software Distributors' Association, 1995–1998
Source: Australian Visual Software Distributors' Association[14]

Similar increases have been reported overseas. According to US magazine, *Computer Gaming World*, a quarter of American households own a games console. It is noteworthy that, according to the same source, 14% of households with no children are included in this figure.

Competition in the console games market has been fierce since Sony's Playstation was released internationally 5 years ago. In the UK last year, Sony had 69.3% of the console market. Nintendo picked up 27.2% and, according to figures from research firm Chart Track and the European Leisure Software Publishers' Association, Sega's share was just 3.4%[15] . Sony's Playstation is widely credited with moving the console market out of the bedroom and into the mainstream home entertainment area.

Another feature of the booming market for computer games is that it is becoming older. The age range of console owners has gone from 8 to16 years in the early 1990s, to 8 to 29 years today. The average age of players is now 17 years[16] . Australian industry experts say the average age for the console market in this country is currently around 22 years. There appear to be mutual influences between games and their players. On the one hand, some commentators have claimed that these shifts reflect the fact that games themselves are 'growing up' – ie, involving more sophisticated content and more themes suited to adults and therefore attracting older consumers. On the other hand, as the generation that grew up with computer games has reached adulthood, the market for games has expanded correspondingly[17] .

Needless to say, the major manufacturers are well aware of this development in their market, and have positioned themselves to take advantage of it. All three console manufacturers are now planning for a broadened market for game consoles. It is reported that marketing campaigns for the new systems will target the young adult market[18] . Sony's Playstation's success with more adult oriented games like *Tomb Raider*, is seen by industry analysts as an important component in building and retaining game players in the16– 39 years segment. *Tomb Raider* provides examples of star characters such as Lara Croft, representing a tough, gun-toting well endowed young woman with sex appeal and independence of spirit, intended to appeal to the teenage and older market. Lara Croft's popularity has seen the production of four books, a best-selling action figure, high-priced fashion gear and a feature film from Paramount bringing the characters revenue to around $500 million[19] .

[14] AVSDA represents most of the large distribution companies particularly those involved in the console home entertainment business. Many smaller distributors are not members and their sales are therefore not included
[15] *Marketing*, 27 May 1999. London
[16] ibid
[17] *Economists*, 20 June 1998. London
[18] *Marketing*, 27 May 1999. London
[19] Michael J Wolf (1999). The Entertainment Economy. Times Books

Not only are consoles becoming more widespread so too are home computers. In 1998, 45% of Australian households (3.0 million) had a home computer and 38% of households (2.6 million) had a computer that was used frequently (ABS, 1999). These figures show an increase since 1996, when 31% of households (2.0 million) reported a frequently used home computer. In 1998, the ACT had the highest proportion of households frequently using a home computer (57%) followed by Victoria (40%), the Northern Territory (39%), New South Wales (38%), Queensland, South Australia and Western Australia (each with 37%) and Tasmania (29%)[22].

Households with children are significantly more likely to have a computer. 60% of households with a couple and children have a computer. 36% of households with a single parent and children have a computer. What is also important from a games perspective is that 75% of home computers have a CD ROM drive, the platform on which most PC games are published.

Nearly 5.7 million Australians aged 5 years and over (34% of the total population) used a home computer at least once a week in 1998. This represents a 10% increase since 1996. Of those using a computer frequently, playing computer games was the most often reported home computer activity. 3.3 million persons (57% of frequent users) used the computer to play games. This compares with 2.3 million in 1996. Males were more likely than females to use the home computer for playing games (63% of males compared with 50% of females) but clearly these figures show that substantial numbers of both males and females were games players.

While no breakdown by age group is provided in the ABS report for computer game playing, the data indicate that people aged 5–17 years were more likely to be frequent home computer users (53%) compared with 39% of 18–39 year olds and 35% for 25–54 year olds.

The high penetration of PCs in Australian homes across a broad demographic range suggests the market for PC games is more diverse. Australian industry research[21] indicated that 19–25 year olds were the biggest market for PC games, followed by 16–20 year olds and 26–30 year olds. Industry experts suggest that the current target for many PC games is in the age range of 25 years and older.

Most observers and researchers have found that computer games are much more popular with males than females (see Chapters 1, 3 and 4). Distributors believe that the market still favours males but feel this is changing:

> *while males outweigh females in the younger age groups, and hence in the market as a whole, the representation of females increase after age 23 and approaching equality with males from age 30. This is consistent with the repositioning of games as lifestyle products.*[22]

Nevertheless, despite the distributors' perceptions of the market, a survey of computer store shoppers found that 84% of shoppers were male[23] .

[20] ABS Household Use of Information Technology, cat no 8146.0,1999
[21] cited in Bean, J, *Stage One: Computer Games in Australia Today.*
[22] Stage One Report p61
[23] ibid

2.3.1.1 Games and the Internet

The Internet is another medium offering electronic games, and its significance is likely to grow. The Internet is salient from the perspective of the industry because it provides both an environment for game play and a means of distribution and marketing. The Internet is thereby equally salient from a policy and media classification perspective, because it presents a vast source of access to a potentially infinite range of games. There are countless sites advertising, reviewing, discussing and transmitting games.

Most Internet portals (sites that offer a range of services) provide access to games. Significant global players like Microsoft have established major game sites.

ABS data for November 1998 show that 18.6% of Australian households had home Internet access. This represents a 49% increase on February 1998. More than 4 million adults accessed the Internet in the 12 months to November 1998[24]. This represents 31% of the total adult population. Most importantly homes with a married couple and children were the most likely to have Internet access. More than a quarter (27%) of homes with a married couple and child/children had Internet access. These homes represent more than half (54%) of all homes with Internet access. The proportion of single parent households with Internet access is lower at 15%. This may reflect the differences in household incomes of the two sub populations as data indicate incidence of home Internet access increased with household income.

2.3.2 COIN-OPERATED GAMES

When Stage One of the research was conducted in 1995, coin-operated amusement venues numbered around 2,700[25]. There were 100 arcades in Australia at that time with generally around 140 games installed. Other venues such as hotels, clubs or cinemas have from 5 to 40 machines and thousands of venues have a single machine.

Recent data on Australia's leading arcade operator, Timezone Family Entertainment, indicates there are currently 36 locations across Australia with the size of the arcades ranging from 250 sq meters to 2,000 sq meters. There are approximately 2,500 machines operating in these Timezone centres and the company estimates that across the country there are 4.5 million visits per annum.

The public venues for coin-operated games largely determine the demographic profile. Timezone perceive their primary market as 13–18 year olds and see young families as a secondary market. The profile of visitors to the arcade is largely based on the location and time of day. Timezone report that venues in the city locations will attract a range of business people during lunch and schoolchildren after school. Suburban centres attract students after school and family groups on weekends.

To further cater for the older market the industry has expanded by placing machines in new venues that attract young adults, such as hotels and clubs.

[24] ABS Use of Internet by Households, November 1998, cat no 8147.0
[25] Stage One Report p16

Summary:

Computer games are the focus of very large commercial enterprises, in this country and overseas. Substantial proportions of Australian households possess either game consoles and/or PCs which are equipped for game play. Access to the Internet is growing rapidly among Australian households, and this medium has the potential to provide not only information about games but a means of transmitting them and a milieu for playing them. Games are also widely available in a variety of public places. While computer games have been thought of as a leisure activity for children and teenagers, it appears that as the first generations of players move into adulthood they are retaining their interest in game play and the industry is examining means of extending the market increasingly into the adult sector.

2.4 PRODUCT

Computer games are different from other types of audio-visual entertainment in crucial respects. A game is primarily an interactive task rather than a received entertainment (Bean, 1995). The player's purpose is to achieve a particular outcome, and this outcome is dependent not simply on choice but on successful performance within the rules of the game and the technological capacities of the equipment. The player's skills and engagement with the task in the game's environment are pivotal to the experience.

Computer games offer a range of genres, styles and levels of challenge. The major types of games are simulations (including sports games and driving or riding games, flight simulation), "shoot 'em ups", fighting games, strategy games, adventure/action games.

Simulation games attempt to create the experience of a real life activity. Driving games and flight simulator games are two popular genres in this type of game. Examples include *Gran Turismo* and *Wing Commander*. Sports games are another popular genre that are a form of simulation in that they are analogous to real life sports activities. The basketball simulation game *NBA Jam* has become a classic in this genre, involving realistic depictions of players and their moves; *1080 Snowboarding*, in which players navigate down steep snow tracks, is another currently popular example. There are many other sports games representing the rules and skills of activities such as tennis, golf, soccer, cricket, etc.

Shoot 'em ups can be traced back to the original *Space Invaders* and involve the subject character moving through an environment shooting at targets before the targets shoot the subject. More recent examples include *Doom, Duke Nukem* and *Quake*.

Fighting games involve controlling a fighter engaged in direct combat with another character. The action generally involves the martial arts. Classic examples of this genre are *Mortal Kombat* and *Street Fighter*. Both of these originated as arcade games but transferred subsequently to console formats.

Strategy games involve the management of a complex environment to achieve a goal. These games tend to be elaborate, esoteric and time consuming. Classics of this genre include the games *Myst* and *SimCity* and more recent examples are *Dark Reign* and *Starcraft*, involving navigation, colonisation and races through outer space.

Adventure/action games contain a stronger narrative element were characters embark on a quest or adventure involving encounters with numerous enemies, puzzles and traps. *Tomb Raider* and *Abe's Odyssey* are two current examples.

A distinctive style of game is the platform style, where the action scrolls from side to side or top to bottom as a character (controlled by the player) negotiates a course encountering obstacles and winning benefits along the way. This style of game include a variety of genres. *Donkey Kong, Super Mario Brothers* and *Crash Bandicoot* are some popular examples.

These game types are not mutually exclusive. Like other popular culture forms it is not easy to categorise a game definitively as a particular genre: they can have characteristics of more than one. For instance, *Doom* is a hybrid of simulation, shoot 'em up and strategy features; *Dark Reign* is a sophisticated strategy game but also includes elements of shoot 'em ups.

2.4.1 CONTENT ANALYSIS OF GAMES

The computer game business has in common with the film business that it is high risk. Of the several hundred new home entertainment games released each year, about a quarter are strong sellers. Only a handful achieves 'hit' status, making considerable profits. In the Australian market a title which sells 70,000 units would be considered a 'hit'. The top twenty games earn up to 60% of the industry retail turnover. The top twenty selling titles sell around 10,000 units upwards[26].

A key component of Stage One of the research program was to analyse the salient features of games that have wide appeal. In particular, the aim was to investigate the level and nature of aggressive content in popular games. A content analysis was conducted of a set of 20 popular titles. This analysis was undertaken by two computer games critics that published reviews in computer games' magazine, *Hyper,* an independent games magazine edited in Sydney and distributed nationally.

The sample was based on a list of the 20 top selling games of two years immediately prior to the commencement of the project in 1995. Because even the favourites of the past two years can be candidates for historical-interest-only status in the fast moving world of computer games fans, the list was checked and updated on the basis of feedback from readers of *Hyper* magazine. The main changes resulting were that updated versions of some of the games had appeared in the top 20 list and a couple of new titles (eg, *Lion King*) were added because of strong sales at the time of the research. The final set is presented in Table 2.

[26] Stage One Report p37

RANK	TITLE	FORMAT	GENRE	CLASSIFICATION
1	Donkey Kong Country	SNES[27]	Adventure Platform	G
2	Mortal Kombat2	Mega Drive/SNES/PC	Fighting	MA(15+)
3	NBA Jam (inc NBA Jam Tournament Ed)	Mega Driev/SNES	Sport simulation	G
4	Mario Kart	SNES	Driving simulation	G
5	FIFA Soccer (inc FIFA '95)	Mega Drive/SNES/PC	Sport simulation	G
6	PGA Tour Golf	Mega Drive/PC	Sport simulation	G
7	Super Streetfighter 2	Mega Drive/SNES/PC	Fighting	M(15+)
8	Doom (inc Doom 2)	PC/Sega 32X	Shoot 'em up	MA(15+)
9	Wing Commander 3	PC/3–DO	Flight simulation	G(8+)
10	NBA Live	Mega Drive/SNES/PC	Sport simulation	G
11	Super Mario All Stars	SNES	Platform	G
12	Earthworm Jim	Mega Drive/SNES	Platform	G
13	Road Rash 3	Mega Drive	Driving simulation	G(8+)
14	SimCity 2000	PC	Strategy	G
15	Dark Forces	PC	Strategy/ shoot 'em up	M(15+)
16	Starwing	SNES	Flight simulation	Not classified
17	Sonic & Knuckles	Mega Drive	Platform	G
18	Sam & Max Hit the Road	PC	Strategy	Not classified
19	The Lion King	Mega Drive/SNES/PC	Platform	G
20	Aladdin	Mega Drive/SNES/PC	Platform	G

TABLE 2: Computer games included in content analysis undertaken in 1995

The content analysis analysed the games' content with reference to two main dimensions:

- General game characteristics; and
- Characteristics of aggressive content

General game characteristics were:

- Format
- Genre
- OFLC Classification
- Authenticity of the image/graphic quality

[27] SNES, Super Nintendo Entertainment System

- Authenticity of sound/sound quality
- Point of view of the player
- Interface/responsiveness
- Degree of challenge (manual challenge, strategy and complexity
- Number of players
- Number of levels
- Gender of characters
- Market longevity/interest/brand

The characteristics of aggressive content were:

- Weapons
- Intensity of depictions (visual and audio display of harm to victims)
- Proportion of time spent by players in aggressive action
- Degree of player control of aggressive elements
- Object of violence
- Closeness to real life situation
- Narrative function of the aggression
- Aggressive content on packaging/marketing

The two game critics rated each of the top 20 games on the above elements. The scores on the separate elements were then combined to derive an index score on three broad dimensions of:

1. Production quality/authenticity (combining 4,5 and 7 of the above elements)
2. Challenge(element 8 above combining manual dexterity requirements of the game, strategy and complexity elements of the game)
3. Aggressive content (combining elements 13 to 20)

In each case, the higher the score, the higher the game ranked on that dimension.

Production quality index provides a score on the authenticity of the game and covers elements such as the realism of visual imagery, the naturalness of figure movements and player control movements and whether or not the scenic and narrative elements are convincing.

Challenge index considers the skill elements of the game. Manual control skills and strategy and problem solving elements were combined. The manual challenge covers the degree of skill required in the manual control of movement of objects, vehicles or on screen figures. It assesses the degree to which rapidity and accuracy of manual response is critical to success in the game.

Strategy elements include the qualities of anticipation and making the right or wrong choice involved in the games primary task. Complexity attempts to score the scope and detail of the game particularly in terms of the number of elements and choices that bear on the players' response to the game. For example, *SimCity* is a complex game because any single choice can have multiple ramifications.

The Violence Index is a measure of the intensity of the depictions of aggressive action, the amount of time spent in aggressive action as a proportion of total time spent playing, the degree of control the player over whether aggressive actions are chosen and the level of realism in the depictions of violence. The intensity of depiction and the proportion of time spent in aggressive action in were given a higher weighting when deriving the violent content index for the game.

To examine the relationship between content and popularity, a game's scores on the three dimensions was plotted against the game's ranking on the top 20 list. Most of the games scored highly on production quality and /or authenticity dimension. While *Super Mario All Stars* had a low score for image and sound quality, its user interface scored highly. Production values, however, proved to be unrelated to rank order in the top 20. This finding suggests that high quality and authenticity are a prerequisite for commercial success but do not predict the degree of sales success.

The analysis of the degree of challenge offered similar results to those for quality. Once again, all the games scored well with a range from medium to high on the challenge dimension. The highest rating games in terms of challenge were *SimCity*, which scored particularly highly on strategic requirements and complexity, and *Super Streetfighter 2*, which involved a high level of manual control challenge. These games are ranked 15th and 7th respectively in the top 20. *Donkey Kong Country*, however, had only a moderate challenge score but is ranked number one. This suggests some element of challenge is required in successful games but beyond this other factors determine the relative success of a game. The broad appeal of games like *Sonic* and *Donkey Kong* across a broad age range and skill level is striking. *Donkey Kong* does not require a high skill level to play but it is hard to master. Games aimed at a high level of cognitive development or physical coordination skills will appeal to a more limited market purely in terms of age range.

The violence index showed the greatest differences between the games. On a scale from 0 to 100, some games received a zero rating and others scores of over 80. The distribution of violence scores across the top 20 games shows no discernible pattern. The game with the highest violence index score was ranked number two but games with no violent content at all *(FIFA International Soccer* and *PGA Tour Golf)* are ranked fifth and sixth. Even after eliminating the sports games from the sample, violent content does not appear to correlate with the popularity of the game.

A number of points should be borne in mind in interpreting these findings. One is that the sample did not provide a sufficiently broad range on the dimensions of challenge and production quality to detect a pattern: all were scoring quite high in these respects. It would appear that for a game to reach the top twenty list a certain level of these qualities is a prerequisite. However, it remains possible that other factors not readily gauged here — such as fashion or very effective marketing campaigns — may override all other features in a game's appeal within this set.

On the other hand, the range of violence scores does permit at least a preliminary examination of the relationship between this attribute and commercial success — and the results indicate that there is *not* a straightforward relationship. Violence is clearly not an essential ingredient for a game to sell well. Many of the games in the top 20 list have little or no aggressive content.

This is important in respect of simplistic assumptions sometimes promoted in the mass media that all computer games are violent and that this is what makes them popular with the young. Not all games are violent, and many non-violent games are very popular (see Chapter One, and Cupitt and Stockbridge, 1996).

At the same time, it is also clear that some aggressive games are very popular. It should be stressed that the popularity of the games studied here is a reflection of their overall market status, but of course any one game may appeal to different sectors of the market. For example, we could reasonably expect *Lion King* and *Aladdin* to be popular with young players, while *Mortal Kombat* may be favoured by teenagers and older players. Game preferences among contemporary young Australians are examined in later chapters of this monograph.

Summary:

The content of computer games can be analysed in terms of various features. For this exploratory study, the focus was on production quality, inherent challenge, and aggressive content. On the first two factors, most of the popular games in 1995 were scored highly. It appears likely that reasonably high standards in these respects are prerequisites of commercial success, although we cannot rule out other factors not investigated here (such as fashion, the impact of skilful advertising). The third factor, aggressive content, is of central interest to this project. The 1995 top 20 games varied from no aggressive content at all to high levels, but there was no link between the presence or degree of aggressive content and market success.

2.4.2 CURRENT TRENDS

The industry is constantly changing. Although many games do survive in the marketplace for several years (typically in a succession of updated versions), even this analysis of games current at the time this research program commenced needs to be qualified with the acknowledgement that new games have emerged by the time the project was completed. A list of the current top 20 across all formats was not available at the time of preparation of this report, but below is a list of the top 20 *console* games ranked by units sold for 1997/98. This excludes games in PC formats, and is therefore not directly comparable with Table 2, but it does provide a reasonable indication of currently popular game types and their classification.

	GAME	BRAND/MODEL	GENRE	CLASSIFICATION
1	Goldeneye 007	N64	Strategy/adventure	MA (15+)
2	Mario Kart	N64	Platform – children's	G
3	Supermario	N64	Platform – children's	G
4	Vrally	Playstation	Simulation – Racing	G
5	Crash Bandicoot II	Playstation	Adventure	G
6	Gran Turismo	Playstation	Simulation – Racing	G
7	Diddykong Racing	N64	Platform/Racing	G
8	Lytat Wars	N64	Adventure	G (8+)
9	Timecrisis	Playstation	Shoot em up/strategy	M (15+)
10	Platinum Crash Bandicoot	Playstation	Adventure	G
11	Croc	Playstation	Adventure	G
12	Abe's Oddysey	Playstation	Adventure	M (15+)
13	Diehard Trilogy	Playstation	Shoot em up/strategy	MA (15+)
14	Donkey Kong Land III	Gameboy	Puzzle/skill	G
15	Final Fantasy 7	Playstation	Strategy	G (8+)
16	Tomb Raider II	Playstation	Adventure/Action	M (15+)
17	Topgear Rally	N64	Simulation – Racing	G
18	Yoshi's Story	N64	Adventure	G
19	Formula One 97	Playstation	Simulation – Racing	G
20	Starwars	N64	Adventure	M (15+)

TABLE 3: Top 20 selling console games ranked by units sold, 1997/98
Source: GfK Marketing Services, compiled by AFC Research and Information, Get the Picture 5th Edition, 1998.

Table 3 demonstrates the continued dominance of G and G(8+) games. The top ten is dominated by games rated as suitable for any age group or over 8s, though the best selling game is *Golden Eye 007* (combining shoot 'em up with adventure and strategy elements) rated MA(15+). Note that several of the games are platform types or racing simulations. The list is biased towards these genres which are favoured in the console formats. Strategy games are more common on the PC platform.

Hence, although this more recent list contains many new game titles, it does show consistency with the games analysed in more detail in 1995, to the extent that both sets are dominated by G rated games involving platform skills, simulation or adventure. Games with aggressive content appear but are not necessarily the games of choice for the majority of players.

2.5 SUMMARY

In sum, computer games provide a unique experience among current forms of audiovisual entertainment by virtue of their interactivity and the player's opportunity to influence and control events. Much of the focus of media debate about computer games has been on aggression, which is clearly an issue calling for careful attention. However, there are other attributes of the games, and this analysis of recent popular games suggests that these attributes may be at least equally important to consumers. Examining top 20 games in terms of production quality (as rated by experts), the research found that most score high, and it appears reasonable to infer that good quality is a prerequisite of commercial success. Similarly, most scored in the range 'medium to high' on challenge — the level of skills and initiative demanded of the player, and this too appears to be a widely sought feature of the games. In contrast, although there are certainly aggressive games in the top 20, these do not predominate, and many very successful games have no aggressive content at all.

The following chapters explore what young players make of the aggressive content: whether it attracts or deters them from playing and whether it is perceived as a major feature of the games. Information on the attitudes of adults towards aggressive content, especially parents', and of the extent to which parents and players take aggressive content into account in game choice is also presented in subsequent chapters.

3 CHAPTER THREE — A QUALITATIVE STUDY OF PLAYERS' PERCEPTIONS AND EXPERIENCES

This chapter presents the qualitative phase of the project, involving a series of group interviews with computer game users and an observational study of young people in video game arcades.

First the broad purposes of the research are reported, followed by an outline of the contributions of qualitative approaches, and notes on their limitations. The research methodologies and the samples are described, and then a detailed account of the results is presented. To aid the reader to extract the main points quickly, brief summaries are provided at the end of each subsection of the results. Finally, the main issues to emerge from this stage of the project are reviewed and the questions arising that need to be addressed in a larger scale quantitative study are identified.

3.1 RESEARCH OBJECTIVES

As discussed in Durkin (1995a) and in Chapter One, two limitations of the available research are that most of it was conducted overseas and, because the work has been accumulating over almost two decades, some of the games considered in previous studies are now outmoded. To inform debate and policy formulation within Australia, more information is needed about how today's games are experienced by contemporary young Australians. The purpose of this phase of the research was to obtain an account directly from young players.

The broad research objectives of this stage of the project were:

- To investigate whether aggressive content is perceived as such by young players and the extent to which playing the game mitigates the impact of such aggressive content
- To find out more about the aspects of particular games which make them popular and the role of aggressive play within the popularity of games
- To examine usage patterns in the computer/arcade games children and young people play in terms of age and gender differences
- To establish whether aggressive content in computer/ arcade games is perceived to have more impact than in films and television.

Several specific themes follow from these overall goals and from the research literature reviewed in Chapter One. These guided the interview and observational schedules. They include:

Age patterns of play. Preliminary data on the popularity of computer games among different age groups in the Australian community were collected. Indicators of the age at which play commences, and the extent to which interest varies with age among young people was addressed. In this context, the aim was to gain information on when children have exposure to aggressive game content.

Gender. Previous research (Chapter One) suggests that Australian children would show the gender difference reported elsewhere, namely that game play is more popular with males than females. This stage of the research sought to investigate the significance of aggressive content in this connection: for example, is it part of the attraction for males and part of the problem for females?

Aggressive content. This was a prime concern of the project. There is little doubt that many games contain aggressive elements (Chapter Two), and that manufacturers are tempted to increase or intensify this aspect of content. How important is this feature of the games? How do young people interpret and react to aggressive content? Among other issues, this stage of the research sought to gather information on whether young people identify with computer game characters and activities, whether they perceive their own behaviour as being influenced by what they play, whether they find that play provokes them to aggressiveness or whether it enables them to let off steam. Above all, it was aimed to obtain their views on what makes the games so attractive and where aggression fits in the general appeal.

Time use and addiction. As discussed in Chapter One, earlier research has not confirmed some observers' fears that young computer game players would become addicted, although it has shown that computer game play is very popular. What do young Australians in the late 1990s have to tell us about time use and addiction?

Social interaction. Some commentators have expressed concern that computer game play is an isolating activity, drawing the young person away from family life, peer interaction and outdoor activity. In fact, as discussed in Chapter One, the limited amount of research to date has not supported this conjecture. However, very little is known of how young Australians use the games. The present project allowed us both to observe social interaction around game play and to invite the participants' own accounts of this aspect of the activity.

The playing environment. Computer games can be played at homes (one's own, or friends') or in arcades. How do young people compare these two locations? Which do they prefer, and why? As discussed in Chapter One, previous research suggests that there is a stronger association between antisocial behaviour and play in arcades than play at home. In this stage, information is gathered on young Australians' experiences and preferences.

Parental concerns. Information on parental regulation of computer game play in Australia was previously investigated in a joint research project between the OFLC and the Australian Broadcasting Authority (Cupitt and Stockbridge, 1996; see Chapter One). In this qualitative research stage, the child's perception of parental concern and how this compared with parental concern about other media was explored.

Use of classification guidelines. Are the classification guidelines observed by computer game users and/or their parents? Discussion with players provides an opportunity to test awareness of the guidelines and the extent to which they influence consumer choices.

3.2 THE CONTRIBUTIONS OF A QUALITATIVE RESEARCH STAGE

Qualitative research serves several functions:

- it explores a topic by asking relevant participants for their opinions and ideas, or by observing participants engaged in relevant activities;
- it allows for the emergence of issues, ideas and problems that might not have been apparent or salient to the researchers at the outset;
- it provides opportunities to gauge reactions to different ideas, problems and points of view;
- it helps to ensure that any terminology used in subsequent quantitative research is familiar to or readily understood by the target sample.
- it helps to define and refine research questions that can subsequently be addressed more extensively in quantitative research
- it can complement quantitative research by providing accounts in the participants' own words.

It should be noted that qualitative research does have certain limitations. In particular, it does not yield a quantified account that can confirm how representative a specific opinion or experience may be. In the group interview and observational techniques to be employed here, there is always the possibility that participants can be influenced by each other, or that some may prefer not to disclose some of their opinions in a public context. For these reasons, qualitative techniques are used as a guide to feelings and attitudes and as a source of insights and ideas in relation to a given topic; before firm conclusions can be reached, this preliminary information needs to be tested in a quantitative study. Such a study is reported in Chapter Four.

Following a tender process, Keys Young, a well-established market research company with extensive experience in research concerning media issues and young people, was hired to design and conduct the empirical work, in consultation with the present authors and an advisory panel of senior OFLC staff. Kate Aisbett participated in the Sydney sessions and directed the arcades study, and Kevin Durkin participated in the Perth sessions.

The overall goal was to develop an approach whereby key questions and issues relating to the research objectives would be explored in circumstances which, to the degree possible, replicated real-life game playing environments, such as people's homes, games arcades, community centres and so on. Two broad research approaches were used:

- an observational study followed by brief followup survey at video arcades.
- small group intensive interviews together with observations of play, and larger group focus discussions.

This chapter reports the methodology and the results of this research.

3.3 VIDEO ARCADE RESEARCH

In addition to the small intense groups, Stage Two included an observational study and a short intercept survey at two large video arcades[28]. The purpose of the study was to examine the nature of the game playing experience in a naturalistic, out-of-home environment popular with many young people; particular attention was paid to aggressive features of the games and spontaneous player behaviour. Players were surveyed to solicit their accounts of what they liked and disliked about arcade play. It should be stressed that this was a small scale, exploratory study and not intended to yield results that could be generalised to the population as a whole. Nevertheless, the exercise did yield some useful preliminary information on the behaviour of a randomly selected sample of arcade players.

3.3.1 METHODOLOGY

Two methods were used: observation and intercept interview.

3.3.1.1 Observation

An observational schedule was developed in pilot work (see Appendix 2), and consisted of the following behaviours:

- Expressed frustration/shame: All signs of dissatisfaction with the game or its outcome; may include exclamations, expletives in negative tone, direct expressions of failure ("Lost it!" "Another waste" etc.), or nonverbal behaviours such as shaking the head, grimacing.
- Sense of engagement: Intensity of involvement with the game.

  High: player displays intense concentration on game; often accompanied by glazed facial expression and relative indifference to surrounding people or events; player stares almost exclusively at the screen or controls; appears to be 'trying hard' to succeed; kinaesthetic response (eg, moving in synchrony with driving or shooting, enacting martial arts skills).

  Some: player attends to game but with apparent casual involvement; some movements appear desultory or flippant; may allow gaze to wander from machine; talks frequently to onlookers.

  None: this response was very unlikely to occur; an example would be if a player entered money for game but then wandered away from machine, or if he/she worked the controls in a desultory fashion whilst talking to onlookers, paying no attention to the screen.
- Express pride: All verbal exclamations of achievement, including "Whoa!" (and similar), growls of apparent delight, expletives in cheerful tone, self-congratulatory remarks; also includes nonverbal expressions, such as facial delight/smugness, raising of fist in air to signify victory.
- Verbal aggression (at game): Hostile remarks directed at characters or events within the game, including expletives; examples include: "Got you, you bastard" "Die, bastard, die".

[28] Pilot work and instrument development was carried out in Sydney and Perth. The two locations for the study reported here were Timezone at Blacktown, in the outer Western Suburbs of Sydney and Galaxy in the Sydney CBD. The locations were chosen to capture respondents from a variety of geographical locations within Sydney.

- Verbal aggression (at others): Hostile remarks to other players or onlookers.
- Physical aggression (at game/machine): Excessively vigorous use of controls; banging or kicking the machine; climbing onto the machine; holding on the machine whilst leaping up and down; pushing the whole machine out of place; marked gesticulations at characters.
- Physical aggression (at others): Threatening, potentially harmful or actually harmful actions directed at other players or onlookers; include pushing, jostling, grabbing, hitting, kicking.
- Other verbal (talk to machine): Encouragements to characters ("Come on!" "Get in there"), expressions of puzzlement ("What d'ya do that for?"); all other non-aggressive verbalisations.
- Other verbal (talk to others): All verbalisations not included under above categories; may include comments on details of the games, unexpected events on screen, cost, offers to let others take over, etc.
- Other physical: All physical actions not included in above; might include stroking, patting the machine.

The intensity of each behaviour item was scored as High, Some or None for each 30 second interval observed. 'High' indicated a high level of a particular behaviour; 'Some' indicated there were some signs of the behaviour but it was not that strongly expressed or long lasting. 'None' indicated no signs of a particular behaviour were observed.

3.3.1.2 Intercept interviews

After a player had completed the game and observational data had been collected, he or she was approached for interview. This meant that the player could comment on the game playing experience while it was still fresh. The questionnaire mainly contained open-ended questions. One closed response question was asked where the respondents were shown a set of possible options from which they were asked to select their response.

3.3.2 PROCEDURE

Players were observed unobtrusively by researchers who mingled with the crowd. The researchers placed themselves in a position to be able to conduct observations without appearing to watch directly any particular individual. This proved an easy procedure to arrange, as the young people tended to be very involved in either game play or peer interaction.

Once a player was selected (see below), he or she was observed for the duration of the game. The observer monitored for 30 seconds, completed the checksheet for that period, and then watched for another 30 seconds, and so on until the game was terminated.

Observations were conducted on players of six specific arcade games. The six games involved varying levels of aggressive content. These games, their classification and genres are presented in the table below.

GAME	CLASSIFICATION	GENRE
Mortal Kombat	MA(15+)	3rd person perspective fighting game
Street Fighter	M(15+)	3rd person perspective fighting game
Raiden	M(15+)	3rd person perspective vertically scrolling shoot-em-up
Cybersled	G(8+)	Multi point of view tank simulation
Virtua Cop	M(15+)	1st person perspective shoot-em-up
Daytona USA	G	Multi point-of-view driving game

TABLE 4: Arcade games used for observational study

Participants were selected for observation and interview using a simple randomised technique where every *n*th player, thought to be in the target age range of 8 to 25 years, seen playing the game was chosen. The value of *n* depended on the popularity of the game. The exception to this rule was when females or younger players (8–12 years) were found playing the target games. Because of the rarity of these occurrences, all females or young players found playing the target games were interviewed.

3.3.3 PARTICIPANTS

65 players were observed and 58 completed the interview. Approximately half of the participants were under 18 years of age and the rest were young adults aged between 18 and 25 years.

Interviews were conducted with 49 males and 9 females. As previously noted, efforts were made to correct the imbalance between male and female participants that were included in the study; however, as several previous researchers have reported, video arcades are male dominated environments. It was noted that many of the females that were present in the arcades were observing game play rather than playing themselves. Those that did play tended to play the less popular games where they did not have to compete with the boys for access to the machine. Younger players under 12 years of age were also less likely to frequent arcades and play the particular games targeted in this study.

3.3.4 RESULTS: OBSERVATIONAL

Two raters rated the first ten randomly selected players to assess the reliability of the instrument. An inter-rater reliability of 82 % was achieved. A single rater then conducted the rest of the observations.

Two thirds of the players' games lasted between two to three minutes. 11 players played for more than 5 minutes. The longest game observed lasted for 7.5 minutes.

The main findings were as follows:

Players became very involved with the task of the game. 77% of players showed high engagement with the task throughout the game. Other players showed less intense concentration on the game for some of the time periods.

Players greatly enjoyed the games. Two thirds of the players exhibited laughter at least once during their game play. Around 30% showed laughter and smiling for more than 50% of the time periods.

Frustration was common. 70% of players manifest at least some frustration while playing, often at the conclusion of the game. 10% showed frustration for more than half the games.

Pride was evident, though not pervasively so. Around 20% displayed some level of pride. This was only an occasional response to the game: among those that did show some sign of pride, only one incident was noted per player. (Of course, pride is not necessarily shown overtly.)

Shame was displayed at about the same level as pride. Around 20% showed some shame at their performance in a game, but again this was usually only once per player. (Again, shame is not necessarily shown overtly.)

Talking while playing the game was common. Around 50% of players spoke to others while playing the game with more than 30% talking for more than half the time periods recorded. Talking was often accompanied by laughter.

Aggressive behaviour was observed, but not frequently. Verbal aggression directed at the game was displayed by eight players (around 13% of the sample). There were only one or two occurrences by any single player. Only one player expressed verbal aggression towards another person. Physical aggression towards the machine (eg, hitting the machine or treating the controls roughly) was somewhat more common, occurring in around 30% of players. Only one player showed physical aggression towards another person and this was accompanied by laughter and talking, suggesting a more playful than threatening intent.

There were some gender differences in behaviour while playing. Females where more likely to laugh and talk while playing than male players. Both males and females showed similar levels of frustration at the game. The level of other behaviours was too low to make reasonable comparisons between male and female players.

3.3.5 RESULTS: INTERVIEWS

3.3.5.1 Time spent in arcade

Participants were asked how many times, in the past week, they had visited a game arcade and how many hours in total they had spent in the arcades on those occasions. The responses varied from 1 to 20 visits in the past week but most (three-quarters) reported 3 to 10 visits in the past week. Around one third of the participants said they had spent half an hour or less in the video arcade in the past week with another third claiming to spend up to two hours. The remainder reported spending between 2 and 13 hours over the past week.

3.3.5.2 Games at home

Most of the respondents (two thirds) had some form of electronic game equipment at home. Around half played games on a PC and a similar number had a games console. Around one third of the respondents had both a PC and a console.

3.3.5.3 Likes and dislikes of arcades

Respondents were asked what attracts them or what is better about playing games in arcades rather than at home or at a friend's house. A wide range of responses was given though some common themes emerge. Firstly, a number of respondents reported that arcades had the newest games and that this was a major attraction. Arcade games were described by many as more sophisticated and challenging than games at home and others noted that arcade games have superior graphics and large screens that enhance the playing experience. The controls of the arcade games were also seen as superior to the keyboard and joystick of the home entertainment equipment.

Some respondents also referred to the physical and social environment in arcades as reasons for visiting them. These respondents said they enjoyed the atmosphere in the arcades and felt they were entertaining. Others said that they were a place to 'hang out' with friends and that they enjoyed having others watch them play or regarded being able to compete with others as an attraction.

For some, arcades were simply a refuge from home and a place to fill in some time.

Most of the respondents also reported something they did not like about video arcades. The most common reason given for disliking arcades was that they were too expensive or that it was easy to spend too much money. Some expressed a dislike for some of the patrons claiming that arcades attract 'troublemakers' and 'sleazy' people. For others it was the noise and crowds that made arcades unappealing. One female participant commented that she found them too male dominated and that she often felt uncomfortable competing with males for a game.

One third said there was nothing they disliked about video arcades.

3.3.5.4 What young people like about games

Respondents were asked what it was that they liked about the game that they had been observed playing. Across all the games the most commonly reported responses were:

- the need for a lot of skill to play the game
- realistic movement and control over movement
- fighting and 'blood and guts'

It should be recalled that games with aggressive elements were specifically selected for attention in this study, and so it should not be conclude that fighting and 'blood and guts' elements would necessarily be mentioned so frequently by all arcade players. In fact, even allowing for the bias here towards aggressive games, the aggressive content did not appear to be the dominant motivation for most players. Even when discussing games with high classifications for aggressive content (such as *Mortal Kombat* and *Streetfighter*), the aggressive elements were not the most commonly reported attraction. The main thing that respondents said they liked about *Mortal Kombat* was the sophistication and responsiveness of the controls which gives the player more control over the movements of the character. Similarly with *Streetfighter* the skill requirements of the game and movement controls were the most commonly reported attractive features. Blood and guts and fighting were certainly mentioned by some, but less frequently than the skill elements. Fighting and blood and guts were only relevant for this particular game genre. Features that were important for other games, such as the driving game *Daytona USA,* were skill requirements and movement control and the feeling of being in a racing car.

3.3.5.5 How young people feel when they play games

Players were presented with a card listing words describing a range of feelings or emotions, and asked to choose the words that best described how they felt while they are playing the game. A number of variations in the order of words on the list was produced to minimise order effect bias in responses. Respondents first selected as many words as they felt appropriate to describe their feelings. Around two thirds chose 'challenged'. Other words commonly reported were pumped, skilful and powerful. Some said they felt frustrated, hooked, really absorbed and angry.

When asked to choose the one word that best describes how they felt while playing the game, around half said 'challenged' best describes how they felt. No other word attracted a high proportion of responses. No respondents said they felt angry, aggro or hopeless/lost.

3.3.5.6 Awareness of games classifications

Respondents were asked if they were aware that computer games and video games were subject to classifications and, if so, did they take any notice of the classifications.

About half were aware of the classifications. Of those that were aware, only 4 said they take any notice of them. Most said they did not take any notice. The older respondents (approximately half of the sample was over 18) commented that they were old enough and had no need to pay attention to classifications.

Summary:

Athough this is a small scale exploratory study and should not be assumed to generalise to all arcades and all arcade players, it does serve to provide a useful preliminary picture of behaviour in two typical city arcades. The arcades that were included in this study were largely dominated by male players in the 12 to 25 years age range. The main attractions of arcades for these players were the newness of the games in the arcade and the reportedly superior game playing experience with enhanced graphics, larger screen size and more responsive game controls. The main drawbacks of arcades were seen as the cost of playing the games and thereby the potential to consume a lot of a young person's available money.

Players showed high levels of enjoyment when playing the games. There were high levels of laughter and talking with other around the game. Frustration was also commonly observed. Frustration appears to reflect the relatively brief period of play and the cost per game, as well as self-disappointment with errors and poor performance. Notwithstanding the element of frustration and the aggressive elements in some of the games, very little overt aggression occurred. The main type of aggression was robust treatment of the equipment. Verbal or physical aggression towards others was negligible and, if it did occur, it was accompanied by laughter and playful talk.

High numbers of the players reported feeling challenged when playing the video game. Consistent with this feeling was the players' rating of attractive features of the game. The level of skill required to play the game was commonly reported as an attraction of the activity.

Around half of those participating in the arcade interviews were aware of games classifications; only a few of these claim to have regard for the advice provided by the classification system. About half of the participants were in their late teens or older, and therefore not precluded by the classification guidelines from playing particular games, but it appears — from this admittedly limited sample — that some younger people frequenting arcades are indifferent to classification information.

The next section reports on the methodology and results of the group sessions where games and the game playing experience were explored in more depth .

3.4 FOCUS GROUPS

3.4.1 PARTICIPANTS

The participants in the groups were aged between 5 and 25 years. Most of the groups were relatively homogenous: that is, they consisted of one age group and gender. It was assumed that there are age-related differences in experience of computer game play, and in the relevant skills and attitudes; previous research (discussed in Chapter One) had also confirmed that there are marked gender differences in involvement in computer game play. Groups were mainly of males and females separately but in a small number of groups participants of both genders were included.

Participants were grouped in five broad age bands: 5 to 7 years, 8 to 11, 12 to 14, 15 to 17, and 18 to 25. The age groupings were selected in accord with age-based classification categories, but were also assumed to represent different developmental levels and different abilities to communicate ideas and experiences in relation to the present topic.

A number of 'at risk' youths were included to attempt to gauge whether the issue of aggressive content had particular meaning or salience for this group. The suggestion is often raised in public and policy discussions about young people and the media that 'at risk' individuals are more vulnerable to the influence of aggressive content. Young people associated with centres serving homeless youths in Sydney participated as the 'at risk' sample.

Groups were conducted in Sydney and Perth. Participants were recruited by professional recruitment agencies which were provided with precise specifications as to sample requirements. Financial incentives were provided to all participants. The participants were drawn from a wide variety of suburbs, reflecting varying socio-economic conditions.

Two types of group structure were employed in the study. Intensive groups consisted of three young people who were known to each other and formed natural friendship groups. The other focus groups consisted of 6 to 8 young people, selected so that no person knew more than one person in the group. In total, 14 groups were conducted. The group compositions are summarised in Table 5.

AGE	MALES	FEMALES	MIXED GROUPS	TOTAL NO. OF GROUPS
5–7	Intensive	Intensive	-	2
8–11	Intensive and focus	Focus	-	3
12–14	Focus	Intensive and focus	At risk focus	4
15–17	Intensive	Focus	At risk focus	3
18–25	-	-	Focus and intensive	2
Total no. of groups	5	5	4	14

TABLE 5: Focus group structure

3.4.2 PROCEDURE

Most of the groups were conducted in people's homes; the exceptions were the 'at risk' youths and one group of young females which took place in youth centres. All group sessions lasted approximately two hours.

The sessions were semi-structured. A general pro-forma set of questions was addressed in each case, whilst maintaining the flexibility to adapt the questioning to suit the developmental level and interests of each group as well as to respond to issues and themes as they arose in the course of discussion.

Each group was run by a convenor, but in all cases she was accompanied by an assistant who took notes and another researcher who took observational records and also participated in the discussion. The discussions were audio-taped.

The convenor began the session with introductions. Refreshments were provided to all groups, and participants were invited to help themselves as they wished. Once rapport was established, the convenor began to address the pro-forma questions related to the research objectives.

In most instances, any question was sufficient to prompt considerable input from the participants. The researchers encouraged elaborations and probed responses where appropriate. The discussions were typically lively, good humoured and on-topic. Most worked very well. The 5 to 7 year old groups were less productive than those with older participants. The very young participants clearly found it difficult to discuss some of the topics (though they proved equally eager to play the games).

3.4.3 AGE-RELATED PATTERNS OF GAME PLAY

The participants reported that children begin to play computer games at very early ages: as early as three or four years, especially in households where there were older siblings to teach them. The participants in the younger age groups were more likely to say that playing video games was

among their favourite activities. To some extent, this needs to be interpreted in light of younger children's tendency to focus on issues made immediately salient. In this case, they were being asked to focus on computer games and there were computers and games in the room; had the research focused on TV, or playing in the park, then these activities might have been rated as favourites, too. However, younger children's leisure activities are restricted to fewer options than older children's, and are more likely to be confined to the home, and so it is reasonable to conclude that computer games are played by many.

The general impression emerged that children between the ages of 8 and 12 years were the most regular players. There was some suggestion that once teenagers were able to go to places on their own, attachment to game playing was likely to decline:

> *'We've got better things to do as we get older — more social, it's part of being fourteen. As you get older you talk on the phone heaps more.'*
> (female, 12–14 years).

Nevertheless, there was a view that computer games seemed to be one of the few forms of entertainment that could be enjoyed by everyone 'aged from five to fifty years' (as one of the 'at risk' youths put it). Even members of the extended family were considered acceptable partners in the activity:

> *'My nanna's boyfriend is good to play with'*
> (male, 8–11 years).

With respect to aggressive content, there was a general view that children aged under five years should not be exposed to the aggressive content of computer games. The main reason echoed a concern often mentioned in public debates about this issue:

> *'We can make distinction between fantasy and reality. Kids understand it differently.'*
> (female, 18–25 years)

Some participants feared that young children would identify too closely with the characters and imitate the fighting and violent action. Some respondents claimed that they remembered themselves indulging in imitation of media violence at a younger age, although this was in relation to television characters; it was not clear whether this was playful imitation or genuine aggression.

Notwithstanding the concern that older children had on their behalf, the 5 to 7 year old participants in this study turned out to have little experience of games with aggressive content. It was clear from discussion that generally they did not play this kind of game, or did not perceive any content as aggressive; in general, they found it difficult to answer questions about aggressive content. Observations of these children in the intensive groups suggested that they were in fact quite clear about the distinction between the games and the real world. They did see some games as containing 'goodies' and 'baddies', and saw themselves sometimes as playing the hero who attacked the baddies. They appeared not to regard this as involving acts of violence but simply as 'zapping' the opposition by making contact. According to these children, winning was always the best part of the game.

Among the next age group, 8 to 11 year olds, there was a clear gender difference, with boys clearly enjoying the aggressive content of the games, and girls having little exposure to it. Reactions to aggressive content are discussed in more detail below.

Some respondents recalled that at a very early age, they had been frightened by some things on a video/computer screen but none claimed that this was true of them now.

> *'I can't stand it (Doom) — the blood and guts go everywhere, it's disgusting. I started playing when I was four and I was really scared — I ran away screaming.'*
> (female, 8–11 years)

> *'Now, because I'm bigger, I don't get really scared — anyhow I've got my dog out back'*
> (female, 8–11 years)

Summary:

Computer games were popular with participants in this sample aged from 5 to 25 years (but recall that one of the criteria of inclusion was reasonably regular game playing experience). Responses suggested that interest peaks during middle childhood and pre-adolescence and then reduces, but does not disappear, during adolescence and early adulthood. Aggressive content appeared not to be a prevalent aspect of the younger (5 to 7 years) children's experience of games, although older participants expressed concern on their behalf and sometimes reported fearful reactions of their own to some game features when they were younger. Younger children indicated that they could distinguish between fantasy and reality, while older participants expressed concern about the younger children's ability to do so.

3.4.4 GENDER-RELATED PATTERNS OF PLAY

Previous research, chiefly conducted overseas, (see Chapter One, and see also Cupitt & Stockbridge, 1996) had indicated gender differences in terms of the amount of play, with boys spending more time than girls with computer games. The levels of involvement indicated by this Australian sample appeared to be very consistent with this pattern. Both males and females agreed that males play more.

The participants were probed for explanations of the gender difference. Several factors were proposed. Girls themselves tended to claim that they had a wider spectrum of competing interests and would rather be doing other things. Many suggested that games marketing was very much directed to males:

> *'When advertised on TV, there's boys playing computer games but you never see girls. Boys spend money on video games and girls spend it on clothes.'*
> (female, 12–14 years)

Many noted that the main characters in the games were usually male. Male and female participants in each of the age groups could list multiple titles which featured males, and these ranged from G classified titles, such as *Aladdin* and *Lion King*, through to MA(15+) rated games such as *Doom* and *Dark Forces*.

The perceived male-bias of the games may set off a self-perpetuating cycle, whereby females are less inclined to play them, consequently do not develop the proficiencies that their male peers and siblings do, and so are less likely to seek or gain opportunities to play, and so on. This may well be exacerbated by gender differences in assertiveness: boys tend to grab the computers. In observing the three-person intensive groups where game playing was featured, the boys were inclined to seize the controls and immerse themselves in the game even if they did not know the game's rules. While this was true of girls as well, more of them were more likely to seek instruction and admit that they did not know what was expected.

> *'I'm not very skilled, I'll have to admit. I do like playing but I do tend to get annoyed when I can't do it properly and every one else can do it really well. They get high scores and I'm just there going 'I can't do it'*
> (female, 18–25 years).

Both sexes acknowledged self-presentational issues. Girls were conscious of appearing foolish in front of male players and suggested that this inhibited their participation, particularly at arcades. Males (and some females) were careful when playing in public to elect for games in which they were already competent. Some practised privately with this end in mind:

> *'Playing on my own is just to improve my skill playing'*
> (male, 18–25 years)

Aggressive content was often identified as a factor in gender differences. Many children speculated that girls assumed that all games were violent, and saw this as a masculine theme that excluded or failed to interest females.

> *'Girls like different things. My sister likes Jewel Master that just matches blocks'*
> (male, 12–14 years)

> *'Girls don't need a lot of things to satisfy them ... just Tetris will do'*
> (male, 12–14 years)

Several girls reported that aggressive content was unappealing and that they quickly lost interest in games which depended on mastery of fighting skills:

> *'It doesn't get you anywhere. All you're doing is punching or kicking — you don't learn anything new'*
> (female, 12–14 years)

> *'Why should you have to kill a cartoon character just to get where you want to go?*
> (female, 15–17 years)

Game play is clearly interwoven with the broader structures of children's gender role development and attitudes. Statements about games may reflect how young people wish to perceive themselves and present to others:

> *'Shoot 'ems like Wolfenstein are violent and I don't play them much — nothing personal. I prefer cute things, Mario Brothers.'*
> (female, 15–17 years)

> *'Guys take it more seriously. Because of their ego they need to be the best. It's nothing to do with the actual violence — just jealousy or competitiveness. We show it differently — like sulking.'*
> (female, 15–17 years).

Some females seemed to be as comfortable with aggressive content as many boys:

> *'I've played the Mortal Kombat game — you know it's violent but it's sort of funny ... the way they chop their heads off. You just laugh because it's so funny 'cos you know it's not real.'*
> (female, 15–17 years)

In some cases, this may be part of a general desire to project a particular image. This girl's observation suggests a desire to confront adult standards or stereotypes of her gender:

> *'Doom is dull as you just collect things — not enough blood and gore'*
> (female, 15–17 years)

Gender differences were less evident among the groups of young people classified as 'at risk'. Girls in this category would tend to be less traditionally feminine. One of the at risk participants reported that she played *Mortal Kombat 3* exclusively and clearly enjoyed demonstrating her superior skills in front of male players. Other girls in these groups frequented the arcades, where they took pleasure from their status in being among the few females who could beat the males' scores.

Summary:

In respect of gender-related patterns of game play, the experiences and observations of these young Australians are very similar to those reported in earlier studies elsewhere. Boys, in general, play more. The games tend to be directed towards masculine interests, and this gives them less initial appeal to females. As boys play more, they gain greater skills. Girls may lose out in the competition for access to computer games, in homes and in arcades. Both boys and girls may assimilate their attitudes towards games into their broader gender role development, with many boys enjoying the assertive, 'macho' images of many games, and many girls preferring to identify with traditional feminine pursuits. There was one exception, among the girls (in one 'at risk' group) who tended to project a non-traditional self-presentation and profess enjoyment of aggressive game content.

3.4.5 TIME USAGE AND 'ADDICTION'

The participants in this study were all frequent players. Not surprisingly, they reported that they greatly enjoyed time spent with computer games. The purpose of this phase of the work was not to achieve a quantified account of exactly how much time they devoted to games (more appropriately investigated in survey studies), but rather to gain an overall picture of how they saw play fitting into their lives.

The pre-teenage groups were particularly regular players. These participants often claimed that they would play more regularly still if it were not for parental monitoring and household rules about homework, etc:

> *'I play every chance I get if my mum's not home'*
> (male, 8–11 years)

Some said that they were supposed to play only at weekends. Some girls said that they would play more if they could get better access to the computer.

Often, game play was regarded as a time-filler — the kind of leisure activity that can be picked up when there is little else to do, or when one is 'bored'.

> *'Because Dad's place is really boring, we just play the computer to occupy ourselves — otherwise we go out and see a movie.'*
> (male 8–11 years)

It was common for players to plan a quick session and then to lose track of the time and find that hours had gone by. There was some acknowledgment that excessive time consumption could be a justifiable concern.

> *'I get hooked on it. You think you'll be there for five minutes and find that two hours have gone by.'*
> (male, 18–25 years)

These kinds of accounts tended to be more common among the late teens to young adults group. Some people in this age band reported that they had spent entire nights playing. One 20 year old man recalled spending two full days on a new game with only four hours of sleep. Possible explanations are that people in this age group are less likely to be subject to parental regulation of hours of play, and that young adults may sometimes invest time and energy in game playing as a diversion from or means of coping with the many stressful demands of their phase of life.

It was very common for a new game to be played relentlessly until it was mastered. The term 'addiction' tended to be used to account for these periods of intense play, which was sometimes experienced (or observed in others) as beyond the individual's control. However, once a new game was mastered, play often dropped off.

Spasmodic involvement was common:

> *'I don't get addicted. Perhaps I play it a lot for a day and then not for a week.'*
> (female, 15–17 years)

'Addiction' appeared to be used more as a colourful description of a transient absorption, not a dependency that would lead to serious withdrawal symptoms if not satisfied.

Although most were regular players, the majority maintained that their leisure time still incorporated a broad range of activities, including outdoor sports.

> *'It depends on the weather. If it's a nice day, I'll go outside instead.'*
> (female 18–25 years)

> *'I do two other sports, so the computer games are an in-between thing.'*
> (female 12–14 years)

A few of the younger respondents acknowledged that they did not read books because they preferred playing computer games:

> *'It's more a time-filler. But I haven't read a book in five months'*
> ('at risk' female, 15–17 years)

However, children who preferred games to books also tended to be heavy television viewers.

During the small group intensive sessions, the younger children displayed the greatest degree of engrossment and it was difficult to interrupt them, to shift their gaze from the screen or to elicit any verbal responses. Watching others play seemed almost as entrancing to them as being at the controls.

Older children reported having or witnessing similar experiences:

> *'If someone asks me a question, I'll only vaguely hear it and I'll say 'oh yeah' or anything I can think of and keep playing.'*
> (male, 8–11 years)

> *'You're actually totally focused on what you're doing. People have to call you a couple of times before you register that something's happening. My mum said she was yelling at me for five minutes but I couldn't hear her.'*
> (female, 15–17 years)

Total engagement can have pragmatic advantages. Some of the participants suggested that occasionally they feigned a higher level of engrossment than they actually experienced, simply as a means of fending off interruptions and calls to carry out household chores, etc., from family members.

Participants were also asked to envisage their computer game use in the future. Most thought that playing would diminish as they matured, but the majority also expected that they would continue playing to some extent in adulthood.

Interestingly, there was no indication that the amount of time spent playing on games with aggressive content differed from that spent on other kinds. The duration of play was determined mostly by factors such as the newness of the game and the degree of challenge.

Summary:

Among this sample of regular players it is not surprising to find that computer game play accounts for substantial amounts of their leisure time. Some admitted that there were periods in their lives when play took up more time than was ideal, and some reported phases of intense involvement, almost to the exclusion of all else. Yet there was little evidence of authentic addiction, in the traditional sense of this term as referring to a psychological and physiological dependency. Periods of excessive use typically subsided. For most, game play was one among several forms of enjoyed recreation, often serving as a time-filler when other activities were not possible. There was no evidence, among these participants, of obsessive investment in games with high violent content because of the aggressive features: if a game did become absorbing for a while, it was typically because it was new and challenging. Most expected games to become a less important part of their lives as they grew up, though many expected to continue some involvement.

3.4.6 SOCIAL INTERACTION

In most of the focus groups participants were given an opportunity to play a selection of games. The three-person intensive sessions were particularly designed to allow extended time for playing. Obviously, the presence of researchers made this a somewhat different setting from the natural playing environment, but (as is usually the case in observational research) the participants appeared fairly quickly to become oblivious to the researchers when playing.

During play there was a remarkably high level of interaction and cooperation. With the younger children this most often took the form of whispered advice. These children often devised ways of sharing the controls even when the game was not designed for more than one player.

Among the older and more extroverted youths the reactions of the onlookers were clearly an important aspect of the enjoyment, sometimes reaching a loud and excited pitch.

> *'It's great to play with your mates. You get all aggro with them — sometimes it spills over but it's all in fun.'*
> (male, 18–25 years)

The nature of the interaction was overwhelmingly good natured and aimed at encouraging and assisting the player to learn and win the game. The instructions shouted by companions were not necessarily advantageous to the player who was often engaged in his/her own running commentary on how the game was going.

The majority of participants claimed to prefer playing with others rather than alone, although this depended on the skill levels of those involved. The ideal was usually to play with someone of about the same level; it was no fun to be continually beaten.

> *'If others play it cheers you along a bit. Others can help you get past a part — you play a bit longer. It's best to play with someone who is as good as you.'*
> (female, 12–14 years)

The participants generally disputed the suggestion put to them that computer and video game playing is an isolated activity.

> *'I don't reckon it's anti-social. A big bunch of us played computer games at school and we all shared knowledge ... it was a shared experience.'*
> ('at risk' male, 15–17 years)

> *'With computer games, it's educational and you're bonding with other people who are helping you play'*
> (female, 15–17 years)

Individual players were sometimes selected according to mood:

> *'My friend Chris is good to play with. He's fun. He mucks around.'*
> (male, 8–11 years)

> *'Friends for fun — Matt, my brother, for a challenge.'*
> (male, 8–11 years)

A number indicated that other family members, particularly fathers, made good partners:

> *'My father is good to play with as he's the same level.'*
> (male, 8–11 years)

Summary:

The observations of actual play during the sessions and the participants' own accounts dovetail in the conclusion that game playing can be a very sociable activity. From ages 5 to 25, our participants clearly enjoyed playing together or watching each other play; the sessions were often animated and humorous. The participants expressed a general preference for joint play, with peers and family. The occasional references to fathers' involvement is particularly interesting; fathers are stereotypically assumed to be less involved in child rearing but, when they are available, are known to be important contributors to social and moral development. This small scale qualitative study does not permit us to conclude that computer games promote father–child interaction beyond what would otherwise be the case, but it does reveal that the games can be the focus of shared father–child activities and valued as such by some young people.

3.4.8 AGGRESSIVE CONTENT

One of the central concerns was to investigate how aggressive content is perceived by young players and the role that aggressive content has in their experiences of the games. The theme of aggression has already arisen at several points in relation to other topics; here, the research concentrates on the participants' direct accounts of this aspect of game play.

The initial prompt in relation to this topic was:

'Some people feel that playing games where there is a lot of aggression or violence can be bad for people. Do you think there is anything in this? Based on what experience? How is it bad?'

Additional prompts or elaborations were used as appropriate in the light of specific responses.

Games with aggressive content were generally termed 'shoot 'em ups', 'beat 'em ups', or 'blood and guts' games by players. This terminology makes it clear that young people are very aware of the genre.

In the case of the participants under 8 years old (and somewhat older in the case of girls), aggressive content seemed not to be part of their video or computer playing world. It was never mentioned in their conversation about preferred games nor in their playing. They tended to play a wide range of non-violent games and although they may have observed others playing games aimed at older age groups, these were largely avoided due to the apparent degree of difficulty. Quite apart from the issue of aggression per se, many of the 'shoot 'em up' games require skill levels beyond the reach of many younger children.

The majority of participants over age 8 did not feel that the aggressive content of the games was a significant concern or problem to them personally. The violent elements were considered to be an essential part of the game; indeed, often they were the game, without which there would be no conflict, no action, and no impetus to win.

> *'To get through the levels you have to blow things up and that's an added attraction.'*
> (male, 8–11 years)

> *'If you want a fighting game you do want blood and guts'*
> (male, 18–25 years)

The 'blood and guts' were not perceived as distressing elements. Usually, they were seen as so fantastic that they were not to be taken seriously.

> *'It's not really people ... it's guys like men, but they're monsters'*
> (male, 15–17 years)

> *'It's fun as it's fun to watch spinal cords being ripped out. It's funny.'*
> (male, 8–11 years)

> *'Must be seriously disturbed to believe such things (eg, Doom) or take them seriously'*
> (male, 15 – 17 years)

'I've played the Mortal Kombat game. You know it's violent but it's sort of funny … the way they chop their heads off. You just laugh because it's so crazy and funny … you know it's not real.'
(female, 15–17 years)

'I find the violence amusing because the moves are so ridiculous — they're not humanly possible and it's more fun because of that …. It makes the game more interesting because it's not like real life.'
(male, 18–25 years)

Although the aggressive features were often mentioned as entertaining, the participants insisted that there was a distinction between games and reality and rejected the idea that game content could affect real life behaviour:

'There are no repercussions from the computer but if you did it in real life, it would be real sad.'
('at risk' male, 15–17 years)

'Fighting games don't necessarily lead to street fighting. People worry about that but it's just paranoia.'
('at risk' male, 15–17 years)

'I don't need a video game to be violent. If someone sets me off, they set me off; it's not a game, it's other people that set you off.'
('at risk' male, 15–17 years)

'All the laws and restrictions are there to prevent people who imitate. But I won't.'
(male, 8–11 years)

We observed participants playing some of the more violent games. Their reactions were often those of hilarity. The behaviour of those at the controls typically reflected amusement rather than aggression. The laughter seemed to be prompted by the level of exaggeration and chaos depicted on the screen. The violence was usually directed at defeating or escaping a notional screen enemy. It was very clear that participants did not perceive themselves as causing harm or inflicting pain on living organisms.

The participants reported that they played a variety of games and most would have been disappointed and even bored if limited to just the violent ones. Many violent game fans said that they were just playing what was available, and it just so happened that so many of the games were violent.

Summary:

In this sample the players below about 8 years, and several older girls, had very little experience of games with aggressive content, and did not appear particularly interested in such games, perhaps because they required greater skill levels than the children possessed. Boys over age 8 and adolescents tended to be very familiar with aggressive games and most had played some. The

participants recognised the games as a genre ('shoot 'em ups', etc.) which they perceived as offering grotesquely exaggerated depictions of violence. The predominant reactions associated with the aggressive content were that it was amusing and not to be taken seriously but could be an integral part of the experience of some games. The participants were sceptical of claims that game content could affect their own or others' real-world behaviour. Most felt that a diet of exclusively aggressive games would be tedious.

3.4.9 FRUSTRATION AND CATHARSIS

It was pointed out in Chapter One, that while most of the emphasis in discussions of aggression in computer games has focused on the risks of imitation or desensitisation, an alternative possible outcome is that players might vent feelings of aggression through the games. It was stressed that relatively little research evidence is available on this topic, and one purpose of this phase of the project was to explore the notion with experienced players.

It becomes clear from the participants' reports that any relationship between game play and aggression is more complex than a purely cathartic experience. Certainly, some participants suggested that their pent-up feelings, including aggression, could be diverted or released through the game playing.

> *'You can get pumped up playing the fighting games but as soon as it's over, it's over.'*
> (male 18–25 years)

A number of such experiences were described. For example, some young people said that when they returned from school irritated or angry, the game playing was an effective means to relax, unwind and improve their mood. A few were more specific and said that if they were angry with a teacher or a sibling they imagined that the source of their distress was the target in the games.

> *'If I don't like him, I'll bash the hell out him — like if it's my science teacher. It's getting rid of irritations.'*
> (female 15–17 years)

> *'When people I'm working for get ratty, I play some mindless games and get ride of my irritations. The characters in Wolfenstein look like my customers.'*
> (female 15–17 years)

> *'If you're angry, you turn around, see the movement on the screen, blow 'em apart and they're splattering against the wall and they're already dead but you just keep on shooting 'em thinking it's the face of your brother or whoever you're angry at.'*
> (male 8–11 years)

By figuratively attacking the source of provocation, participants apparently could 'let off steam' and reduce their anger. However, some pointed out that this benefit was conditional upon how they performed in the game: if they were feeling frustrated, and played badly, this could exacerbate the original feelings.

There was an interesting case reported by a Western Sydney 18 year old male who joined his mates every Friday night for a session of drinking and playing boxing video game. He admitted that their video game-playing was accompanied by some physical horseplay which could become quite rough. However, these activities were seen to be a substitute for other forms of fighting, and were really a planned and contained method for expending aggression. Another male participant hearing of this entertainment suggested the alcohol probably paid a greater part in promoting the aggression than the game.

To some extent, then, players report that they do use computer games as a means of venting pent up tensions. Their descriptions of how they do so might alarm some observers — for example, the science teacher mentioned above might not appreciate being symbolised on the receiving end of computer violence. On the other hand, the tensions and antagonisms of daily life exist independently of computer games; only future research can tell us whether this aspect of play has positive, negative or neutral consequences. It did appear that all of the participants reported these kinds of experiences in a humorous (customers from *Wolfenstein*) or self-mocking way.

On the other hand, it also became clear that computer game play itself can provide frustrations and tensions of its own. Participants frequently reported experiencing high levels of frustration arising from play. The frustration was basically the downside of the power boost described above. Failing repeatedly at a crucial time or task was described as infuriating or a real turn off.

> *'I don't play computer games when I'm having a bad day at school. You don't want to get angrier if you lose.'*
> (male 8–11 years)

Any anger was directed at the machine or at oneself. Participants said it was rare to direct one's anger at losing towards a partner when competing or sharing the controls. The reason for such equanimity could have been that participants tended to play against those with roughly equivalent skill, so there was not one consistently beating another. Although the games could be the site of vigorous disputes, this usually took the form of family feuds about sharing and turns at playing.

Group participants had many colourful stories about displays of anger after someone has just missed getting to a new level, lost a life or repeatedly failed to solve a puzzle.

> *'My older brother was playing NBA Jam and he didn't score once all game so he picks up the control pad and just chucks it onto the floor and goes storming off into his room, slamming the door. Overall he was in a poopy!'*
> (male 8–11 years)

Some participants reported anecdotes of other kids they had heard about who committed antisocial acts or property destruction after playing computer games. However, these were fairly imprecise and second hand accounts. In contrast, the participants themselves said they had not been prompted to such behaviours. In fact, participants mostly claimed they were nonchalant losers, recognising it was 'just a game'.

In any case everyone agreed that the frustration arising from the games was short-lived. It was not a mood that persisted beyond the next activity.

> *'Once I give up on it I carry on my day and forget what I just played... I forget all about it.'*
> (female, 12–14 years)

Even the youngest participants said that when they kept losing they would take a short break and often return to the game determined to do better. In response to a comment about an arcade game player stocking a machine someone said:

> *'That type of person will probably walk away and then just return and try to accomplish the goal.'*
> (male 15–17 years)

Interestingly, very young children, who might be anticipated to be most volatile and least able to deal with any frustrations arising from setbacks in play, actually appeared to have a high tolerance to repeated failures. They were the least vocal and seemed mesmerised by the screen action no matter what their particular fate in the game.

There did not appear to be any relationship between frustration levels and violent games — thus the feelings of aggression were said to be unconnected to the aggressive content. Some participants said they could get most enraged by the sports games where there was no narrative and the whole purpose was simply to win. A few teenage boys claimed that the real sport was their preferred outlet.

> *'With basketball you can feel things but with computer games, it's just the keys.'*
> (male 15–17 years)

> *'I take out my aggression on the basketball court. Computers are just games.'*
> (male 15–17 years)

Summary:

Computer game play is associated with powerful emotions for many participants on at least some occasions. They may turn to the computer as one (though not the only) means of dealing with tensions and animosities in their everyday worlds. Some participants reported short term satisfaction in 'blowing up' or otherwise attacking symbolic representations of persons who had upset or irritated them. Some reported finding diversion from problems in the absorbing activities on screen, aggressive or otherwise. Whether these experiences were therapeutic or harmful requires a different type of study to confirm, but the impression from these participants was that these were transient, playful activities rather than intensely focused obsessions. It was also clear that, quite irrespective of prior tensions, game playing itself can cause frustration and even lead to aggressive actions such as banging equipment. Caution should be exercised in attributing undue weight to this observation.

3.4.10 PREFERRED GAMES

It would be difficult and unproductive to attempt a classification of the video and computer games favoured by focus group participants. No clear pattern of preference emerged. A number of games were repeatedly cited but there was a great variety of game types played. It was rare for a player to maintain an exclusive preference for a particular *type* of game. Although many would claim, for instance, that they liked sports games the best it was also common for them to tire of a sporting game and to choose a different genre next time.

> *'You tend to have your favourite game, then slowly knock it on the head and get another favourite.'*
> (male 18–25 years)

> *'Sometimes I like blood and guts but then it gets dull and I want a totally new type of game like soccer.'*
> (male 8–11 years)

In general, the participants were not devoted to a particular game or game type. There were two exceptions for whom the game had become a significant ritual; one was a mid-teenage girl living in a youth hostel who only played *Mortal Kombat 3* and the other was a late teenage male who met his friends every Friday to play video boxing games.

Many participants, however, acknowledged their attraction to action games featuring blood and fighting. They were particularly entertained by the special effects, action and the dramatic responses of these games.

Above all participants indicated that they sought variety.

> *'Games which allow you to play differently every time are best.'*
> (male 15–17 years)

The newest game was often the favourite game and so those nominated as the best frequently changed from month to month. The youths agreed they were always enticed by challenge and so quickly lost interest in overly simplistic games. As indicated above, a new game could occupy endless hours until it was familiar and mastered. Over-familiarity with a selection of games often led to an overall reduction in the amount of playing. Mood and available time were important determinants of game selection for some players but not all.

> *'If I'm bored, happy I play the violent ones. When I'm sick of the violent ones — like when I've beaten the hell out of 30–40 people — I move onto a car game.'*
> (female 15–17 years)

> *'Wouldn't let mood determine choice of game. It wouldn't matter what mood I was in.'*
> (male 15–17 years)

There were games that demanded great concentration and effort whereas an old favourite might be selected for a quick and relaxing interlude.

Summary:

On the basis of a small sample where many games were played and enjoyed, it was not possible to identify clear group favourites. The important points to emerge were that young people tend to seek variety in their games and that preferences are changing rather than static. Identifying preferred games is rather like identifying preferred pop music: some will be very popular for a while, but different people like different things, and any one person can change his or her preferences over time. Selection of a particular game can vary with situation and mood (in the same way that adults might opt for different leisure activities under different circumstances). Games with aggressive content were certainly enjoyed by many, but any given game could be abandoned if it became 'boring' or unchallenging.

3.4.11 POWER AND CONTROL

Fundamental to the attraction of video and computer games was the sense, for the young player, of power and being in control which was uncommon in their normal lives. The game was regarded as a highly active pastime and the person at the controls or keyboard was in charge.

> *'You feel like you're a little kid and so weak and small and the world's so big around you. When you're on the computer you're in the world of the computer and the world's so small to you because you're so big and tough.'*
> (male 8–11 years)

> *'It's like a dream. You are powerful in a dream.'*
> (male 8–11 years)

It is undoubtedly this sense of power and control that appeals to certain young people when they use the 'God Mode', a facility available in many games which allows the player immunity from 'harm".

> *'In Doom 2 the God Mode is good. I do God Mode in the beginning so you won't lose.'*
> (male 8–11 years)

> *'The bit I don't like is when you can't have God Mode from Level 1.'*
> (male 8–11 years)

In contrast, a highly skilled 15–17 year old player said *'Things like God Mode ruins things as it removes the skill'*.

Some of the children imagined that the ultimate in power was owning your own car. The games could be a direct substitute for car ownership — by providing a control panel or by offering a form of transport to see or do things on the screen. Participants regularly mentioned the many popular games which featured mobility, and going on a journey, including: *Road Rash, Magic Carpet, X-Wing, Super Karts, Cybersleds, Cybercycles, Desert Tank, Starwing*.

Participants as young as six years old expressed their delight at the feelings of strength and freedom entailed in running the machine. There was supposedly a sense of safety in the fact that one generally knew what would happen next in the video game world. Although the scenario could appear scary and dangerous, the various elements could be manipulated by the player, rather than sprung upon them.

Control was seen as an important consideration in respect of aggression. It was pointed out that in many of the games the potential for aggression was often a matter of choice — you could choose to engage in conflict or it could be avoided without concluding the game. As a few participants mentioned, even with *Mortal Kombat*, the player controls whether to execute a *friendship* or *'babality'* move instead of a fatality.

The attraction did not seem to lie particularly in the enactment of aggression for its own sake. Rather the confidence, adrenalin and strength came from completing a task, getting to the next level and achieving the object of the game, whether to save the planet, rescue the princess, retrieve the banana hoard, conquer villains, solve mysteries or stay alive. Aggressive moves play a role in these adventures but the ultimate goal seems to be the achievement of mastery and skill.

Participants varied in their preference for a 'bird's eye view' in contrast to a 'first person perspective' in a game. Some enjoyed the heightened sense of power they felt in the first person perspective whereas others felt a bird's eye view meant that they could anticipate, hence control better, what was going to happen to them.

> *'More interesting if you're holding (ie, first person) the gun.'*
> (female 15–17 years)

> *'I'd rather see the whole thing (ie, bird's eye view) so I can know what I'm really doing. More control over the character.'*
> (female 15–17 years)

Control was also appealing to the older players, although sometimes expressed in relation to more sophisticated game features or themes. For example, a number of older participants emphasised that the popular *SimCity* games encapsulated the aspect of control whereby the player was the leader and creator of an urban environment.

Interactivity was the key feature that allowed young people to control the games. The young children said they particularly liked the cartoon-type games where they recognised characters and could take part in the action. For all age groups, there appeared to be times when they played an energetic, confrontation game and others when they concentrated on the narrative or were just more detached. Good players, in particular, appreciated games which offered physical control through quick responses from the joystick or keyboard and preferably multiple moves allowing for acrobatic characters.

> *'Good practice, memory, concentration. Most of it's in your hand.'*
> (male 8–11 years)

Summary:

Control and power emerged as important themes as young people accounted for their enjoyment of computer games. The games provide environments in which children and adolescents can exert influence in domains that are beyond their competence in the real world. Young children enjoy emulating driving skills, older adolescents explore means of building or reorganising whole social structures, and players of all ages seem to find it stimulating to be able to pit their skills against challenging scenarios. Aggressive content again emerges as a salient and often attractive feature for many players over age 8, but very much as a game skill that serves other goals (such as winning, 'survival', or defeating the bad guys) rather than as a sadistic pleasure in its own right.

3.4.12 THE DESIRE FOR CHALLENGE AND COMPETITION

The word used most frequently by participants in describing their attraction to and experience of video and computer games was *'challenge'*, and the next most frequent word was *'skill'*. Their language emphasised winning, scoring, progressing, improving their own performance or beating the machine or an opponent.

> *'I always beat the computer and that's why I like it.'*
> (female 8–11 years)

> *'It's like playing chess, it's like any game, it's about winning — that's what games are for.'*
> ('at risk' male 15–17 years)

There was a strong indication that challenge and rewards were something that these young people felt to be missing from their lives. Perhaps, as one South Sydney teenager said, the games offered a challenge in an accessible and well packaged form.

Many participants were aware that to a casual observer with no playing experience the games could appear deceptively simple. They stressed that while getting started might be straightforward, it was a quite different matter to make progress or to master the game. This challenge was highly motivating:

> *'People get hyped up. They get so determined to win.'*
> ('at risk' male 15–17 years)

> *'I sometimes think about the games in class... how to work out the problems and the strategies.'*
> (male 15–17 years)

> *'I've gotten more skilled at strategies — at simpler solutions to harder questions.'*
> (male 15–17 years)

The researchers observed some quiet children who professed initial indifference to taking part yet were transformed into scoring enthusiasts at the keyboard or controls as soon as they made some progress.

Participants acknowledged that there was considerable boasting about winning and trying to better each other's standard. At the same time there was a high level of sharing information and techniques. Even in those sessions where participants were keen to beat the others, superior players freely called out advice, encouraging their opponents to perform better.

The brutality of a game apparently had no bearing on its degree of challenge. The battles and fights along the way added an important dimension but they were seen as a means to an end and most players were keenly aware of the final objective.

> *'There's more than one way to solve problems. You can use wit or fighting or magic.'*
> (male 15–17 years)

A vivid illustration is provided by a participant's account of a game context in which there are non-violent but effective alternatives to physical aggression:

> *'In Monkey Island when you are fighting people, if you insult them properly you might win – verbal fighting. It works in different ways.'*
> (male 12–15 years)

The aggressive content appeared to incite more intense competition by raising the stakes — there was supposedly a more direct challenge involved in a combat game than in solving a mystery, for instance.

> *'In any beat 'em up you need to have some level of aggression. No one would like it otherwise.'*
> (male 12–15 years)

The degree of difficulty was critical to the selection and enjoyment of a game. In the intensive sessions, participants seemed to judge very quickly whether a game was too easy or too hard for their abilities. It was a fine balance to find an appropriate level of complexity although many players eagerly sought difficult games or were prepared to persist in practising. Greater criticism was directed to games considered too easy. Some young children around the age of nine years complained they found many games designated for their age group to be too simple.

Some participants, and particularly females, judged the more aggressive games to be boring because they found them repetitive and simplistic. The defenders of these games countered that such criticism came from inexperienced players who did not appreciate the skill involved in such games. *Doom* was mentioned as an example of a game which could appear as just a 'shoot-em-up' game but demanded strategy and manual adroitness to complete the different levels. *Streetfighter* fans acknowledged that the whole game was about fighting but what made it so popular was the fact that it was difficult to play well. It was said to be worth practising special moves (eg, 'combos') because of the speed, timing and extra points rewarded, not just because of the violent results.

Similarly *Mortal Kombat*, which was called the most violent of games, was also described as one of the most difficult. Participants stressed that, while the violence could be engaging, it was the skill entailed which made this a favourite game.

> *'Mortal Kombat takes technical and spatial abilities in making the necessary moves... that's more appealing than the blood and gore.'*
> (male 15–17 years)

Most agreed that it took considerable commitment, practice and application to truly master such games, as well as advice and hints from friends and computer/video magazines. (Conversely, one of the most skilled players participating in the research stated that *'Doom-type games are too dull. They've exhausted the idea with various Doom-related games. Same with Mortal Kombat and Streetfighter*'.)

As noted earlier, one of the gender differences observed is that females, for whatever reason, were less interested in making this kind of commitment and thus saw 'shoot 'em up' games as boring whereas experienced males saw them as games of great skill.

> *'Streetfighter or Mortal Kombat have got about nine buttons. For someone who doesn't play that often, if you start on your own the other player just kills you whereas at least on the driving games basically you know the gist of the game and you know what to do. It's just not fun to get creamed.'*
> (male 18–25 years)

Summary:

While game play may appear mindless or repetitive to the non-playing adult, it has a very different status in the eyes of the cognoscenti. These players referred repeatedly to the challenges and skill requirements of computer games. These were clearly highly motivating to them at all age levels, and led to practice, friendly but keen competition with peers, and even use of other resources to learn more about the games. Aggressive elements were part of the experience for many, though again they emphasised mastery of the techniques rather than inherent destructiveness. Some — particularly girls — tended to reject aggressive content as unchallenging.

3.4.13 IDENTIFICATION WITH CHARACTERS

Participants maintained that they did not identify with the characters in video and computer games. They remarked that the majority of characters did not have human characteristics. The protagonists were seen to be like cartoon characters. Participants felt that it would be hard to relate to these because of their lack of a life story or rounded existence outside of the game. Players did have favourite characters but they tended to identify them with the feats they performed rather than personalities.

The fact that the characters in the computer games world were not perceived as human-like is reflected in how young people feel about administering aggressive treatment to them:

> *'It's not really people... it's guys like men but they're monsters.'*
> (male 8–11 years)

> *'It's like blowing a hole in them and they keep walking up to you whereas real people couldn't do that.'*
> (male 8–11 years)

As mentioned earlier, there were a few cases of youths who imagined their attacks were aimed at a personal enemy but this was not dependent on a human-like target; it could just as easily be blowing up a space ship or some inanimate object.

Older children thought that young ones might identify with the game characters. Instances were reported of younger siblings acting out fantasies of being a particular character. However, on closer investigation it seemed that such emulation was almost always a television or video hero such as one of the *Power Rangers* or *Ninja Turtles*. Boys who were observed imitating postures of game characters were said to be sharpening their physical prowess by performing high jumps and kicks but not practising violent acts.

The young children themselves had trouble discussing concepts such as identification. Nevertheless our enquiries did not reveal that their dreams, fantasies or other play featured any computer game characters. Perhaps as one respondent (a young mother) said, the games were already such complete fantasies that they did not require or allow much further embellishment. Her worry was not that children would have aggressive fantasies provoked by the games but that the games could impede the child's impetus to create their own stories. One respondent said she and some friends had tried but failed to make up a computer game.

> *'It didn't work, we couldn't imagine the setting. It's all there... everything exists for you when you're doing it on the computer.'*
> (female 18–25 years)

Summary:

Identification did not emerge as a substantial issue in these young people's relationships to computer games. There was little of the sense of emotional engagement that is readily observed when young people are asked to talk about their favourite or least favourite television characters. The worlds represented in computer games are seen as fantasy environments populated by cartoon-like representations with no durable physical existence and no psychological properties.

3.4.14 THE PLAYING ENVIRONMENT: ARCADES VERSUS HOME

The arcades research reported earlier in this chapter canvassed the appeal of arcades and their deterrents with those attending an arcade. The majority of focus group participants were occasional arcade visitors, although they generally preferred playing in the home environment. In the home it was said that one could feel secure and relaxed, play for free and at odd hours, could concentrate better, not wait long periods for a turn and feel free of scrutiny (which could be intimidating to females and the inexperienced). Visits to arcades were limited by financial constraints. Everyone commented on the expense of arcades and this meant that visits were often restricted to special occasions or to short time slots.

> *'It's like a gambling thing but it's even worse because you don't ever walk out with any money.'*
> (female 18–25 years)

> *'The pokies are the only equivalent.'*
> (female 18–25 years)

The issue of money and arcades was of particular concern for the 'at risk' participants. Quite of few of these claimed that they used to spend *all* their available money in arcades and not have any left for food.

> *'You only stop when there's no money left. If I had the money I'd get my own machine.'*
> ('at risk' male 15–17 years)

Contact with youth refuges appeared to have eased this problem but some of the participants said they had to avoid arcades altogether because in the excitement of the game, it was so difficult to monitor the expenditure.

> *'I've got my mind on other things now. I got sick of wasting my money on the stupid thing.'*
> ('at risk' male 15–17 years)

This problem was accentuated in, but not confined to, the 'at risk' groups. Many participants described their fury at the end of the session, when they realised all their pocket money had vanished! The speed with which the arcade could 'swallow' money was often blamed for the occasional outbursts of aggression, anger, swearing and even machine kicking.

The crowded nature of arcades was disliked by the majority of participants. Younger children and older teenagers complained of a supposed dominance of young teenagers at the arcades. The 'at risk' children were indignant at a notable invasion of their arcade domain by older players and those they called 'suits'. There were some children who clearly relished what they felt to be the exciting atmosphere of the arcades. However many interpreted this atmosphere as somewhat threatening or 'seedy'; most agreed there was an 'edginess' or 'charge' in the mood of an arcade.

In fact several participants said the arcades could be dangerous at times due to the groups of youths who hung around and also those who were hustling for money to finance their play. A few participants reported witnessing or hearing of attacks outside arcades.

Arcades appeared to be a magnet to game observers as much as players and many skilled players clearly enjoyed both demonstrating their talents and the verbal encouragement of on-lookers. On the other hand performing with unfamiliar equipment and in front of an audience was not always easy:

> *'You get comfortable with your own control pad — in an arcade you start to be uncoordinated.'*
> (male 15–17 years)

Some females claimed to appreciate the opportunities of the venue to observe the boys in action, although girls were less likely to frequent arcades and seemed far more aware of the costs (which they often preferred to save for other things).

For those without access to video/computer games at home the arcades represented their main opportunity to play video games, opening up a whole fantasy world and sometimes offering an escape from an unhappy domestic life. Even those who had games at home agreed that the arcade games tended to be newer, bigger and better. Larger screens and sophisticated equipment meant that graphics and special effects could be more impressive. Moreover there were some highly realistic simulator games which were not designed for home use. Racing car and flying games were hugely popular — especially for the thrill of being in control of a steering wheel.

Summary:

The two principal locations for game playing — home and arcades — were each regarded as having its own merits. Home play is inexpensive and immediately accessible in a secure environment, free from the evaluative scrutiny of more skilled players. Arcades offer more arousing settings, larger and more sophisticated equipment, and the presence of more peers; on the negative side, arcades are expensive, sometimes crowded, and sometimes populated by persons seen as threatening (or, from the perspective of some 'at risk' youths, as too respectable). The potential for more aggressive content or more dramatic aggressive effects did not appear in itself to be a particular attraction of arcades: remarks about content were chiefly about more general properties, such as realistic simulation of high speed or risky behaviour.

3.4.15 PARENTAL CONCERNS

Participants maintained that in general their parents were not particularly concerned about their computer game playing. The young people assumed it would be low in the hierarchy of parental worries but some acknowledged that their parents were likely to be negative about the games if asked. Parents who did have concerns apparently focused on the amount of time their children devoted to game playing and possible neglect of homework or outdoor activities.

While the majority of parents were said to be generally unconcerned about the game playing it seemed nevertheless that a significant proportion were apprehensive about the amount of aggressive content. The young people firmly believed that the parents who expressed such fears had a limited understanding of what the games entailed. Members of the 'at risk' youth group were particularly incensed by what they saw as typical adult behaviour whereby the critics of violence had not taken the time to familiarise themselves with the game experience.

> *'I think parents should get off their butts and see what kids are really doing.'*
> ('at risk' male 15–17 years)

Participants agreed that anyone playing would realise that the impact of the violence was a 'furphy' and insignificant. However it was often suggested that very young children could misinterpret the more violent games. One young mother suggested that it would take another 15 years before it is possible to determine the impact of computer games on children.

Summary:

According to these participants, their computer game use is not a major focus of parental concern. When problems arose, they were more likely to be about amount of time invested. Nevertheless, many had encountered parental concern about aggressive content in the games. The young people felt that this was ill-informed as far as their own experiences went, but some expressed concerns about possible effects on younger children.

3.4.16 USE OF CLASSIFICATION GUIDELINES

The classification of video and computer games was scarcely noticed by the young people. The majority were aware that such a system existed but claimed that they were allowed to play any of the games.

> *'Some restrictions are over the top — like Mortal Kombat, as people can't really pull out people's vertebrae.'*
> (male 8–11 years)

The younger children seemed to play only the games that their parents selected. Participants thought the classifications were for the benefit of parents. Most parents were thought to be aware of the differences between playing games and viewing films.

Some older players identified what they saw as the permissible limits for games. *'We don't pay much attention to classification — if an R rated game interested us we'd get it.'*

[Note: There are no R rated games currently legally available through Australian retailers.]

However one added:

> *'People shouldn't be allowed such games as Night Trap where someone gets raped... that borders on being sick.'*
> (male 18–25 years)

[Note: The game *Night Trap* classified for the Australian market does not contain depictions of rape.]

The overall message with respect to classification seems clear: it is a matter for parents.

3.4.17 COMPARING MEDIA: COMPUTER GAMES, TELEVISION, VIDEO AND MOVIES

It was clear that the young people did perceive computer games as offering quite different experiences from other media. The feeling of power and control experienced in game-playing was contrasted with watching video or films.

> *'With the computer games, you're doing it and you know what the person in there will do. On the video you don't know what will happen next.'*
> (female 8–11 years)

An important consequence of the difference was that events which might superficially appear violent, scary or horrific on a computer screen were actually perceived as much less distressing by the players. In watching a dramatic program or horror movie, what may unfold is unpredictable and beyond the control of the viewer: this can be frightening. In fact, several participants reported that the television news — containing reports of events which are real, horrific and uncontrollable — was sometimes the scariest of their media experiences (they mentioned events such as the war in Bosnia and the Oklahoma bombing). In contrast, a monster or an explosion in the course of a computer game were perceived as not intimidating or distressing because the player knew they were fantasy and knew that they could be dealt with at the press of a joystick.

> *'Sega is sort of like cartoons, not real. You think, well it's a cartoon, he can't jump out and get you. But on TV it's real people and it's real scary because you think 'that might happen to me'. I think what happens if he comes to my home?'*
> (female 8–11 years)

> *'A movie can put ideas into your mind... not video or computer games, they're not realistic.'*
> (female 12–14 years)

Very similar points were made about the potential for aggressive actions within the games. The participants felt that interactivity was a critical feature in that control of the games was invested with the player. Rather than unexpectedly encountering violence (as in films), games allowed the level and nature of the aggression to be controlled by the player.

As already noted, the participants did not identify with the characters in the games, or see them as people. This contrasted with their attitudes towards film and television characters, with whom it was possible to empathise.

It was pointed out by the researcher that some games borrow directly from film imagery and narratives: if the same characters appear, shouldn't there be a similar reaction? The participants rejected this idea. They explained that the games were seen first and foremost as amusement. Hence, the aggressive content tended to prompt amusement, while in some films it would be perceived as sinister.

Several participants commented that the frequently sociable and cooperative nature of game playing mitigated the impact of the aggressive content. Again, they felt that this was different from the experience of film viewing which they saw as a more individual pursuit that did not normally involve interactions with others.

One of the distinctive features of computer games that received a lot of attention was the quality of the graphics and sound effects. Good graphics were seen as a major criterion of a game's worth. High quality visual imagery could lend a game immediate appeal and was often sufficient on its own to sustain interest.

> *'When the graphics are 3D it looks better and it makes you want to play more just because it looks good.'*
> (female 12–14 years)

While there was extensive reference to the graphics of the games, participants could not always explain exactly what constituted good graphics. Others were very articulate:

> *'In (named game) there were square pixels but now there is 3-D animation. When you get a hit you see characters move. The fluidity and variety of the movement appeals.'*
> (male 15–17 years)

In most cases the thrill of the game depended upon creating an impression of 'being there' which led the player into an imaginary but recognisable world.

Many commentators liked the *surreal* graphics and special effects. In keeping with the escapist role of playing, the young people applauded extravagant, larger than life images. They loved the fast action, colour and dramatic impact.

It was pointed out by the researchers that graphics and other special effects were often employed to depict violent imagery. The players regularly reminded us that the computer graphics bore no relation to real violence. In their view, the exaggeration and distortion of many of the violent conflicts made them laughable and cartoon-like.

> *'It looks funny when you just grab the neck and rip off their head and you see the spine dangling.'*
> (male 8–11 years)

> *'If you shoot a person once they'll probably die but in Doom you have to shoot 'em about 12 times.'*
> (male 8–11 years)

> *'If it's a fighting game you want guts!'*
> (male 8–11 years)

Blood could be red, green or turned off, monster attacks featured, characters could perform super-human moves — such phenomena seemed rarely to be taken seriously.

> *'Basically I'm just impressed with the graphics behind it and things like that. I don't really concentrate on someone getting their head ripped off — it's just impressive graphics.'*
> (male 18–25 years)

Realism was considered more vital to the sporting and driving games which aimed to simulate as closely as possible the experience of playing tennis, basketball, gold and so on (although, even here, it was fun to be able to go beyond real capabilities). By contrast, the more violent games were not aiming to replicate a real situation and were viewed as the outlandish scenarios of science fiction.

Sound effects were considered vital in creating atmosphere and establishing the speedy pace of the computer games. Some participants said it would be impossible to play without the musical effects which offered the full experience of immersion in the action.

> *'You need the sound to tell you what's happening — to tell when you're dying or just to hurry up because time is ticking.'*
> (female 12–14 years)

Several youths insisted that it was the sound which enhanced the aggressive content and tension more so than the images. What made some of the games seem violent (and sometimes frightening to very young players) were sounds including screams, heavy breathing, shotguns, rushing wind, shouted warnings, sirens.

> *'The music is really scary, it's like Jaws. You get scared and everything.'*
> (female 8–11 years)

Not all of these sensations are unique to computer games, but the integration of graphics and dramatic sound effects, all to some extent influenced by the player's own actions and decisions, was an important component of the medium's appeal to many of the participants.

Finally, a difference among media emerged in respect of perceived parental concerns. As noted above, the majority of participants thought that their parents placed computer game play low among their list of concerns. In contrast, the majority did have concerns about what films their children viewed especially in relation to violence. This suggests that computer games are indeed treated differently from other media within many households.

Summary:

Computer games are clearly regarded by young people as offering distinctive experiences among their media activities. Games are popular because they afford a degree of autonomy and control that is not possible in older audiovisual media such as television and film, and because they offer engaging graphic illustrations. These features of the medium mean that specific content — including aggressive content — is perceived differently from the way it is seen in other settings. Children report that they find games less scary than other media, and that they find the violent action so 'over the top' that it is amusing rather than disturbing.

3.5 CONCLUSIONS

The second, qualitative stage of the project provided a good deal of information about these young people's experiences of computer game play and their attitudes towards the activity. Clearly, games are popular across a wide age range — from early childhood to at least young adulthood, although there was some indication that interest peaks during middle childhood. As found elsewhere, boys play more than girls. Although play can absorb a lot of time, it tends to be variable, with intense periods of involvement with new games usually subsiding once the game is mastered. Play is often a social activity, and most participants report enjoying the social contexts of games with peers or family members.

Aggressive content is a salient aspect of play for many. This appears not to be the case among younger children (below 8 years), whose game choices are determined largely by parents and whose skills limit their scope for playing many of the more complex fighting games in any case. Many participants, especially boys, enjoy the aggressive aspects, yet they stress that the aggression is not perceived as real and is usually so exaggerated and fantastic that it is experienced as comical. The participants said that they did not feel a sense of identification with the characters, and knew that they were not real. Players' orientation to games is dominated by the awareness that the activity is surreal. There was little sense of malice or viciousness in their accounts of their engagement with the games, or in the play that was observed. Participants said that they did not find the ostensibly combative and ominous screen environments frightening — in contrast, they acknowledged that they did find aspects of other media (television and films) scary or disturbing at times.

One of the reasons why game content appears not to be experienced as threatening is that the player retains control. Control, and the sense of power derived from mastering complex game moves, defeating enemies, evading danger, emerged as very important and attractive features of game play for most participants.

A closely related issue is challenge and skill. It was very clear that players do not like games which they perceive as 'easy' and inanely repetitive. Instead, they seek continuously to test and improve their performance. A new game is played intensively, sometimes excessively, until it is mastered, and then the player tends to move on to another challenge.

For many of the participants, aggressive actions in the games were integral to control and skill. They reported that the actual violence was not the focal issue: what was important was executing the relevant moves effectively, achieving whatever performance goals the particular game required.

With respect to imitation of aggressive actions, participants declared that that they did not believe their own behaviour was influenced in this way. They could be mistaken, but their accounts suggest that copying computer characters is not seriously entertained and rather conflicts with the enjoyably fantastic nature of play.

With respect to cathartic release of aggressive tensions via computer games, participants indicate that the relationship is probably more complex. Certainly, many had experienced turning to computer games (not necessarily with aggressive content) to work off emotional problems. However, sometimes this could be ineffective, if failures or frustrations in the game exacerbated their current negative moods. Indeed, poor outcomes in the games could themselves sometimes lead to anger. (It should be borne in mind that experiences as mundane as losing coins in a drinks machine, burning the toast and trying to understand the controls on a VCR can reduce mature adults to similar expressions of frustration.)

With respect to the regulation of computer game play, some tentative evidence emerges to indicate that this activity may not be monitored by parents as carefully as other media use. In general, participants reported that their parents did not appear to have major concerns about their computer game play — although most were aware of parental concern about games with aggressive content. It should be stressed that the indications were that parental influence was much more evident with respect to the under-8s, who seemed to have little access to aggressive games. When asked about classification guidelines, most participants appeared to consider them irrelevant or perhaps a nuisance factor if they impeded access to particular games.

A number of possible reasons might be conjectured to account for the apparent lack of parental concern. One could be that parents are simply outwitted by the technology, and are unable to keep up with their children's abilities in a medium with which they feel uncomfortable. However, this seems unlikely to be an explanation for all cases, as many children reported at least occasionally playing games with their parents or other adult relatives. Another possibility is that children hide their games from parents. There were no suggestions from participants, however, that this was the case. Another possibility is that parents' judgments of the games are informed by what they have seen in their children's use of them: it may be that parents conclude that game play is not associated with serious problems.

It should be stressed at this point that all of the above are necessarily preliminary conclusions. The purpose of this stage of the work was to develop an initial impression of how computer games are used by young Australians. So far, the evidence had rested on the accounts of a small sample of experienced players.

Firmer conclusions required more systematic and quantitative analyses with a larger and more representative sample. The present stage enabled the formulation of the questions that needed to be addressed with such a sample. They included:

- What are the age-related patterns of playing frequency?
- What are the current preferred games?
- To what extent is game play a shared, social activity?
- How reliable are the claims of the present participants that games are not experienced as aggressive activities?
- How widely is the emphasis on challenge and competition reported as an important feature of game play?
- What is the extent of adult concern about computer game play? How does this compare with concern about other aspects of young people's worlds, including other media?
- What aspects of computer games, if any, do concern adults?
- Do Australian parents monitor and regulate children's computer game play?
- How aware is the community of the OFLC Computer Games Classification Scheme, and what influence, if any, does it have on consumer choices?

Chapter Four presents the next stage of the project, which was designed to address the above questions.

4 CHAPTER FOUR - AUSTRALIANS' VIEWS ON COMPUTER GAMES

The final stage of the study involved a nationwide survey of Australians 12 years and older. This chapter presents the findings of the survey including estimates of the level of usage of computer games in the community, the types of games people play, their attitudes to computer games and their knowledge and usage of the computer games classifications.

The chapter provides a description of the research objectives of this stage of the research program and the methodology and sample design. This is followed by details of the survey findings and a discussion of the results in relation to research objectives. Once again at the conclusion of each subsection a brief summary is given to provide ready access to the main points and findings.

4.1 RESEARCH OBJECTIVES

One of the broad objectives of this stage of the research was to verify the findings of Stage Two across a broader representative sample of the Australian population. While Stage Two provided an intensive study of the computer games players, the survey assesses the attitudes to computer games across the population, including non players.

The broad research goals were to:

1. Measure the incidence of computer game playing in different age/gender segments of people 12 years and older.
2. Measure patterns of usage of computer games.
3. Identify the salient features of the game playing experience.
4. Provide information on players' perceptions of aggressive content of computer games.
5. Assess the level and nature of concern about aggressive content in computer games among the general population and, in particular, parents of players under 18 years.
6. Identify the perceived differences in aggressive content in computer games with that of other media such as film and television.
7. Assess whether violence in computer/arcade games was perceived to have more impact than violence shown in films and television.
8. Provide information on the use and awareness of the classification scheme for computer games.

4.2 METHODOLOGY

4.2.1 SAMPLE

In total 1,310 people participated in the survey. This was comprised of two independent stratified samples, one of over 18 year olds and the other of people under 18 years of age. The youth sample was drawn from 12 to 17 year olds as the survey task was considered too demanding for younger

respondents. The resultant sample size was 895 adults and 415 young people aged between 12 to 17 years. Each sample was stratified by state and location (metropolitan and rural areas) to draw representative samples across Australia.

For both the adult and young people quotas were set to ensure equal numbers of male and female respondents. Quotas were also set in the adult sample to ensure a minimum of 360 parents[29] were included in the survey.

For both samples a minimum quota of computer games players was required to allow the collection of information on the game playing experience. Players were defined as those who had played a computer or video game in the past year (including arcade video games, games on consoles and portable hand held computer games such as *Games Boy*). This quota was not found to be necessary and no respondent was excluded from the sample because of their player/non-player status.

The sample profile is provided in the table below.

	TOTAL	MALE	FEMALE	ADULTS WITH CHILDREN UNDER 18 YEARS	ADULTS WITHOUT CHILDREN UNDER 18 YEARS
Total	1310	672	638	360	535
Adults (18+ years)	895	445	450	360	535
Youth (12–17 years)	415	227	188	-	-

	METRO	RURAL	PLAYER	NON-PLAYER
Total	999	311	895	415
Adults (18+ years)	685	210	508	387
Youth (12–17 years)	314	101	387	28

TABLE 6: Profile of survey sample

4.2.2 CONDUCT OF SURVEY

Separate questionnaires were developed for adults and young people although most of the questions were in common (see Appendix 3 for Adult Questionnaire). Additional questions relevant to the different populations were added where appropriate. Adults answered additional questions on issues of concern regarding the well-being of children in Australia to provide some context for assessing the relative concern about computer games. The young people answered additional questions on the activities they do in their spare time to assess the relative importance of computer games as a leisure activity.

[29] A parent was defined as being a biological parent or guardian of a child under the age of 18 years.

Prior to commencement of the survey, the questionnaires were pilot tested to ensure the meaning of key words and phrases in the survey questions were understood.

The survey was conducted by telephone using Computer Assisted Telephone Interviewing (CATI) system. Respondents were told that the survey was about hobbies and electronic entertainment and that it was being conducted on behalf of a Commonwealth Government Agency. Permission was obtained from parents or guardians to speak to respondents aged 12–14 years.

The interviews were conducted between 12–31 October 1998.

In the analysis stage, the survey responses for the adult sample and young people sample were weighted according to a combination of demographic variables to ensure the findings are representative of the Australian population over 18 years of age and those 12 to 17 years of age.

4.3 THE PLACE OF COMPUTER GAME PLAY IN YOUNG PEOPLE'S LEISURE ACTIVITIES

The discussion with young people who participated in Stage Two of the research suggested computer game play was one among several forms of enjoyed recreation, often serving as a time-filler when other activities were not possible. Similarly previous research by the OFLC[30] indicates that computer game play is a popular leisure activity but sits among a range of other leisure pursuits like television watching, going places, listening to music, watching videos and reading.

At the start of the youth survey, respondents were asked *'what sort of things do you like to do for fun?'* The question was phrased to elicit entertainment activities and not just the ways they spend their time that could include work and household chores.

Outdoor activities like playing sport and cycling were the most commonly reported activities (63%). Computer game play was a distant second, spontaneously reported by 29% of the young people between 12 and 17 years. Only 1% specifically listed playing of arcade video games as an activity they do for fun.

In terms of related media activities, watching television was spontaneously mentioned by 16% of youth, cinema by 13% and watching videos by 3%. 7% referred to using the computer without mentioning computer games and 3% reported using the Internet.

Other leisure activities like socialising with friends going out to places (concerts, the beach), general play around the house, listening to music, playing a musical instrument and reading were nominated by at least 10% of 12 to 17 year olds.

[30] Families and Electronic Entertainment, ABA and OFLC, June 1996.

	TOTAL	FEMALES		MALES	
ACTIVITY	12–17 yrs (n=415) %	12–14 yrs (n=88) %	15–17 yrs (n=100) %	12–14 yrs (n=105) %	15–17 yrs (n=122) %
Sport (including skateboard, cycling)	63	57	48	71	75
Playing computer/video games	*29*	*25*	*7*	*50*	*26*
Using the computer	*7*	*5*	*3*	*8*	*12*
Using the Internet	*3*	*2*	*3*	*4*	*5*
Playing arcade video games	*1*	*2*	*0*	*2*	*0*
Socialising with friends/ visiting friends	28	31	42	23	21
Going out to places	20	25	31	11	15
General play	13	24	6	12	9
Playing a musical instrument	11	17	11	6	11
Watching television	*16*	*16*	*16*	*21*	*10*
Going to the movies	*13*	*14*	*25*	*8*	*8*
Watching videos	*2*	*3*	*5*	*2*	*0*
Listening to music	12	12	14	9	13
Hanging around	11	9	14	12	10
Reading	10	8	22	4	7
Drawing/writing letters	4	7	5	2	3

TABLE 7: Activities of young people by gender and age

Interest in various activities varied with age and gender groups. Sporting and outdoor activities were the most commonly reported activities for both males and females, although males were more likely to report these. Computer game play showed a much greater age and sex differentiation. While 50 % of males 12–14 years listed computer games as an activity they do for fun, only 7% of females aged 15–17 years nominated it. It is the second most frequently reported activity among young males but rates tenth among females aged 15–17 years.

The data support earlier suggestions that the overall importance of computer games in young people's leisure time varies between the different gender and age groups.

4.4 PREVALENCE OF COMPUTER GAME PLAY IN AUSTRALIA

Stage Two research had focused on young people who regularly play computer games. Stage Three measured the prevalence of computer game playing across a representative national sample of Australians 12 years and older. Respondents were provided with a comprehensive definition of computer games[31] . This definition included games packaged with systems software (such as *Minesweeper* on Microsoft Office PC operating system package). These games are not generally required to be classified under the computer games classification guidelines.

People were asked how often they played a computer game in the last year. Among the adults just over half (53%) had played a computer or video game in the past year. Among the 12 to 17 year olds, 94% had done so.

Computer game play is particularly common among under 24 year olds. Nearly all 12–14 year old respondents (96%) had played in the last twelve months with the proportion of players slowly decreasing to 59% of 35–49 year olds. Incidence of computer game play fell considerably among those 50 years and older (25%). This may reflect differential access to the technology and the recency of the development of interactive computer games creating a generational divide in interest/ proficiency in the activity.

AGE	PLAYERS %
12–14	95
15–17	92
18–24	84
25–34	66
35–49	59
50+	25

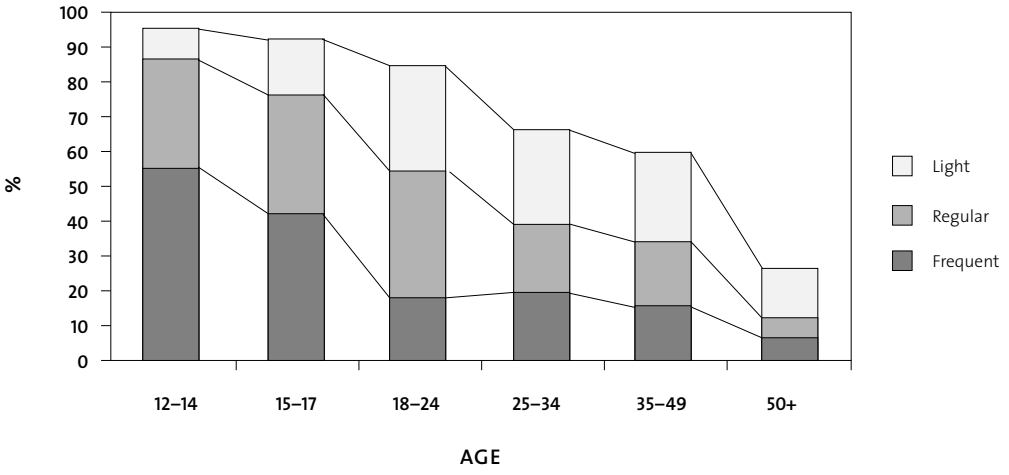
TABLE 8: Player status by age group

Respondents were asked how frequently they play computer games and the regularity of playing was categorised into three groups: Frequent, Regular and Light. The three groups were defined as:

- Frequent – play every day or several times a week
- Regular – once a week or 2–3 times a month
- Light – once a month or less

The frequency of playing computer games across the young people and adult sample is presented in the graph below. Younger people were more likely to play on a regular basis with more than half the 12–14 year olds (55%) playing more than once a week. The proportion of frequent players among the adults was similar: around 17% across the age groups 18–49 years, dropping to 7% for those over 50 years of age. The 18 –24 year olds were, however, more likely than other adults to play more than once a month.

[31] Games played on the computer, a games machine (eg Sega, Nintendo), a handheld computer game (Gameboy) or a game in an amusement arcade



Definitions: Light – plays once a month or less; Regular – plays several times a month; Frequent – plays daily or several times a week

It had been suggested from the qualitative stage that the popularity and regularity with which people play games tended to vary between males and females. The survey findings confirm this relationship, indicating that males are more likely to play computer games and tend to play on a more regular basis, particularly players in the 12–17 years age range.

	YOUTH 12–17 YEARS		ADULTS 18+ YEARS	
	Female n=188 %	Males n=227 %	Female n=450 %	Males n=445 %
Frequent	32	66	11	17
Regular	36	30	13	19
Light	22	3	24	22
Non–Player	11	2	52	42

TABLE 9: Frequency of play by gender

In sum, computer games are widely enjoyed as a leisure activity by the majority of Australians under 50 years of age. Nearly all young people between 12–17 years play computer games. While computer games are a popular leisure activity for young people its popularity as a preferred leisure activity is well behind sport and other outdoor recreational pursuits. Its relative importance as a leisure activity varies between males and females and over different age groups. Males of all age groups are more likely to be players and to play games on a more regular basis. Young males 12–14 years are the most frequent players and are most likely to rate computer games high on the list of preferred leisure activities.

4.5 GAMES PEOPLE PLAY

4.5.1 TYPES OF GAMES

Industry research reported in Chapter Two suggested differences existed in the market for different kinds of games equipment. A growing market for games consoles among the adult population was also suggested. The survey asked respondents to report on the games platforms they had played on in the previous twelve months to assess accessibility to different games platforms in the population.

The most common platform for playing games was the PC. Among the adult players, 70% had played a game on a PC in the last twelve months and 76% of young people had done so.

Young players were far more likely than adult players to play on a range of platforms. Younger players (12–17 years) reported higher incidence of playing on video/console (65% versus 46%), in an amusement arcade (42% versus 21%) and portable/hand-held games (39% versus 25%).

Adults under 25 years, however, were similar to the 12 to 17 year olds in terms of the range of equipment used. This concurs with the industry perception that consoles remain popular with young adults.

Gender differences were indicated in the types of equipment played. Young male players were more likely than young female players to have played on a console (74% versus 53%). Portal hand held equipment use was more common among young females than young males (43% and 35% respectively).

Stage Two arcade research had found that arcades were more frequented by males than females. The survey data confirmed this gender difference. Around half the young males had played a game at an arcade in the last twelve months compared with less than a third of the young females. This difference in interest in playing games in arcades continued in the adult age groups: 39% of 18–24 year males had played a game in an arcade in the last twelve months but only 14% of females in the same age range had done so.

While the incidence of playing coin-operated machines in arcades falls off considerably with age, these data are probably an underestimate of adults' playing of games on this platform because the survey specifically referred to coin-operated games in arcades. Arcades tend to attract the younger (teenage) players, whereas young adults could be playing the same kinds of games in other, more age-relevant, venues, such as hotels and clubs.

Parents of under 18 year olds were more likely to have played a game on a game console than other adults (51% versus 41%).

A potential and growing distribution system for computer games is the Internet. The survey tested the how common it was at present for people to obtain a copy of a computer game through the Net. Respondents were asked how often they download games from the Internet. Nearly one third (32%) of young people and 14% of adults had downloaded a game at some time. As an estimate of the amount of community use of the Net for game playing, these may well be conservative figures, as it is likely that many people play games on the net without downloading.

4.5.2 GAME GENRES PLAYED

More specific details on the types of games people played were ascertained by asking respondents to nominate the game they currently played the most and then the other games they had played lately. The games were post coded according to the games genre and their classification.

In terms of the current most frequently played game, no particular genre dominated with either the adults or the young people. Fighting and driving games were the most popular with the 12–17 year olds. These types of games include shoot 'em ups like *Doom*, martial arts based games like *Mortal Kombat* and driving games like *Daytona* or *Need for Speed*.

In contrast, across the total adult population, card/board games like *Solitaire* were the most commonly played. Among adults, people's preferences for a certain genre vary between different segments of the population. Under 35 year olds were more likely to prefer fighting games than older age groups (19% versus 2%). People older than 35 years were more likely to prefer card/board games (33% versus 11%). Females also more commonly reported a card/board games than males (31% versus 14%) and puzzle type games were also a more frequently listed by females (14% versus 6%). Males more commonly play driving games (24% versus 5% females) and fighting games (13% versus 8%).

		YOUNG PLAYERS n=387 (%)		ADULT PLAYERS (n=508) (%)				
Genre of Game Played Most	**All 12–17 yrs**	**12–14 yrs (n=183)**	**15–17 yrs (n=204)**	**18–24 yrs (n=100)**	**25–34 yrs (n=146)**	**35–49 yrs (n=198)**	**50+ yrs (n=64)**	**All Adults**
Sport	8	10	7	11	6	4	6	6
Driving/riding	*20*	19	20	12	25	11	12	*15*
Fighting	*23*	24	21	22	16	2	2	*10*
Strategy	9	7	13	10	2	7	2	6
Puzzle/skill	7	8	6	13	7	10	11	10
Card/board	2	1	3	8	13	*28*	*43*	*22*
Gambling	0	0	1	0	0	0	0	0
Fantasy	0	0	0	2	1	2	1	2
Flight simulator	1	0	2	1	2	3	2	2
Children's	9	10	8	8	5	10	4	7
Adventure	*13*	16	8	7	6	5	2	5
Educational	1	1	0	0	0	1	1	1
Genre not identified[32]	*9*	9	10	5	10	12	2	8
None	*1*	0	3	4	11	9	16	10
Not established	*0*	0	0	2	0	2	0	1

TABLE 10: Genre of games played most frequently (by age)

When comparing the respondents' main game with the other games they play the data showed that most people choose from a variety of game genres yet some had a preference for certain kinds of games or similar game genre. For instance, many respondents who preferred card games tended to play other card games or puzzle type game. Those who enjoyed driving games also showed a preference for fast action genres like fighting games.

4.5.3 CLASSIFICATION OF GAMES PLAYED

The games titles given by respondents were matched with titles on the OFLC computer games classification database and appropriate classifications assigned .

The most popular games were G rated games. More than a third of young people (34%) and similar proportion of adults (35%) named a G rated game as the game they play most often. Younger players were more likely than adults to play an M(15+) or MA (15+) classified games (14% versus 6% and 16% versus 6% respectively).

[32] Some respondents were not specific about the game and simply referred to their console equipment e.g, Nintendo.

COMPUTER GAME CLASSIFICATION AND CONSUMER ADVICE	ADULT PLAYERS n=508 (%)	YOUNG PLAYERS n=387 (%)
Nett: G&G(8+)	*38*	*42*
G	35	34
G(8+), low level animated violence	2	7
G(8+), low level animated violence and other	1	0
G(8+), other	1	1
Nett: M(15+)	*6*	*14*
M(15+), low level violence	2	1
M(15+), medium level violence	2	3
M(15+), low level animated violence	<1	2
M(15+), medium level animated violence	2	8
M(15+), other	<1	<1
Nett: MA(15+)	*6*	*16*
MA(15+), medium level animated violence	2	5
MA(15+), medium level animated violence	1	1
MA(15+), high level animated violence	3	8
MA(15+), medium level violence	1	2
MA(15+), high level violence	<1	<1
Don't know	6	1
No match with game titles in classification file[34]	*15*	*18*
Title exempt from classification[35]	*8*	*1*
Title not identified	*19*	*12*

TABLE 11: Classifications of games played most frequently

A more detailed breakdown of the classification of games young people claim to play most often, shows young people play games over a range of classification categories but G rated games are the most popular with males and females alike. Males between 15 and 17 years are the most likely to play an MA(15+) rated game as their usual game (25%). However, just as many within this particular segment reported a G rated game as the game they most often play.

[33] Note that the Nett percentage refers to the percentage of respondents who made at least one mention of any code in that category, however they may provide more than one response.

[34] Many titles did not match with registered titles on the database because of inaccuracies or lack of clarity in the reported title.

[35] Some of the adults, in particular, reported games that are exempt from classification. For instance games such as card games and puzzle games built multipurpose business, accounting or educational software packages eg, *Minesweeper*.

CLASSIFICATION OF MAIN GAME	MALES 12–14 yrs n=102 (%)	FEMALES 12–14 yrs n=81 (%)	MALES 15–17 yrs n=120 (%)	FEMALES 15–17 yrs n=84 (%)
G	38	35	29	33
G(8+)	13	2	10	7
M(15+)	17	11	13	17
MA(15+)	17	11	25	7

TABLE 12: Classifications of games played most frequently – young people

To gain a better estimate of the proportion of young people playing games of a particular classification, all the games listed by the respondents were analysed by their classification category. The results are shown in the following table.

CLASSIFICATION OF ALL GAMES PLAYED	MALES 12–14 yrs n=102 (%)	FEMALES 12–14 yrs n=81 (%)	MALES 15–17 yrs n=120 (%)	FEMALES 15–17 yrs n=84 (%)	TOTAL 12–17 yrs n=387 (%)
G	67	59	64	62	63
G(8+)	28	2	21	16	16
M(15+)	30	13	33	28	26
MA(15+)	43	24	46	17	34

TABLE 13: Classifications of all games played – young people

A majority of young people listed a G rated game among the set of games they currently claim to play. Male respondents listed more games than female respondents so they show higher levels within all classification categories; even so, the difference between the proportion of males and females playing M(15+) and MA(15+) games is substantial. Males of both age groups (the under 15 year olds and 15 to 17 year olds) were significantly more likely to report playing an MA(15+) game than females in either age group.

Inspection of the data shows that a handful of popular games classified MA(15+) accounts for most of the instances of MA(15+) titles. It appears a few games with an MA(15+) classification are currently popular with males between 12 and 17 years. There is not a widespread interest among the young people in MA(15+) games in general. The classification of any particular 'hit' title at a given point in time will influence the distribution of classification of titles listed.

4.5.4 WHAT PEOPLE LIKE ABOUT THEIR PREFERRED GAME

Stage One content analysis, reported in Chapter Two, showed that popular games with an MA(15+) classification also score highly on other features like production quality and challenge/complexity dimensions. The role of aggressive content in the appeal of computer games is therefore difficult to assess within the complex mix of features that make up the games.

In Chapter Two the features regular players look for in a game were discussed. The research suggested quality of visual imagery and sound effects, complexity and skills demanded were key elements in a game's appeal.

In the national survey of players, people were asked to rate a range of game features in terms of their importance in the appeal of a computer game. The ranking of the features in terms of mean score on the importance rating suggests the top features for young players were:

- High resolution graphics
- Games I can play with friends
- Realistic sound effects
- Realistic action
- Lots of levels

For adult players the four features with greatest appeal were:

- High resolution graphics
- Lots of levels
- Games I can play with my friends
- Realistic action/sound effects

	RANK	
GAME FEATURE	**YOUTH**	**ADULTS**
High resolution graphics	1	1
Games I can play with my friends	2	5
Realistic action effects	3	4
Realistic sound effects	3	3
Lots of levels	4	2
Interesting story or plot	5	4
Games with a sense of humour	5	4
Fast moving games	6	6
Characters that are like me that I can relate to	6	7
Violence that looks realistic	7	8
Exaggerated, unrealistic violence	8	9

TABLE 14: Ranking of computer games features (where '1' = most appealing)

The kinds of features people value are revealing in terms of our understanding of the game playing experience and what distinguishes it from other entertainment products. These findings strongly support the qualitative stage findings (reported in Chapter Three) that it is creation of vivid simulations of fantasy environments (high resolution graphics, sound effects), the engagement element with both the game and other players (realistic action effects, games I can play with friends) and the degree of challenge (lots of levels) that are the central elements in the game playing experience. Narrative aspects such as story and character are generally less important. Violence *per se* has the least appeal.

People's rating of elements does tend to vary according to the player's genre preference. For instance, the feature, 'lots of levels', is more highly rated by those who prefer strategy games whereas 'realistic action' has highest appeal for those who most often play driving or riding games. Both preferences provide further demonstration of the importance to the consumer of the central game task and challenge, but indicate that there are individual differences in what is found challenging.

In sum, more people play games on the PC platform but young people are just as likely to have access to games on game consoles. The popularity of games consoles extends to adults between 18–24 years old. Video arcades are more likely to be visited by young males between 12 and 25 years. People enjoy playing a variety of games with no particular game genre a universal favourite. People exhibit varying tastes in the type of computer games they choose to play with younger males preferring racing and fighting games and older adults particularly females preferring electronic card/board games. G rated games are the most commonly played games for both young people and adults although a significant proportion of young people 12–17 years also play MA(15+) rated games. The game's features that are important to players are high quality graphics and sound, lots of levels to the game and games that can be played with others.

4.6 THE GAME PLAY EXPERIENCE

4.6.1 FEELINGS ASSOCIATED WITH COMPUTER GAME PLAY

During the qualitative stage of the research (Chapter Three), participants were monitored in play as part of the process of exploring the game playing experience. In both the homes and in arcades researchers observed enjoyment, laughter and engagement among the participants engaged in computer game play. These preliminary observations suggest that positive mood states were associated with computer game playing rather than negative mood effects generally associated with 'aggressive behaviours'. The quantitative survey provides an opportunity to test this possibility more thoroughly.

To assess people's general feeling when playing computer games, survey respondents were asked what words best describe how they felt when they were playing the game they had previously nominated as the game they play most often.

Among adults the most common responses were words that expressed enjoyment and happiness (29%), relaxed and peaceful (24%), excited and exhilarated (18%), competitive or challenged feeling (17%), engaged/involved (11%) feelings. Some did mention feelings of frustration (14%). Further analysis showed that respondents that rated themselves as poor players were more likely to report frustration when playing the game. Only 3% reported feeling of anger or aggression.

Young people's responses showed a similar range of feelings with happiness and enjoyment (54%) and excitement and exhilaration (39%) being the most commonly mentioned. 14% referred to challenge and competition and 8% said they feel frustration. Some reported feelings of nervousness and tension (7%) and 5% claimed to feel aggressive or 'warlike'.

The numbers reporting feelings of competition and challenge were lower than expected. In Stage Two reported in Chapter Three, the arcade study found that when given a list of words to choose from to describe their feeling when playing, respondents most often chose 'challenged'. It may be that 'challenged' is not a word that springs readily to mind when asked to report feelings. When presented as an option in a list of words in relation to the experience when playing computer games its salience as a descriptor increases. It may also reflect the differences players experience when playing their regular game, most likely, in the home environment and the nature of the experience in the arcade where money and performance are added elements.

In terms of differences in the feelings experienced, young males more often reported feelings of exhilaration than young females (45% versus 32%) while young females were more likely to report being anxious or nervous (13% versus 3% males).

As games genres are designed to create different types of experiences for the player, it is not surprising that different types of games are associated with different feelings. The table below shows the range of emotional experiences respondents reported in reference to different game genres. Those who were referring to playing driving and fighting games most often claimed to feel exhilarated or excited when playing while these sorts of games; those referencing their playing of electronic card games more frequently claimed feelings of relaxation and peacefulness.

	GENRE				
Feelings while playing computer games	**Fighting (n=55) %**	**Driving/Riding (n=79) %**	**Puzzle/Skill (n=45) %**	**Card/Board (n=100) %**	**All Genre**
Excited, exhilarated	40	42	11	5	18
Happy, fun, enjoyable	36	33	39	25	29
Relaxed, peaceful, calm, quiet	19	15	26	*46*	24
Challenged	18	16	20	11	17
Frustrated	8	16	21	9	14
Boring, bored	7	4	4	22	10
Angry, aggressive, war-like	9	0	0	<1	3

TABLE 15: Feelings experienced when playing computer games – adults

Few of the younger people play card or board games as the main game. The emotions reported by young people showed very little variation across the different types of games that they prefer. Happiness and enjoyment were the most commonly reported emotions across all sorts of computer games. Challenge was more often associated with driving games or strategy games.

FEELINGS WHILE PLAYING COMPUTER GAMES	FIGHTING (n=68) %	DRIVING/RIDING (n=63) %	STRATEGY (n=40) %	ADVENTURE (n=44) %	TOTAL (n=387)
Excited, exhilarated	47	48	46	50	39
Happy, fun, enjoyable	62	57	61	52	54
Relaxed, peaceful, calm, quiet	13	15	8	19	14
Challenged	9	19	17	7	14
Frustrated	12	2	3	8	8
Boring, bored	3	3	11	1	5
Angry, aggressive, war-like	8	5	7	7	5

TABLE 16: Feelings experienced while playing the game played most by genre – young people

4.6.2 SOCIAL ENVIRONMENT OF COMPUTER GAME PLAY

In Chapter Two it was reported that most respondents preferred to play computer games with other people and that it was considered to be a very social activity. In the survey respondents were asked how often they played with other players and how often they played alone.

The survey findings show 87% of young players play with others at least once a month and 76% of frequent players[36] played with others at least once weekly. Adult players also play regularly with others. 47% reported playing at least once a month with others and 48% of frequent players play at least once a week with others.

One third of the young people (33%) play games with others over the Internet and 8% of adults do so.

Players were also asked whom they play computer games with, and then whom they were most likely to play computer games with. Adults and young respondents were read out a different options (eg, 'your friends' 'your partner' 'your parents').

Friends are the most likely playing partners for both youth and adults, with 84% of youth and 53% of adults selecting this option. Parents of children under 18 years were most likely to play with their children. Nearly three quarters (72%) of the parent players said they play with their children and 14% of children listed their parents as someone they play computer games with.

[36] Frequent players are defined as those who say they play every day or several times a week.

In sum, the survey has confirmed the findings of the qualitative research and found people report positive feelings related to computer game and that the nature of the emotional impact varies according to the type of game. Few people report negative feelings, but where these are mentioned 'frustration' is the most common. The research has also shown the social nature of computer game play. Most young people play regularly with others. While friends are the most likely computer game companion for both adults and young people, parents of under 18 year olds are most likely to play with their children.

4.7 CONCERN ABOUT ISSUES AFFECTING THE WELLBEING OF AUSTRALIAN CHILDREN

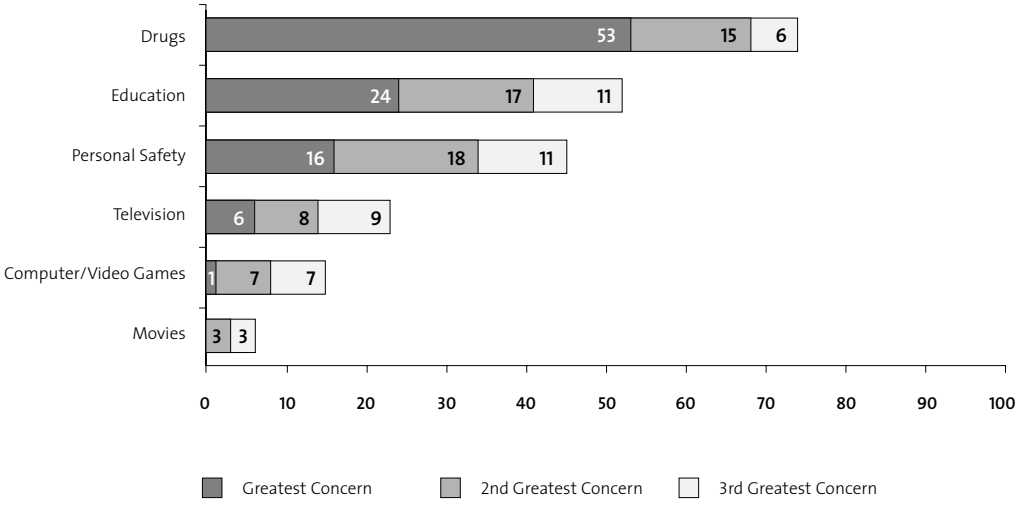
As discussed in Chapter Three, the participants in the qualitative study tended to perceive their parents as being relatively unconcerned about their computer game use. On the basis of a small sample in discussions, it cannot concluded that these are accurate or representative observations: the participants could have been underestimating parental concern or overstating their own autonomy. To investigate the extent of parental concern more directly and more thoroughly, adult respondents were read out a list of six issues and asked to select which ones were of great concern to them regarding the wellbeing of children in Australia. Three of the issues were 'real world' problems (drugs, education, personal safety), and three were media (television, movies, computer/video games). Thus, the survey aimed to gauge where computer games fell among a range of contentious topical issues and in relation to other popular media.

Following the collection of the introductory demographic information, respondents were read out the list of issues. The order in which the activities were read out was randomised to avoid order effects.

The percentages of respondents indicating that the issues were of great concern to them were distributed as follows:

ISSUES*	PERCENTAGES
Drugs	77%
Education	58%
Personal safety	51%
Television	36%
Computer games	29%
Movies	22%

TABLE 17: Issues of concern
*Note: Respondents could select any or all of the issues.



Respondents were then asked to rate, of the issues that they had chosen, which ones were of greatest concern, the next greatest concern, and so on. This provides a more sensitive account of the relative weight respondents attached to the issues.

As can be seen from the figure above, drugs were ranked most often as the greatest concern (53% of adult respondents). This was followed by Education (24%), Personal safety (16%) and Television (6%). *Computer games and movies rated lowest, nominated by less than 1% as the issue of greatest concern to them.*

Computer games were rated as their second or third greatest concern by only 14% of the respondents to this question. The data were examined to investigate whether particular categories of respondents were more or less likely to nominate computer games in their first three concerns. The only significant difference was by age, with older people more likely to put computer games in the top three concerns (20% of those aged 50+ years, 8% of those aged 18–24 years). Similar differences by age were also evident for television (29% versus 19%) and movies (12% versus 2%).

4.8 CONCERN ABOUT COMPUTER GAMES: ADULTS

After the section of questions on game playing frequency and behaviour, both adults and young people were asked an open question: 'What, if anything, concerns you about computer or video games?' It is important to note that this question expressly invites respondents to search for any possible concerns they may have.

If violence or aggression was mentioned, respondents were also asked: 'What is it about the violence that concerns you?' Coding frames were developed for both of these questions.

[37] Note that the Nett percentage refers to the percentage of respondents who made at least one mention of any code in that category, however, they may provide more than one response.

[38] NFI = No further information given.

In response to the question about what concerns them about computer games, 77% specified issues of some kind. Their responses could be grouped into five broad themes: 'violence', 'social', 'time, 'other classification related issues', and 'consumer' issues.

	% TOTAL ADULT SAMPLE (N=895)
NO CONCERNS	**21**
CONCERNS (NETT)	**77**
Violence Related Issues (Nett[39])	**45**
Violence (NFI [40])	38
Realistic violence/use of weapons eg guns	6
Influence children to violence or aggression	2
Too graphic (NFI)	2
Social Issues (Nett)	**21**
Become addicted	6
Become anti-social/introverted/lack interest in every day life	6
Difficult for child to differentiate between reality and fantasy/ gives child a false outlook on life	4
Lack of educational value/need more educational games	4
Can influence child/child's behaviour (NFI)	2
Numbs the mind/makes the brain lazy	1
Time Related Issues (Nett)	**21**
Time consuming/waste of time	9
Children spend too much time playing/stuck in front of screen	8
Spend too much time indoors/no outdoor activities (eg sport, exercise)	7
Other Classification Issues (Nett)	**6**
Pornography/sexual connotations	4
Access to adult or X rated themes for children	2
Consumer Issues (Nett)	**4**
Cost of games	2
Lack of choice of games/more variety needed	1
Need to update hardware/software	1
Health Risks (eg eyesight, epilepsy, dizziness)	**3**
Other (including technical issues)	**4**
Don't know	**3**

TABLE 18: Community perceptions of computer/video games: adults

The most common concerns mentioned by adults were related to violence (45%), followed by social issues (21%) and time related issues (21%). Classification issues and consumer issues were mentioned by 6% and 4%, respectively.

In general, adult respondents who expressed concerns were more likely to be:

- Older (80% of the 35 years or older respondents versus 72% of the under 35s)
- Female parents (84% compared with 76% of male parents)
- Persons with 'very strong' religious beliefs (91% compared with 79% 'fairly strong' beliefs and 71% with no religion).

4.8.1 CONCERNS ABOUT VIOLENCE (ADULTS)

Among those respondents who indicated that aggression or violence was a concern, the majority of comments were quite vague. Areas of concern that were mentioned without interviewer probing included:

- 'Realistic' violence and/or the use of weapons such as guns (6%)
- The possibility that aggression in the games might influence children to imitate (2%)
- The objection that violence in the games was 'too graphic' (2%)

Adult respondents who expressed concern about violence (unprompted) were significantly more likely to be:

- Female (54% compared with 36% male)
- Aged 25 years or older (48% compared with 28% of the 18–24 years age group)
- Persons with strong religious beliefs (51% 'very strong', 54% 'fairly strong', compared with not strong 36%, and no religion 41%)

4.8.1.1 Additional analysis of concerns about violence – Parents

	PARENTS %	NON–PARENT %
Mention concern about violence	48	43
No mention	21	25
Social concerns	19	22

TABLE 19: Parents' concerns about violent portrayals in computer games

Overall, mentions of social concerns were moderate (21%). The most commonly mentioned were addiction (6%), becoming antisocial (6%), children finding it difficult to differentiate fantasy and reality (4%) and the perceived lack of educational value in games (4%).

[39] Note that the Nett percentage refers to the percentage of respondents who made at least one mention of any code in that category, however, they may provide more than one response.

[40] NFI = No further information given.

There was a linear increase in mention of social issues with age. 15% of 18–24 year olds mentioned social concerns but among the 50+ group this rose to 26%. There were no significant differences in the mentions of social concerns by gender, player status or parental status.

4.8.2 TIME ISSUES

Time issues that were raised were mainly in relation to the perception that children were 'wasting' time (9%) playing computer games or that they spent too much time stuck in front of the computer screen (8%). Some were also concerned that players (whether child or adult was not mentioned) spent too much time indoors rather than engaging in outdoors activities such as sport/exercise (7%).

Time issues were more likely to be mentioned by adult non-players (27%) than players (15%).

4.8.3 OTHER CLASSIFICATION ISSUES

As can be seen in Table 18, other classification issues were mentioned by only a small minority of respondents. These divided between pornography/sexual connotations (4%) and access to adult or X-rated themes for children (2%). There were no clear demographic patterns in relation to these concerns (including no differences according to player or parental status).

4.8.4 CONSUMER CONCERNS

Consumer concerns were also mentioned relatively rarely. When these issues (eg, cost and perceived lack of variety of games) were raised, it was almost entirely by adult male players (7%). Some respondents mentioned concerns about the Millennium Bug or the nuisance of computers 'crashing' when playing computer games.

4.8.5 HEALTH RISKS

This was another very low mention concern.

In sum, 29% of adults, when prompted, nominated computer/video games as one of the issues of great concern to them in relation to the well being of young Australians. This figure was considerably less than for the 'real world' issues of drugs (77%), (58%) and personal safety (51%), and less than for television (36%) though more than for movies (22%). When asked to rank order their concerns, adults placed computer games very low relative to the other topics. Computer games were the issue of greatest concern to less than 1% of adults. *When asked* to mention any concerns they might have about computer games, 77% of adults mentioned concerns. These concerns related variously to violence, social issues, time issues and others. In general, concerns were more likely to be mentioned by older respondents, by female parents, and by persons with very strong religious beliefs.

4.9 CONCERNS ABOUT COMPUTER GAMES: YOUTH

Of the young people interviewed 49% did not have any concerns about computer or video games (compared with 21% of adults who had no concerns).

'WHAT, IF ANYTHING, CONCERNS YOU ABOUT COMPUTER GAMES?'	% TOTAL YOUTH SAMPLE (n=415)
No concerns	**49**
Concerns (Nett[41])	***50***
Violence Related Issues (Nett)	***24***
Violence (NFI [42])	17
Realistic violence/use of weapons eg guns	5
Influence children to violence or aggression	3
Too graphic (NFI)	1
Consumer Issues (Nett)	***9***
Cost of games	6
Lack of choice of games/more variety needed	4
Need to update hardware/software	2
Social Issues (Nett)	***7***
Become addicted	3
Difficult for child to differentiate between reality and fantasy / gives child a false outlook on life	2
Can influence child/child's behaviour (NFI)	1
Become anti-social/introverted/lack interest in every day life	1
Numbs the mind/makes the brain lazy	1
Lack of educational value/need more educational games	1
Time Related Issues (Nett)	***7***
Spend too much time indoors/no outdoor activities (eg sport, exercise)	4
Children spend too much time playing/stuck in front of screen	3
Time consuming/waste of time	2
Other Classification Issues (Nett)	***1***
Pornography/sexual connotations	<1
Access to adult or X rated themes for children	<1
Health Risks (eg dizziness, eyesight problems)	***1***
Other Concerns (including technical issues)	***10***
Don't know	***<1***

TABLE 20: Community perceptions about computer/video games (general): youth

As for the adults, the responses of those concerned were grouped into five broad themes: 'violence', 'social', 'time, 'other classification related issues', and 'consumer' issues (see Table 20).

Of the young people interviewed, 24% mentioned violence related issues (compared to 45% of adults), 7% mentioned social issues (compared to 21% of adults), and 7% mentioned time related issues (compared to 21% of adults). However, young people were more likely than adults to mention consumer related issues, such as cost and variety of games (9%, compared to 4% of adults).

4.9.1 CONCERNS ABOUT VIOLENCE (WITHOUT PROBING)

As with the adults, of those respondents expressing concern about violence the majority provided only vague comments. Among the young people that mentioned violence their specific concerns included:

'Realistic' violence and/or the use of weapons such as guns (5%)
The possibility that aggression in the games might influence children to imitate (3%)
The objection that violence in the games was 'too graphic' (1%)

These responses, and their frequencies, were very similar to those of adults. The respondents more likely to mention concerns about violence tended to be females in the 15–17 group, of whom about 36% raised the topic, compared to 22% of males in the same age group. There were no gender differences between 12–14 years group.

There were no differences between players and light/non-players in mentions of concern about violence related issues. Violence was less likely to be raised by young people who most often play an MA(15+) classified game.

4.9.2 SOCIAL CONCERNS

The most common social concern was the possibility of addiction to computer games, though this was mentioned by only 3% of the young people. There was a tendency for more light/non-players than players to mention social concerns (12% versus 6%).

4.9.3 TIME RELATED CONCERNS

The most commonly mentioned issues were time wasting (5%) and players (age not specified) spending too much time indoors and not getting enough outdoor exercise (4%). As few respondents mentioned these concerns, strong demographic patterns were not discernible in the data.

[41] Note that the Nett percentage refers to the percentage of respondents who made at least one mention of any code in that category, however, they may provide more than one response.

[42] NFI = No further information given.

4.9.4 CONSUMER CONCERNS

The main consumer concerns were the cost and perceived lack of variety of games. These were more likely to be made by young male players (aged 12–14 years, 10%) who played games frequently or regularly. As with adults, some technical comments (the Y2K bug, unreliable computers) were mentioned.

4.9.5 HEALTH RISKS

As with adults, this was a very infrequent concern.

In sum, young people are less likely than adults to say that they have concerns about computer game play. However, among those that do mention concerns, the themes are very similar to those of adults.

4.10 REASONS FOR CONCERNS ABOUT VIOLENT CONTENT IN GAMES: ADULTS

The 45% of the adults who mentioned violence concerns were probed with the further question: 'What is it about the violence that concerns you?'

Detailed responses to this question are shown in Table 21. A wide variety of responses was given. The most common clustered around the themes of not liking violent games and that violence was not necessary in children's entertainment (11%). Others clustered around the themes of the risk of children imitating computer violence in real life (7%) and the somewhat vaguer concern that the games can 'influence a child's behaviour or mind' (8%).

WHAT IS IT ABOUT THE VIOLENCE THAT CONCERNS YOU?	% TOTAL ADULT SAMPLE (n=895)
No concerns about violence	**55**
Concerns about violence (Nett[43])	**45**
Violence Specific Content (Nett)	***24***
Don't like violent games/violent content not required/ not necessary for children to be exposed to violence	11
Too realistic/explicit/graphic (NFI)	4
Exaggerated, excessive focus on violence, too much blood	3
Violence (NFI)	3
People hitting/killing/hurting each other	3
Realistic violence/use of weapons eg guns	2
Violence portrayed as positive/fun	<1
Modelling/Evocation (Nett)	***10***
Imitation–children/teenagers may copy ideas/act out violence	7
Evokes violent behaviour/encourages aggression (children not mentioned)	2
Evokes violent behaviour/encourages aggression (children mentioned)	2
Other Issues	-
Can influence child/child's behaviour/mind	8
Desensitisation – builds up acceptance of violence/ desensitises young people to violence/violence becomes mundane	5
Difficult for child to differentiate between reality and fantasy/ give false outlook on life	5
Miscellaneous	***1***
Don't know	***<1***

TABLE 21: Reasons for concerns about violent content in games: adults

Relatively few respondents mentioned concerns about exaggerated violence, characters hitting, killing or otherwise hurting each other, or the realistic nature of the violence depicted. Other themes mentioned by small numbers of the adult respondents were desensitisation to violence and difficulties in differentiating fantasy and reality.

[43] Note that the Nett percentage refers to the percentage of respondents who made at least one mention of any code in that category, however, they may provide more than one response.

4.11 REASONS FOR CONCERNS ABOUT VIOLENT CONTENT IN GAMES: YOUNG PEOPLE

The 24% of young people who mentioned concerns about violence were also probed with the further question: 'What is it about the violence that concerns you?'

Detailed responses to this question are shown in Table 22. A wide range of reasons was given, very similar to those mentioned by adults, though will lower proportions of young people subscribing to them.

WHAT IS IT ABOUT THE VIOLENCE THAT CONCERNS YOU?	% TOTAL YOUTH SAMPLE (n=415)
No concerns about violence	**76**
Concerns about violence (Nett[44])	**24**
Violence Specific Content (Nett)	***13***
Don't like violent games/violent content not required/ not necessary for children to be exposed to violence	4
Exaggerated, excessive focus on violence, too much blood	3
Too realistic/explicit/graphic (NFI)	2
Violence (NFI)	***2***
People hitting/killing/hurting each other	2
Realistic violence/use of weapons eg guns	1
Violence portrayed as positive/fun	<1
Modelling/Evocation (Nett)	***6***
Imitation–children/teenagers may copy ideas/act out violence	3
Evokes violent behaviour/encourages aggression (children not mentioned)	2
Evokes violent behaviour/encourages aggression (children mentioned)	1
Other Issues	-
Can influence child/child's behaviour/mind	3
Desensitisation – builds up acceptance of violence/ desensitises young people to violence/violence becomes mundane	3
Difficult for child to differentiate between reality and fantasy/ gives false outlook on life	1
Miscellaneous	***1***

TABLE 22: Reasons for concerns about violent content in games: youth

[44] Note that the Nett percentage refers to the percentage of respondents who made at least one mention of any code in that category, however, they may provide more than one response.

In sum, *when prompted*, about half of young people said they had concerns about computer games, and about half said that they did not. The reasons that young people gave for concern were very similar to those offered by adults: violence, social issues, time. More adults than young people offered reasons. Prominent reasons for concern about violence appeared to be that some did not like this type of content and did not think it was suitable for children. Young people were twice as likely as adults to mention consumer concerns (cost, variety), though this still amounted to only 9% of respondents. Females tended to be more likely than males to mention concerns.

The vague responses most people gave to further probing about the nature of their concerns about violence, suggests a number of possible explanations. One possibility is that some people personally find portrayals of violence distasteful or disturbing, and cannot understand why others may find this form of entertainment enjoyable. Another possibility is that people have simply responded to the interviewer's questioning in a perceived socially desirable way. That is, the respondent was answering according to his or her sense of social norms rather than any firmly held personal view. Given the media's focus on violence issues in debates about computer games, to the exclusion of any other potential positive or negative influences, it is not surprising that some in the community have adopted this concern irrespective of their personal experience.

4.11.1 EXTENT TO WHICH VIOLENT COMPUTER GAMES ARE PERCEIVED TO ENCOURAGE AGGRESSIVE BEHAVIOUR

Following the questions about concerns, all respondents were asked about the possible influence of violent content on behaviour. They were asked to think about influence on three different targets: the self, children and teenagers in general, and adults.

The question format was; 'How much, if at all, do you think playing violent computer or video games would encourage you/ children and teenagers in general/ (other) adults to act aggressively in real life?'

Responses were given on a five point scale, 'Not at all', 'Very little', 'Some', 'Quite a lot' and 'A great deal'.

	ADULTS n=895 (%)	YOUTH n=415 (%)
Impact on Self		
Not at all	68	65
Very little	12	23
Some	7	8
Quite a lot	3	2
A great deal	3	2
Don't know	6	◂1
Impact on children and teenagers in general:		
Not at all	6	10
Very little	11	28
Some	35	44
Quite a lot	27	14
A great deal	16	2
Don't know	5	3
Impact on (other) adults:		
Not at all	20	52
Very little	25	33
Some	36	12
Quite a lot	8	2
A great deal	3	0
Don't know	9	1

TABLE 23: Extent playing violent computer games is perceived to encourage aggressive behaviour: self and others

Several important points emerge from these data:

- Very few adults or young people believed that playing violent games would encourage them personally to act aggressively in real life.
- Adults tended to be slightly more likely to believe that other adults were more vulnerable to the influence than themselves, and substantially more likely to believe that children and teenagers were considerably more vulnerable.

- Young people did tend to believe that *other* young people were vulnerable to the influence of violent games, but did not estimate the likelihood of the influence as great as adults did. That is, adults tend to imagine that young people in general are more likely to be influenced by violent content than do young people.

4.11.1.1 Interpretation of the phrase 'act aggressively'

In referring to encouragement to act aggressively, a wide range of interpretations is possible from 'jostle friends around a computer' to 'emulate exactly the behaviours of the characters on screen'. To clarify what respondents had in mind, they were asked what they thought the interviewer had meant when he or she had said 'act aggressively' in the previous question. Respondents who were unsure of how to answer this question were prompted to think about the perceived contexts in which aggression might occur (eg, at home, on the streets, in school).

A range of responses was obtained, as presented in Table 24.

CODE	ADULTS N=895 (%)	YOUTH N=415 (%)
Violence (NFI)[45], aggression (NFI), abusive (NFI)	18	25
Physical abuse (NFI) eg physical aggression	*17*	5
Punching, bashing, beating, kicking	16	*25*
Verbal abuse (NFI) (eg swearing, shouting)	16	14
Fighting, children fighting (NFI)	15	*31*
On the street, street fighting, gang fights	12	16
In the home, lounge room	9	8
Use of guns mentioned	8	9
Psychological abuse (eg threatening, terrorising, bullying)	8	3
Imitation of aggression – computer games mentioned	5	10

TABLE 24: Responses to the phrase 'act aggressively'

These responses indicate that the respondents' understanding of aggression was similar to that presumed in this investigation (ie, the standard scientific definition of behaviour, physical or verbal, which is intended to harm others).

[45] NFI = No further information given.

4.12 PARENTAL INTERVENTION

Parents were asked: 'Have you ever stopped your child/ren or children that you care for playing a computer or video game because the content of the game was too violent?'

28% of parents reported that they had stopped their child from playing computer games for this reason. These were more likely to be mothers (33% of female parents versus 23% of male parents).

Another perspective on the same issue can be provided by young people themselves. They were asked: 'Have your parents ever stopped you playing a computer or video game because they felt the content of the game was too violent?'

17% of young respondents reported that they had been stopped from playing for this reason. More of the females than males responded yes to this question (20% of females versus 14% of males).

It should be recalled that the adults and the young people in this sample were generally not drawn from the same families. Interpretation of the discrepancy between adults' and young people's accounts of the frequency of intervention is provided in the Discussion.

4.13 SELF-REGULATION

Young players were also asked if they had ever stopped playing computer games of their own accord because of violent content. 21% said they had. These were more likely to be female players (32% compared to 13% of males).

In sum, aggressive content does appear to be an issue that at least some parents and children take into account in determining play choices. About 28% of parents say they have stopped their children from playing games they judged to be too violent, and about 17% of young people report that they have been stopped for this reason; about 21% of young people report that they have chosen to stop playing because of violent content. Girls appear to be more likely to be subject to parental or self-regulation concerning violent content.

4.14 COMPARISON BETWEEN VIOLENCE IN COMPUTER GAMES AND MOVIES

4.14.1 PERCEIVED DIFFERENCES

An important issue in the debate about computer games and young people has been the question of whether this medium, because it allows the player to interact and affect events on screen, might have more powerful effects than media sometimes assumed to be more passive, such as television and the movies.

Participants in the qualitative stage indicated that computer games offer distinctive experiences among their media activities. They enjoyed games because of the scope to control on-screen events in ways that cannot be achieved in relation to television and movies, and because of the

quality of the graphical illustrations. The participants reported that they find games less scary than other media, and that the violent action is so stylised and exaggerated that it is amusing rather than disturbing.

It was important to determine the extent to which these comments, gathered in small discussion groups of computer-game enthusiasts, held true for a larger and more representative sample. It was aimed also to obtain adult perspectives. Hence, in this stage of the project, all respondents were asked 'In what ways do you think violence shown in computer games is different to violence shown in movies?'

Responses were coded and are shown in Table 25.

CODE	ADULTS N=895 (%)	YOUTH N=415 (%)
Realism and exaggeration	*37*	*52*
Interaction and control	*21*	*24*
Computer games – are more interactive/personal	13	7
Computer games – have control over what happens	8	18
Movies – are watched/not interactive	6	4
Computer games are dehumanising/desensitising	2	2
Not much difference/similar	*30*	*21*
Don't know	*8*	*2*
Other	*6*	*3*
No reply	*1*	*0*

TABLE 25: Comparison between violence shown in computer games and violence shown in movies

The main themes emerging concerned the realism of the games and issues of control. Most who referred to realism as a distinguishing feature felt movies were more realistic detailed verbatim comments included:

> *"In movies it is more graphic, more realistic, I'm more likely to pay attention to violence in the movie than in a computer game, it's only a game"*
>
> *" I think there's more violence on television, most on television is real life, most games are only mucking around"*
>
> *"They're not real people in games, they can survive better than real people".*
>
> *"Generally it is animated and people are generally associated with unreal worlds"*
>
> *"People actually involved in the violence with games know its not real. In TV the violence is real and could have more effect"*

Movies were seen as using human characters, while computer games had alien or cartoon style characters. Youth were more likely than adults to refer to this distinguishing feature.

Interactivity was the key difference for many. This attribute of games was often spoken of in relation to the issue of control. Respondents saw computer games as allowing greater control over what happens. Young people were more likely to mention this feature, presumably because they are more experienced with games:

> *'you control when you play, when you turn it off and how you react when you play'.*

Comments about violence were very similar to those obtained in the qualitative study. Respondents saw computer game players as actively influencing whether violence occurred and controlling the level of violence available, in contrast to movie watchers who were seen as passive recipients of violent scenes: 'in video games you can control the violence', 'In a movie, it's been thrown at you and you have no say in it'.

4.14.2 RELATIVE CONCERN

All respondents were asked:

'Which of the following comes closest to your views:

I am more concerned about violence shown in computer games

I am more concerned about violence shown in movies

I am equally concerned about the violence shown in both

I am not concerned about the violence shown in either'

The first two statements were rotated to prevent order effects.

The results are presented in Table 26.

CODE	ADULTS N=895 (%)	YOUTH N=415 (%)
I am more concerned about violence shown in computer games	11	11
I am more concerned about violence shown in movies	14	17
I am equally concerned about the violence shown in both	*63*	*31*
I am not concerned about the violence shown in either	*12*	*41*

TABLE 26: Level of concern about violence shown in computer games compared with violence shown in movies

As can be seen, only 11% (of each group) indicated that they were more concerned about the violence shown in computer games. There was a slight but statistically non-significant tendency for young people to be more concerned than adults about violence shown in movies. More striking

is the difference with respect to the statement 'I am not concerned about the violence shown in either', with the largest proportion (41%) of young people selecting this statement as closest to their views, compared with only 12% of adults.

In sum, the pattern of responses does not indicate a clear difference of concern for movies versus computer games. There do appear to be differences in how the two media are experienced, and these correspond to the comments obtained in the qualitative stage: there is an emphasis on the control afforded by computer games. With respect to violence, comments were similar to those reported in the qualitative stage, with respondents indicating that the greater degree of control made the violent content less intimidating. The main difference between young and adult respondents is that a substantial proportion of the former state that they are not concerned about the violence in either movies or computer games.

4.15 AWARENESS AND USE OF THE CLASSIFICATION SCHEME FOR COMPUTER GAMES

4.15.1 AWARENESS OF THE CLASSIFICATION SYSTEM

Participants were asked: 'As you might know, TV, films and videos are classified. Are you aware of a classification system for computer and video games?'

42% of parents and 35% of non-parents stated that they were aware of a classification system. Young people were considerably more likely to state that they were aware of the system (74%).

Adult males were more likely to respond that they were aware of the system than were females (43% compared with 32%). Among the young people, males again were much more likely to claim awareness (81% compared to 59% of females).

Players were more likely to state that they were aware of the classification system than were non-players. This was true of both adults (50% of players aware versus 24% of non-players) and young people (74% of players versus 54% of light/non-players).

Respondents who said they were aware of the system were asked if they could tell the interviewer any of the classifications for computer games. Young respondents were more likely than adults to nominate correctly at least one of G, G(8+), M(15+), or MA(15+) as classification categories.

There were some incorrect nominations reflecting confusion with the classification systems for other media. 31% of young people and 20% of adults nominated PG (Parental Guidance), and 25% of young people and 20% of adults nominated R (Restricted). Neither of these categories is used in the computer and video game classification system.

39% of adult respondents and 19% of young people who said they were aware of the system were unable to nominate specific levels.

Respondents were said they were aware of the system were asked to select which of three statements best describes the MA(15+) classification for computer and video games. The statements and results are presented for in Tables 27 and 28.

RESPONSES TO THE MEANING OF MA(15+) CLASSIFICATION	AGES 18–24 n=76 %	AGES 25–34 n=92 %	AGES 35–49 n=135 %	50+ n=49 %	TOTAL ALL PLAYERS n=352 %
Restricted to adults 18 years and over	12	32	43	22	29
Parental guidance recommended for persons under 15 years	28	34	25	5	25
Not to be sold, hired or demonstrated to persons under 15 years	55	28	26	30	34
Don't know	5	6	6	43	13

TABLE 27: Intepretation of MA classification by respondents aware of computer games classification: adults

	AGES 12–14		AGES 15–17		TOTAL
RESPONSES TO THE MEANING OF MA(15+) CLASSIFICATION	Male n=77 %	Female n=49 %	Male n=104 %	Female n=67 %	All Players n=297 %
Restricted to adults 18 years and over	15	38	9	20	19
Parental guidance recommended for persons under 15 years	42	12	21	21	26
Not to be sold, hired or demonstrated to persons under 15 years	41	43	69	54	52
Don't know	3	7	1	5	4

TABLE 28: Interpretation of MA(15+) classification by respondents aware of computer games classification: young people

35% of adults and 52% of young people who said they were aware of the scheme selected correctly the statement that the sale of hire of games with the MA(15+) classification is restricted to persons over 15 years of age. Among the young people who were aware of the scheme, 15–17 year olds were more likely to select the correct definition of MA(15+) than were 12–14 year olds (63% versus 42%).

The data were examined for possible demographic differences. Among the young people, there was a difference between metropolitan and rural respondents; metropolitan youth were more

likely to select the correct definition (58%, compared to 41% rural). The trend among adults was similar (36% metropolitan versus 31% rural), though not significant.

These figures do not demonstrate a high overall level of awareness of the MA(15+) description; given three response options there is a one in three chance of selecting the correct answer on the basis of random choice, and the adults' responses were at this level. However, the higher figures for young people do suggest that they are more likely to be aware of the relevant description than are adults. This is especially so of respondents who have recently entered the age group (15–17 years) to whom sale and hire of material with this classification is no longer restricted.

4.15.2 USE OF THE CLASSIFICATION SYSTEM

Respondents who indicated that they were aware of the system were then asked:

'How often, if at all, do you use the classification system for choosing a computer or video game, whether for yourself or someone else?' (If the respondent was unsure, he or she was prompted; see questionnaire at Appendix 3)

CLASSIFICATION – FREQUENCY OF USE	AGES 18–24 n=76 %	AGES 25–34 n=92 %	AGES 35–49 n=135 %	50+ n=49 %	TOTAL ALL PLAYERS n=352 %
Always	7	21	26	11	17
Often	4	12	15	3	9
Occasionally	17	7	16	7	12
Never	63	49	33	34	44
Don't buy or rent games	9	10	7	39	15
Don't know		1	2	6	2

TABLE 29: Frequency of use of classifications by age group: adults

CLASSIFICATION – FREQUENCY OF USE	AGES 12–14 Male n=77	AGES 12–14 Female n=49	AGES 15–17 Male n=104	AGES 15–17 Female n=67	TOTAL All Players n=297
	%	%	%	%	%
Always	15	22	8	4	13
Often	11	15	4	13	10
Occasionally	22	27	22	20	22
Never	49	33	65	55	52
Don't buy or rent games	2	2	1	8	3
Don't know	1	1			<1

TABLE 30: Frequency of use of classifications by age group: young people

In sum, young people were more likely than adults to say that they were aware of the classification system for computer games. Parents were more likely than non-parents to state that they were aware of the system. Males (both adults and young people) were more likely than females to claim awareness. Among those who professed awareness, reasonably high proportions were able to nominate correctly one or more of the classification levels, although there was some evidence of confusion with the classification systems used in other media such as television and movies. Only one third of adults (the proportion expected on the basis of chance) could select the most accurate description of MA(15+), but young people fared better (at 52%).

4.16 DISCUSSION

4.16.1 RECAP OF FINDINGS

This stage of the project has provided a substantial body of information on the use of computer games in Australia and on community attitudes and concerns about the games. The main findings are that computer games are popular with very high proportions of young people *and* adults. 94% of 12–17 year olds and 53% of adults have played a computer game in the last year. While playing computer games is a popular leisure activity for young people, their popularity as a preferred leisure activity is well behind sport and other outdoor recreational pursuits. Its relative importance as a leisure activity varies between males and females and over different age groups. Young males 12–14 years are the most frequent players and are most likely to rate playing computer games high on the list of preferred leisure activities.

People exhibit varying tastes in the type of computer games they choose to play. G rated games are the most commonly played games for both young people and adults although a significant proportion of young people 12–17 years also play MA(15+) rated games. The game's features that are important to players are high quality graphics and sound, lots of levels to the game and games that can be played with others.

The survey has confirmed the findings of the qualitative research and found people report positive feelings related to computer game and that the nature of the emotional impact varies according to the type of game. The research has also shown the social nature of computer game play. Most young people play regularly with others. Parents of under 18 year olds who play games most often play with their children.

When prompted, about 29% of adults did express concerns about computer games and the wellbeing of young people. However, in relation to other concerns (such as drugs, education, personal safety, television) computer game play ranked very low.

When people are encouraged to elaborate on their concerns, the main themes arising tend to be violence, social issues (ie, such as isolation of players), and time issues (ie, spending too much time on the activity). These concerns are shared by adults and young people, but are less frequently mentioned by the young.

Although violence in games was a concern for some, most respondents (adults and young people) felt that it was unlikely that this feature would affect their *own* behaviour. Instead, others were presumed to be more vulnerable to the influence. This was true of both adults and young people.

Some parents reported that they had intervened to stop their children playing violent games. Some young people indicated that their parents had restricted play for this reason. Some young people said that they had stopped playing some games because of violent content.

When asked to compare computer games with movies, respondents tended to focus on differences in realism and interactivity. The ability to control play because of its interactive nature was seen as a distinctive feature of computer games.

Young people were more likely than adults to say that they were aware of the classification system for computer games, though parents were more likely to be aware of it than non-parents. Parents were also more likely to regularly use the system.

4.16.2 THE EXTENT AND NATURE OF COMMUNITY CONCERN

One of the central goals of the research was to investigate any concerns that members of the community, players or non-players, may have about computer games. To this end, respondents were invited to consider computer games among a list of issues that may affect the wellbeing of young Australians. It is important to acknowledge that this research strategy (by making computer games salient) maximises the likelihood that respondents will agree that computer games are a matter of concern. Even so, computer games did not rank high compared to 'real world' concerns, and fell between television and movies in relation to media concerns.

Respondents were further prompted to articulate any concerns that they might have about computer games. Again, this errs on the conservative side by soliciting concerns that might not otherwise have been voiced. When requested to do so, 77% were able to identify some concerns.

The fact that people can raise concerns when prompted to do so suggests that members of the community do indeed evaluate new media, and consider their potential effects upon young people. The concerns mentioned here were chiefly those of violence, reduced social interaction, and time wasting.

Set against these concerns are the findings (a) that almost all children and a majority of adults play computer games, and (b) that computer games ranked low among a list of concerns. In short, people can identify possible areas of concern about computer games but most evidently do not regard the problems as sufficiently serious to prevent them or their children from playing at all.

In general, the people most likely to express concern about computer games were those who play them least, such as older persons (50+), female parents, and people with strong religious convictions. In contrast, those who had the greatest experience of computer games were less likely to express concerns and more likely to state that violence in the games was not a concern. Different interpretations of this pattern of results are possible.

Research on other media shows parents are more likely to express concerns about violent content. Interestingly parents were no more likely to express concerns about the content of games than other adults.

Both adults and children indicated that they perceived any encouragement to commit aggressive acts as unlikely to affect themselves but might affect others. Adults thought other adults, children and teenagers would be more likely to be affected; young people did not see adults as more likely to be affected, but did think that children and teenagers in general might be. This finding replicates a well-known phenomenon in media research, namely the 'third person effect': that is, the belief that media content will affect not me, not you, but some hypothetical third person.

4.16.3 COMPARING COMPUTER GAMES AND MOVIES

Comments on the realism of games versus movies were mixed. Some believed that computer games were more realistic, and some attributed greater realism to movies. This apparent inconsistency could be due to individual differences in terms of how people experience the two media, or to the complexity of the differences between the media. For example, if one focuses on the characters depicted, then movies are more realistic because they contain filmed people; on the other hand, if one focuses on the immediate influence of one's own responses, then computer games are more realistic because the entities on screen can be made to move at will.

Much could depend on which movie(s) and which computer game(s) one had in mind: the movie *Star Wars II* might be seen as less realistic than a driving or golf game, while *The Castle* might be seen as more realistic than *Crash Bandicoot*. Further research, using different methodologies, is required to investigate these issues more adequately. The main conclusion that can be drawn from the present data is that the two media are perceived by many — especially young people — as offering different experiences.

A substantial proportion (41%) of young people stated that they are not concerned about violence in either movies or computer games (compared to only 12% of adults). This should not necessarily be interpreted as indicating that young people are indifferent to media violence (still less to real world violence). The sample here covered a wide age range, and it is very likely that the young respondents' experiences of movie violence were varied. Younger viewers will tend to have seen lower classification movies, and older teenagers may have seen higher level movies. Hence, their judgments may well have been based predominantly on age-appropriate movies: it is not surprising that say, 12 year olds are not concerned about the level of violence seen in PG rated movies[46].

One limitation of this part of the survey is that the comparison was based on movies and computer games. With the benefit of hindsight, it could be argued that it might have been more informative to compare *television* and computer games. The basis for such an argument would be that the adult respondents placed movies lowest among their list of concerns while television was somewhat higher. However, it should be borne in mind that by contrasting computer games

[46] This is not to claim that no young person ever views a movie classified as unsuitable for his or her age group. The suggestion is imply that many young people will have seen predominantly movies classified as suitable for them, and these may account for some of the 41% discussed here.

with a medium that ranked lower among adult concerns the survey is arguably biased towards eliciting comparisons that are relatively unfavourable to computer games. Contrasts with television would have the reverse bias. Overall, the important conclusion is that, despite the possible inadvertent bias against computer games, neither adults nor young people indicated that they were more concerned about computer games.

4.16.4 PARENTAL AND SELF-REGULATION OF PLAYING

The survey provided evidence that parents do intervene in computer game play to regulate use of violent games. 28% of parents reported that they had done so at some point, and 17% of children reported that they had experienced parental intervention because of violent content.

These figures provide a broad indication that computer games do attract parental attention, and that some parents feel that they need to regulate the kinds of games that their children play. As for parents who do not intervene, we can only speculate about their reasons. However, it seems unlikely that this is due to ignorance of computer game contents; since a high proportion of adults had played them, and over three quarters could identify issues for concern. It could be that other parents are aware of their children's computer game play but are not concerned about the kinds of games they are using.

More parents than young people report intervention attempts. Because the adult and child respondents were not related, caution is required in interpreting this apparent discrepancy. We would not expect perfect alignment of these figures, but given that the two samples were large and representative it does appear that there something of a generational mismatch in perceptions of how much intervention occurs.

Several reasons are possible. One is that parental memory is better than children's. This is quite plausible, especially for young children being asked about events that might have occurred some time ago. Another is that parental intervention may have been more discreet: for example, parents may have quietly removed a game that they regarded as unsuitable and the child may have been unaware of the decision.

It is possible that some parents may have provided affirmative answers for reasons of social desirability: that is, they wished to present themselves as responsible parents. It is also possible that some children may have wished to present themselves as unrestricted by parental interference.

4.16.5 AWARENESS AND USE OF THE CLASSIFICATION GUIDELINES

Participants in the qualitative study indicated that they saw classification guidelines as a matter for parents. Participants in the quantitative study revealed that younger people were more likely to be aware of the system than adults (71% of young people versus 42% of parents and 38% of adults). The relative low awareness of the classification scheme is not surprising given the short time the classification scheme has been in place compared with other classification schemes. More widespread knowledge of the classification scheme could go some way towards allaying peoples concerns about aggressive content.

5 CHAPTER 5 - POLICY IMPLICATIONS

This project has generated a wealth of data about the place of computer games in Australia today. It is clear that computer games are very popular and played widely: almost all young people play them at least occasionally, and so do many adults. The extent of their popularity is of interest to policy makers concerned with community behaviour and choices as well as issues relating to product information and regulation of access. In this chapter, the implications that follow from the present findings are summarised.

5.1 MOTIVATIONS FOR PLAY

The predominant motives for game play, among young people and adults, are enjoyment, diversion, and challenge. These are psychologically healthy motives, common to many leisure activities. In contrast to some early speculation about the pervasively negative nature of computer game play, it seems that most players regard and experience the activity as a stimulating entertainment.

Among the mass media, computer games are distinctive in that they afford the player opportunities for control and skill development. These features appear to be particularly enjoyed by young people. There is little reason to suppose that such attributes are harmful in themselves. Human beings tend to prefer to control the events in which they participate, and human beings tend to like to develop skills. Gaining a sense of control and skill in activities related to computing are likely to be advantageous — some would argue essential — to any citizen in the 21st century.

It is also very clear from the findings of this project that computer game play is often a social activity. Images of isolated and socially inadequate youngsters locked into computer games to the exclusion of human interaction are not borne out by the patterns of use among young Australians today. It is certainly the case that some play is solitary (like many other leisure and work activities), but this is often a matter of practicality rather than preference.

Implication: Computer game play is now established as a major leisure activity of contemporary Australians. There is little reason to believe that the activity itself should be a cause for concern, though it remains important to monitor particular aspects of game contents and their possible consequences.

5.2 THE PLACE OF AGGRESSION IN COMPUTER GAME PLAY

Aggressive content is a feature of many games, though not a majority. Aggressive games appear among, but do not dominate, the best selling titles.

Young players said repeatedly that aggressive content is not the central attraction of games. Many players said that they perceive the aggressive content as fantastic and preposterous, with the result that they do not take it seriously as a representation of violence. The ability to control the action was perceived by many as mitigating the impact of aggressive content. Players did not see

their own actions as harming others since they do not believe that the characters on screen are real or suffer pain. Players experienced less distress or anxiety at aggressive content in computer games than in other media (such as the movies) because they could stop or moderate any discomforting experiences at will.

Very few respondents to the quantitative survey mentioned aggression as a feeling that they associate with their preferred games. Very little evidence of immediate aggression was observed in the observational stages of this research, in homes or arcades.

Some players conceded that aggressive content can be part of a game's initial appeal. The research also found that games that are classified M (15+) or MA(15+) because of their aggressive content are popular with some players (particularly teenage boys) who fall into a younger age group than is consistent with the classification categories. These players' experiences and attitudes need to be understood in the context of the meanings they assign to the content. They do not appear to equate it with real violence, and typically see it as subserving some goal within the game (eg, winning a battle or surviving in a hostile environment).

The present study does not settle the question of whether aggressive content affects the behaviour, attitudes or beliefs of young people. However, it does demonstrate that a majority of players (young and adult) do not experience computer game play as a predominantly aggressive activity. This dovetails with the growing body of independent research reviewed in Chapter One which has failed to find firm evidence of a correlational or causal link between computer game play and aggression.

Implication: It remains important to monitor carefully the nature of aggressive content in computer games, as in other media. Nevertheless, there is no evidence to support fears that computer game play contributes substantially to aggression in the community.

5.3 COMMUNITY CONCERNS ABOUT COMPUTER GAME PLAY

There is some community concern about the aggressive aspects of some games. Compared to other issues relating to the wellbeing of the young, including other media, Australian adults in the quantitative study ranked concerns about computer games rather low. However, when pressed, 77% of adults identified some concerns. The concerns mentioned were predominantly related to violent content and its effects, time wasting and restriction of social interaction.

To some extent, community concern about computer games may be fuelled and exaggerated by misleading media coverage of the topic. For example, television and newspaper stories sometimes give the impression that games with high level violence and gore are being played routinely by young children. The present findings indicate that the patterns of use are not so straightforward.

First, the MA(15+) level games do not dominate the marketplace. They are certainly available, but they are not representative of the games that most people play. To date, G level material has dominated the market and, given its popularity with children and adults, this is likely to continue

to be the case. The 'blood and gore' games appear to fill a niche in the market in the same way that analogous genres in other media do, such as horror movies or heavy metal music. Some young people (chiefly adolescents) are playing these games, but not a majority.

Second, very young children in the qualitative stage of this research had little exposure to or interest in violent games. As noted, this probably reflects greater parental involvement in these children's play choices, as well as the practical consideration that the fighting games require skills that most young players do not yet have. Among the larger and older sample (12–17 years) in the quantitative study, there is evidence of restrictions on their play: 17% indicated that their parents had intervened because of violent content in the games, and 21% indicated that they had themselves elected to stop playing a game because of violent content.

In general, people (young and adult) tend to believe that any effects (eg, encouragement to imitation) occur for other people rather than themselves. This is a well known phenomenon in media research, the so called 'third person' effect: the presumption that any undesirable consequences of exposure to the media are experienced not by 'me', not by 'you', but by 'them' – some vaguely defined third parties who are perceived to be more vulnerable. Whether or not people's perceptions (of effects on self or others) are accurate is debatable, but the important point for present purposes is that there is a community perception of some risk of effects.

Implication: There is community concern about some aspects of computer games. In this context, it seems desirable to provide clear information about the content of games to ensure that consumers are able to make informed decisions when purchasing games or, in the case of parents, when regulating their children's play.

5.4 COMMUNITY AWARENESS OF THE COMPUTER GAME CLASSIFICATION SCHEME

There is some level of community awareness of the relevant classification scheme, but it is variable, lower than that found in previous surveys relating to other classification schemes, and in many cases confused with categories from the other schemes (eg, from movies or television).

A number of strategies for addressing this issue — and thereby addressing community concerns more generally — might be considered. One is to align the current computer game classification system with that of another major medium. This appears warranted on the grounds of effective public communications. Different systems have arisen for different media as a result of historical and organisational factors. These may be familiar and intelligible to policy makers and classification agencies, but the outcome for members of the public is a different set of categories for each medium. There are risks not only of confusion but also of scepticism and cynicism, if people conclude that the proliferation of classification systems indicates inconsistency or uncertainty among the advisory bodies. Ideally, a common system would be the most accessible for members of the community.

A second and complementary strategy would be to conduct a media campaign to promote awareness — especially, parental awareness — of the availability of the classification system. It follows from the above that due consideration should be given first to the comparability of the schemes applied to different media. However, in any case, the relatively low level of community awareness of the computer games classification scheme suggests either that it is not (at present) regarded universally as useful or that it is less well known than it should be.

A third strategy calls for a more proactive service from the computer games industry itself. The industry has a role to play in meeting community concerns and protecting the interests of young consumers. A proposal made by Funk et al. (1998) in North America is to require manufacturers to provide in all games a 'parental preview' – a short, easily playable on-screen illustration of what is involved in the game, including examples of any contentious content, such as violence, sexuality or strong language. Australia constitutes only a relatively small part of the global market and it may not be viable to require manufacturers to introduce this feature solely for local purposes. However, if such a scheme was considered warranted in Australia, the Australian industry players could be enlisted to lobby for it among the major manufacturing companies, principally in the United States and Japan. An alternative possibility would be simply to require a parental booklet, clearly illustrating the contents. Such materials would serve to inform, and often reassure, parents about the contents of games purchased for or by their children, and encourage the industry to maintain a wide range of materials to meet the needs of consumers of different developmental statuses and tastes.

A fourth strategy entails more rigorous policing of retailers and other providers (such as arcades, hirers or rental equipment) to ensure that the classification scheme is honoured at the point of sale. Although this can never be an absolute safeguard, it can reduce the distribution to children of games classified as not suitable for minors and it can make an additional contribution to raising public awareness of the issue.

Implication: The community has concerns about computer games, yet relatively limited familiarity with existing classification services. This suggests a need for improved communication. Strategies for improving regulation of children's access to games, such as those listed here, should also be considered.

5.5 ADULTS AND COMPUTER GAMES

When computer games first became available, they were seen as essentially a play activity for children and teenagers. The range and appeal of games has broadened rapidly, and there are now many adults who play regularly. The present evidence indicates that people who grew up playing computer games tend to retain the interest into adulthood, and this suggests that the proportion of adults who play will continue to increase.

The changing age demographics of computer game players leads to issues concerning content that would receive R classification in the case of other media, such as film. At present, computer games containing such material are refused classification.

Such a policy may have been an appropriately cautious response to the emergence of the medium, as its possible psychological effects were open to speculation and as the presumed target market was young. Although there are still questions to be researched, it is a reasonable conclusion from the available research that computer games do not have more profound effects on behaviour and attitudes than any other medium. This conclusion is based on a review of the literature (Chapter One), but it is also consistent with community perceptions: respondents to the qualitative interviews and the quantitative survey rated computer games as equivalent to other media in terms of their perceived impact on people's behaviour. In other words, while certainly having concerns about the games, members of the community do not see them as exceptional in this respect. Very similar results were reported in the independent survey of Australians' perceptions reported in Cupitt and Stockbridge (1996).

This is a further reason for giving consideration to aligning the computer games classification system with that applied elsewhere (eg, to films), and introducing an R category. There are several others. For example, rating schemes in other countries (including major sources of computer games) do include adult rating labels for material that is designed for the adult market. This means that such games are refused classification in Australia while they are readily available in countries with otherwise comparable community standards of media classification.

Similarly, the growth of the Internet, and the scope to download games from this source (which we found is already occurring on a small scale), poses the likelihood of additional anomalies if adult users obtain materials in this way that are classified as suitable for adults in say, Britain or the US, but fall outside the criteria for our highest current category of MA(15+) in the Australian scheme.

A further problem arises from the increasing convergences and alliances among producers in different media. An idea which is successful in one format is often transferred to others: for example, a successful film can be accompanied by associated print, audio or computer games products. This leads to classification decisions that are potentially inconsistent across media. The blurring of the boundaries among the previously distinct audiovisual products will accelerate as new hybrid forms of entertainment emerge.

Implication: Adults are now regular users of computer games. There is no known psychological peculiarity of the computer game experience which indicates that a differential classification system should be applied to this medium. In an environment of rapid changes in the media, parity among classification systems for different cultural products is desirable in the interests of consumers and the industry.

5.6 GENDER AND COMPUTER GAMES

Consistent with earlier research in other countries and the ABA/OFLC project in Australia reported by Cupitt and Stockbridge (1996), this project found that computer game play is a predominantly, though not exclusively, male pastime. Computer game play among young people appears to be integrated with the broader processes of gender role development. Boys are attracted to

technology and to the robust, action-packed environments that the (largely male designed) computer games provide. Some adolescent males may also find elements of M(15+) and MA(15+) level games appealing because they affront the sensibilities of older generations and allow them to project an image of masculine toughness and indifference to authority; conceivably, the fact that games are classified as suitable for individuals older than themselves also lends a particular attraction (the 'forbidden fruit' syndrome). Girls have traditionally been encouraged to regard technology as a male domain, and tend to have less interest in fighting games, high speed driving games, war simulations, etc.; some girls may perceive that playing computer games is inconsistent with images of femininity. In general, girls tend to be more compliant and responsive to adult regulations than do boys; given that computer games have been subject to some stigmatisation, it is likely that more girls than boys will avoid them.

While the orientations of each gender towards computer games raise many points for consideration and further research, the most pressing issue is the disadvantage to females in this route to familiarity with computers. Computer games offer a varied and stimulating means of gaining skills in a technology which is increasingly fundamental to educational and occupational opportunities. While there are other means of introducing children to computing, this appears to be one of the most popular.

Implication: Much of the focus of previous debate about computer games, especially in the more sensationalised treatments in the media, has been focused on the need to prevent or restrict children's access to this activity. It is time to consider not only the problems associated with some types of games, but also the potential benefits of the activity and the ways in which it could be made equally attractive to females.

The Australian decision to introduce a classification system for computer games is vindicated by the reactions of the community as sampled in this project. As with all media, some products are not suitable for younger age groups, and there is concern in the community that these may have undesirable effects in some circumstances. Classification of games is a valuable public service, providing information on content and, potentially, alerting parents and young people to the issue of the nature of the content.

Several developments in the last few years make it timely to review policy in this respect. The games have grown in popularity to the extent that they are now ubiquitous in young people's leisure. Increasingly, research has failed to support early fears that the games were pervasively bad for children, and some evidence indicates that they can be associated with positive developments. The types of games available have diversified, and the age range of players has broadened. A proportion of games contains elements that most would agree are not suitable for young children but may be of interest to some adolescents and adults. However, under the current regime, there is no provision for games which exceed and MA(15+) classification. Games that contain themes or other content which may warrant restriction to adults only are not currently permitted, even though comparable content in other media is permitted. It appears anomalous, and without scientific basis, to treat one medium as different from others in this respect.

Australia has played and should continue to play a leading role in helping to formulate international standards in the classification of interactive content. To ensure the classification system remains relevant, continued monitoring of changes in interactive media content and the community's attitudes to it is necessary. The research presented in this monograph provides an important benchmark from which to assess movement in community standards.

5.7 FUTURE RESEARCH

It is very clear that computer games will remain a popular pastime for children, adolescents and adults. It is also very clear that the nature and contents of games will continue to evolve rapidly. In this context, it will be important both to monitor community experiences of computer games and to assess the consequences of new developments in the industry.

Research into computer games is still in its infancy compared to television research. Several issues warrant future attention.

First, more research is needed into the player's experience in relation to the characters on screen. The findings reported in this monograph indicate that players, in general, do not feel a strong sense of identification with the characters. This differs from experiences with other media (such as television and film), and the implications for any effects requires further attention. Does the lack of identification mean that any effects on attitudes or behaviour are lessened? Or does the player's sense of remoteness from the action mean that he or she develops more readily a sense of alienation and unreality associated (in some games) with the perpetration of violent moves? It is easy to speculate about these matters, but rigorous research is required before we can draw firm conclusions.

Second, we need to know more about the relationship between consumers' (players and parents of players) perceptions of game content and the criteria applied in classification decisions. At the most general level, it would be desirable to determine that the criteria applied by the regulatory bodies are consistent with the perceptions of the community. As noted in Chapter One, Funk and colleagues' recent research in the US indicates that, at least in that country, there was reasonably high agreement between industry classifications and consumers' judgments. However, there were also discrepancies, particularly in respect of cartoon-like games. Future research could usefully examine what game elements influence community decisions about where the boundaries should fall. The viability of Community Assessment Panels could also be tested as a means of comparing decisions made by the classification bodies and industry with those of members of the community

Third, investigation of community perceptions is desirable in another respect. A player's perception of the seriousness of an action may bear importantly on the experience or 'message' that he or she derives from the game. For example, some forms of computer game play may have little influence because they are perceived as playful or innocuous, but others may have considerable impact on players because of the perceived reality of the game scenario. The tendency to date, especially among critics, has been to assume that all games are equivalent, but this seems quite implausible. Only careful research can address this issue satisfactorily.

Fourth, the role of arcade play in the lives of young Australians calls for further research. We need to know more about the interactions of the milieu, the peer context, and the game content in young people's experiences of these settings. We need to know more about the extent to which children in arcades play with, or observe play with, games classified as suitable only for persons aged 15 or older and what effects, if any, this has on their social behaviour and attitudes, including their orientation to other computer game play (ie, at home).

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7 APPENDICES

7.1 APPENDIX 1-COMPUTER GAMES CLASSIFICATION GUIDELINES

SCHEDULE 3

OFFICE *of* FILM *and* LITERATURE CLASSIFICATION

These guidelines were approved by Commonwealth, State and Territory Censorship Ministers in accordance with Section 12(3) of the Commonwealth Classification (Publications Films and Computer Games) Act 1995 *on 15 April 1999*.

GUIDELINES FOR THE CLASSIFICATION OF COMPUTER GAMES (AMENDMENT NO.1)

Computer games, whether they are locally made or come from overseas, have to be classified before they can be sold, hired or demonstrated in Australia.

Classification is done by the Classification Board (the Board) which is located at the Sydney-based Office of Film and Literature Classification.

When making its classification decisions, the Board is required to reflect contemporary community standards and must apply criteria which are set out in the National Classification Code (the Code).

The Code is determined under the *Classification (Publications, Films and Computer Games) Act 1995* (the Act). The Code contains the general principles which form the basis of the Guidelines for Classification of Computer Games (the Guidelines).

The main features of the classification scheme for computer games are:

- Computer games offered for sale, hire or arcade use are subject to classification against an agreed set of guidelines. The exceptions are:
  - (i) 'Bulletin Board Systems' are not regulated under this scheme; and
  - (ii) business, accounting or educational software is not regulated unless it contains 'adult' type material.

- These guidelines are, at the direction of Commonwealth, State and Territory Ministers, to be applied more strictly than those for the classification of film and videotape. The Ministers are concerned that games, because of their 'interactive' nature, may have greater impact, and therefore greater potential for harm or detriment, on young minds than film and videotape.
- Under this scheme, classification decisions are to give effect, as far as is possible, to the principles spelled out in the Code that:
  (a) adults should be able to read, hear and see what they want;
  (b) minors should be protected from material likely to harm or disturb them;
  (c) everyone should be protected from exposure to unsolicited material that they find offensive; and
  (d) the need to take account of community concerns about:
    - depictions which condone or incite violence and, in particular, sexual violence; and
    - the portrayal of persons in a demeaning manner.
- The stronger computer games are banned, some material is restricted for sale to those 15 years and over.
- Consumer information is displayed on packaging and advertising. These measures are designed to assist parents to choose material for themselves and those in their care.
- There are substantial penalties under State and Territory laws for selling unclassified games, particularly those subsequently classified restricted or refused classification.

The structure of the classification system is:

General. This category is suitable for all persons under 15 years. It may be recognised by the display of the following words on packaging or advertising matter:

'Suitable for all ages'.

General (8+). This category is also suitable for persons under 15 years but may not be appropriate to younger children under 8 years who may have difficulty distinguishing between fantasy and reality. It may be recognised by the display of the following words on packaging or advertising matter:

'Suitable for children 8 years and over'.

Mature. This category is suitable for persons 15 years and over. Additional information may be provided by the display of the following words on packaging or advertising matter:

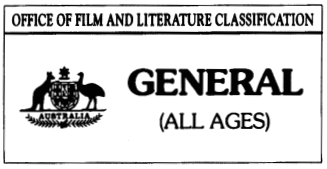
'Suitable for persons 15 years and over'.

MA. This category is restricted to persons 15 years and over.

Refused Classification. Material so classified may not be sold, hired, exhibited, displayed, demonstrated or advertised.

GENERAL 'G' *(Suitable for All Ages)*

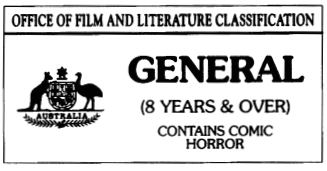
Material considered to be 'suitable for all ages' is to include on the front cover of its packaging a marking (prominent text on a contrasting background) such as –



This classification is suitable for the youngest child and should not require parental supervision.

GENERAL 'G(8+)' *(Suitable for children 8 years and over)*

'General' material considered to be 'suitable for children 8 years and over' is to include on its packaging an appropriate warning (prominent text on a contrasting background) such as –

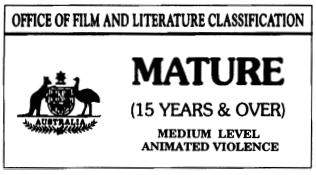


Material which falls into this category would contain elements which might disturb or distress very young children. Elements which might warrant this category would include:

- depictions of unrealistic or stylised violence even where these are considered mild
- mild horror or potentially frightening fantasy characters or situations
- the mildest expletives, but only if infrequent.

MATURE 'M(15+)' *(Suitable for persons 15 years and over)*

'Mature' material considered 'suitable for persons 15 years and over' is to include on its packaging an appropriate warning (prominent text on a contrasting background) such as –

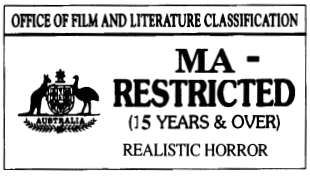


Material which falls into this category would contain elements which might disturb, harm or offend those under 15 years to the extent that it is recommended for use by those 15 years and over. Elements which might warrant this category would include:

- depictions of realistic violence of low intensity (eg punches, kicks, blows to realistic animated characters or real-life images)
- supernatural or horror scenarios, but not if graphic or impactful
- mild sexual references
- low level coarse language, but not if excessive.

'MA (15+)' *(Restricted to persons 15 years and over)*

Computer games or images classified 'MA' may not be sold, hired or demonstrated to persons under 15 years. The packaging for this category of games will display (prominent text on a contrasting background) a marking such as –



Material which falls into this category would contain elements likely to disturb, harm or offend those under 15 years to the extent that it should be restricted to those 15 years and over. Elements which might warrant this category would include:

- depictions of realistic violence of medium intensity (eg impactful punches, kicks, blows and blood-shed to realistic animated characters or real-life images)
- graphic or impactful supernatural or horror scenarios
- strong sexual references
- use of frequent crude language, but not if excessive, unduly assaultative or sexually explicit
- nudity, including genital detail, but only if there is a 'bona fide' educational, medical or community health purpose.

RC REFUSED CLASSIFICATION

Material which includes any of the following will be refused classification:

Violence:

- depictions of realistic violence, even if not detailed, relished or cruel (eg. excessive and serious violence such as realistic depictions of dismemberment accompanied by loss of blood to real life images);
- extreme 'horror' scenarios or special effects; or
- depictions of unduly detailed and/or relished acts of extreme violence or cruelty.

Sex:

- nudity, including genitalia unless there is a 'bona fide' educational, medical or community health purpose;
- simulated or explicit depictions of sexual acts between consenting adults;
- any depiction of sexual violence or sexual activity involving non-consent of any kind; or
- depictions of child sexual abuse, bestiality, sexual acts accompanied by offensive fetishes, or exploitative incest fantasies.

Language:

- use of sexually explicit language.

Other:

- promotion or provision of instruction in paedophile activity.
- detailed instruction or encouragement in:
  - (i) matters of crime or violence; or
  - (ii) the abuse of proscribed drugs;
- depictions which encourage the use of tobacco or alcohol, or which depict drug abuse; or
- depictions which are likely to endorse or promote ethnic, racial or religious hatred.

CONSUMER ADVICE LINES

Consumer advice lines reflect the principal element(s) that contributed to the classification of a game/image (eg, the words 'contains frequent animated violence'). They are displayed on packaging and advertising and are intended to assist the purchaser to make an informed choice for personal use or for use by persons under his/her care.

CONSUMER ADVICE LINES (PROVISIONAL LIST)

G(8+) comic/mild horror
fantasy elements unsuitable for young children
low level animated violence
low level coarse language
adult themes

M(15+) low level violence
medium level violence
low level animated violence
medium level animated violence
low level coarse language
medium level coarse language
horror theme
adult themes
sexual references

MA(15+) medium level animated violence
high level animated violence
medium level violence
high level violence
medium level coarse language
horror theme
adult themes
sexual references

7.2 APPENDIX 2 - CHECKSHEET FOR VIDEO ARCADE OBSERVATIONAL DATA

Location: _____

Date: _____

Time: _____

Sex of player: _____

Estimated age of player: _____

Level of experience: Expert/Medium/Novice

Number of Players _____

Number of Observers _____

Game type: _____

	START OF GAME 30 secs	**1min**	**1min 30secs**	**2min**	**2min 30secs**	**3min**	**3min 30secs**
Expressed frustration/shame	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Laughter	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Sense of engagement	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Express pride	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Verbal aggression (at game)	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Verbal aggression (at other people)	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Physical aggression (at game/machine)	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Physical aggression (at other people)	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Other verbal (talk to machine)	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Other verbal (talk to others)	H S N	H S N	H S N	H S N	H S N	H S N	H S N
Other physical	H S N	H S N	H S N	H S N	H S N	H S N	H S N

Notes (any other aspects of the person's behaviour/game use):

7.3 APPENDIX 3 - ADULT QUESTIONNAIRE

Computer Games and Australians Today, 1998
CATI Questionnaire - ADULTS

PREAMBLE

Hello, my name is ....., from AMR: Quantum Harris, the survey research company.

Today we are conducting an important survey about hobbies and electronic entertainment for a Commonwealth Government Agency and would like to talk to:

DEPENDS ON QUOTA REQUIREMENTS

Parents with children under 18 years OR

Adults without children.

WHEN TALKING TO DESIGNATED RESPONDENT REPEAT PREAMBLE IF NECESSARY.

INTERVIEWER: Record sex of respondent. DO NOT ASK.

Male	1
Female	2

Location recorded automatically:

Metropolitan	1
Rural	2

NSW/ACT	1
WA	2
SA	3
QLD/NT	4
VIC/TAS	5

Postcode captured automatically.

SECTION 1 – SCREENERS

S1 SCREENING FOR ADULTS

Are you aged:

READ CODES UNTIL ONE IS ENDORSED

Under 18	1	
ASK IF AGED 12–17 YRS. IF YES, SET TIME TO DO CHILD INTERVIEW (NEED CONSENT)		
18–19	2	
20–24	3	
25–29	4	
30–34	5	
35–39	8	
40–44	7	
45–49	8	
50–54	9	
55–59	10	
60–64	11	
65–69	12	
70+	13	Thank and terminate.

S2 SCREENING FOR PARENTS/ GUARDIANS/ STEPPARENTS

Are there any children in this household aged under 18 years?

Yes	1	GO TO S3
No	2	GO TO SECTION 2, Q1
Can't say	3	GO TO SECTION 2, Q1

S3 NUMBER OF CHILDREN IN HOUSEHOLD

IF CODE 1 AT S2: ASK

How many children under the age of 18 years do you have living here in your household?

RECORD VERBATIM

S4 RELATIONSHIP TO CHILD/REN: PARENTS/GUARDIANS AND STEP PARENTS OK.

Could you please tell me your relationship to the child/children? Are you a:

READ OUT. MULTIPLE RESPONSE.

Parent	1	GO TO S5
Guardian	2	GO TO S5
Step-parent	3	GO TO S5
DO NOT READ OUT:		
Other	4	GO TO SECTION 2, Q1

S5 AGE AND GENDER OF CHILDREN

IF (ONE CHILD) S3=1, ASK:

S5A Is the child that lives in your household male or female?

RECORD GENDER

S5B How old is the child that lives in your household?

RECORD AGE LAST BIRTHDAY

IF (MORE THAN ONE CHILD) S3=2 OR MORE, ASK:

Could we talk about each of the children that live in your household in turn, starting with the eldest.

S5C Is this child male or female?

RECORD GENDER

S5D How old is this child?

RECORD AGE LAST BIRTHDAY

IF ANY 12–17 YEARS ASK S6. OTHERWISE GO TO SECTION 2, Q1

S6 IF (PARENT WITH ONE CHILD) S3=1 AND S4=1–3, ASK:

Will I be able to speak to that young person as well?

IF (PARENT WITH MORE THAN ONE CHILD) S3=2 OR MORE AND S4=1–3, ASK:

Thinking about the children that live in your household aged 12–17 years, which one has a birthday next?

FOR THAT CHILD, ASK:

Will I be able to speak to them as well?

DO NOT READ OUT

Yes	1	GO TO S7
No	2	GO TO SECTION 2, Q1
Don't know	3	GO TO SECTION 2, Q1

S7 IF CODE 1 AT S6 ASK:

When will I be able to speak to that young person?

RECORD TIME AND DATE TO RING BACK

SECTION 2 - GENERAL ATTITUDES - IN CONTEXT

ASK ALL SECTION 2 REGARDLESS OF PLAYER STATUS

Q1 a. Which of the following activities are of great concern to you regarding the well-being of children in Australia?

READ OUT ISSUES. IF CODE 7 THEN GO TO SECTION 3 Q1.

b. Of the activities that you chose, which is of the greatest concern to you regarding the well-being of children in Australia?

READ OUT ISSUES BASED ON PREVIOUS RESPONSES.

c and d. Of the activities that you chose, which is of the next greatest concern to you regarding the well-being of children in Australia?

READ OUT ISSUES BASED ON PREVIOUS RESPONSES. REPEAT QUESTION 1C FOR QUESTION 1D.

ISSUES/ ACTIVITIES (RANDOMISE):	**A. GREAT CONCERN** (MULTIPLE RESPONSE)	**B. GREATEST CONCERN** (ENDORSE ONE ONLY)	**C. 2ND GREATEST CONCERN** (ENDORSE ONE ONLY)	**D. 3RD GREATEST CONCERN** (ENDORSE ONE ONLY)
Television	1	1	1	1
Drugs	2	2	2	2
Computer/ video games	3	3	3	3
Personal safety	4	4	4	4
Movies	5	5	5	5
Education	6	6	6	6
DO NOT READ OUT:				
None	7	-	-	-

SECTION 3: GAME PLAYING/BEHAVIOUR: FREQUENCY AND TYPE PLAYED

ASK ALL REGARDLESS OF PLAYER STATUS.

Q1 SCREENING FOR PLAYERS AND FREQUENCY OF GAME PLAY.

In the past year, how often have you played computer games or video games, if at all? By computer and video games I mean games that you may play on the computer, a games machine (eg Sega, Nintendo), a handheld computer game (eg Game Boy) or a game in an amusement arcade (eg Time Zone). Would that be:

READ OUT

Every day	1	PLYAER
Several times a week	2	PLYAER
Once a week	3	PLYAER
2–3 times a month	4	PLYAER
Once a month	5	PLYAER
Less often	6	PLYAER
Never	7	NON PLAYER
DO NOT READ OUT:		
Don't Know/Unsure	8	NON PLAYER

NOTES FOR ANALYSIS: IF CODE 7 OR 8 THEN CLASSIFY AS NON PLAYER.

Q2 MEASURE OF CHILD FREQUENCY OF PLAY

(PARENTS/ STEPPARENTS/ GUARDIANS ONLY)

IF (ONE CHILD) S3=1 AND S4=1–3, ASK: ELSE GO TO Q3

In the past year, how often has your child played computer games or video games, if at all, would that be:

IF (MORE THAN ONE CHILD) S3=2 OR MORE AND S4=1–3, ASK: ELSE GO TO Q3

Thinking about your child whose birthday is next, in the past year, how often have they played computer games or video games, if at all? Would that be:

READ OUT:

Every day	1
Several times a week	2
Once a week	3
2–3 times a month	4
Once a month	5
Less often	6
Never	7
DO NOT READ OUT:	
Don't Know/Unsure	8

Q2a And how old is that child?

RECORD AGE

NOTES FOR ANALYSIS: IF CHILD UNDER 5 YEARS EXCLUDE DATA.

Q2b And is that child male or female?

RECORD GENDER

Q3 NB Q3–14 ASKED OF PLAYERS ONLY.

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

TYPE OF GAME PLAYED

Which of the following forms of computer or video games have you played in the last year? Would that be:

MULTIPLE RESPONSE, READ OUT

A video game in an amusement arcade	1	
A portable, hand held game	2	
A game on a PC or CD ROM	3	
A video/console game	4	
Other (please specify)	5	RECORD VERBATIM

DO NOT READ OUT

Don't Know	6

NOTES FOR ANALYSIS: CONSTRUCTED VARIABLE FOR NO. OF TYPES PLAYED

Q4 TYPE OF GAME USUALLY PLAYED

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

What is the name of the game you currently play the most?

RECORD VERBATIM. RESPONDENT TO NOMINATE ONE ONLY.

POST CODING – RATING – G, G8, M, MA AND CONSUMER ADVICE – TO BE CODED BY OFLC

Q5 EXPECTATIONS OF GAME PLAYING

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

When you are playing [GAME MENTIONED AT Q4], which words best describe how you feel?

RECORD VERBATIM

FOR CODING, SEE CODING FRAMES FILE

Q6 PLAYER'S SKILL LEVEL

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

How would you rate your performance on [GAME MENTIONED AT Q4]?

Would you say that you are:

READ OUT

Very Good	1
Good	2
Average	3
Poor	4
Very Poor	5

Q7 OTHER GAMES PLAYED

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

What other games have you played recently, apart from [GAME MENTIONED IN Q4]?

RECORD VERBATIM. RESPONDENT TO NOMINATE UP TO THREE GAMES ONLY.

POST CODING – RATING – G, G8, M, MA AND CONSUMER ADVICE – TO BE CODED BY OFLC.

Q8 ASPECTS OF COMPUTER GAMES THAT MAKE GAMES ENJOYABLE (INCLUDING VIOLENCE)

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

Next I am going to list some aspects of computer games which people have said make a good computer game. For each one that I read out to you, please tell me how important these are in a good computer game, whether you think they are very important, important, not very important or not important at all.

Firstly –

READ OUT EACH STATEMENT AND RECORD CODE FOR RATING.

Very Important	1
Important	2
Not Very Important	3
Not Important at all	4
DO NOT READ:	
Don't Know	5

STATEMENTS. RANDOMISE.

High resolution graphics

Realistic action effects

Realistic sound effects

Fast moving games

Lots of levels

Interesting story or plot

Characters who are like me, that I can relate to

Games with a sense of humour
Games that I can play with my friends
Violence that looks realistic
Exaggerated, unrealistic violence

QUESTIONS 9–13 ASSESS SOCIAL INTERACTION WHEN PLAYING

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

Q9 How often would you play computer games by yourself, that is, without any other player?

NOTE TO INTERVIEWER:

BY YOURSELF = ONLY ONE PLAYER; OTHERS WATCHING DOES NOT COUNT.

READ OUT:

Every day	1
Several times a week	2
Once a week	3
2–3 times a month	4
Once a month	5
Less often	6
DO NOT READ OUT:	
Never	7
Don't Know/Unsure	8

Q10 IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

How often would you play computer games with other players who are in the room with you?

READ OUT:

Every day	1
Several times a week	2
Once a week	3
2–3 times a month	4
Once a month	5
Less often	6
DO NOT READ OUT:	
Never	7
Don't Know/Unsure	8

Q11 IF CODES 1–6 AT Q10, ASK:

ELSE GO TO Q13

When you play computer games with others, who do you play with?

READ OUT. MULTIPLE RESPONSE.

Your friends	1	
IF (PARENT) S2=1 AND S4=1–3		
READ OUT:		
Your children	2	
IF (PARENT) S2=1 AND S4=1–3		
READ OUT:		
Your children's friends	3	
Your partner	4	
Someone else	5	RECORD VERBATIM

Q12 IF CODES 1–6 AT Q10, ASK:

ELSE GO TO Q13

When you play with others, who are you most likely to play computer games with?

READ OUT. ENDORSE ONE ONLY.

Your friends	1	
IF (PARENT) S2=1 AND S4=1–3		
READ OUT:		
Your children	2	
IF (PARENT) S2=1 AND S4=1–3		
READ OUT:		
Your children's friends	3	
Your partner	4	
Someone else	5	RECORD VERBATIM

Q13 FREQUENCY OF PLAYING WITH OTHERS ON THE NET

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

How often, if at all, would you play computer games with other players on the Internet?

Would that be:

READ OUT:

Every day	1
Several times a week	2
Once a week	3
2–3 times a month	4
Once a month	5
Less often`	6
DO NOT READ OUT:	
Never	7
Don't Know/Unsure	8

Q14 FREQUENCY OF DOWNLOADING GAMES FROM THE NET

IF (NON-PLAYER) CODES 7 OR 8 AT SECTION 3 Q1, GO TO SECTION 4.

IF (PLAYER) CODES 1–6 AT SECTION 3, Q1, ASK:

How often, if at all, do you download games or game demos from the Internet? Would that be:

READ OUT:

Every day	1
Several times a week	2
Once a week	3
2–3 times a month	4
Once a month	5
Less often	6

DO NOT READ OUT:

Never	7
Don't Know/Unsure	8

SECTION 4 - CONCERNS ABOUT COMPUTER AND VIDEO GAMES

(ASKED OF ALL RESPONDENTS REGARDLESS OF PLAYER STATUS)

Q1A What, if anything, concerns you about computer or video games?

RECORD VERBATIM. PROBE FULLY: Any other concerns?

FOR CODING, SEE CODING FRAMES FILE

Q1B IF MENTION VIOLENCE OR AGGRESSION ASK:

What is it about the violent content that concerns you?

RECORD VERBATIM

FOR CODING, SEE CODING FRAMES FILE

Q2 MEASURE OF INTENSITY OF CONCERN

Now I'd like you to tell me if any of the following aspects of computer or video games concern you. For each one I mention, please tell me if you are very concerned, quite concerned, not very concerned or not at all concerned about that particular aspect of computer or video games?

Now, how concerned are you about...

RANDOMISE

Coarse language	VC (1)	QC (2)	NVC (3)	NC (4)
Nudity	VC (1)	QC (2)	NVC (3)	NC (4)
Sex scenes	VC (1)	QC (2)	NVC (3)	NC (4)
Violence	VC (1)	QC (2)	NVC (3)	NC (4)

QUESTIONS 3–5:

MEASURE OF CONCERNS ABOUT IMPACT OF VIOLENCE ON RESPONDENT VS CHILDREN VS ADULTS VS YOUNG PEOPLE

Q3 How much, if at all, do you think playing violent computer or video games would encourage you to act aggressively in real life?

Not at all	1
Very little	2
Some	3
Quite a lot	4
A great deal	5
DO NOT READ OUT:	
Don't know	6

Q4 How much, if at all, do you think playing violent computer or video games would encourage children and teenagers in general to act aggressively in real life?

Not at all	1
Very little	2
Some	3
Quite a lot	4
A great deal	5
DO NOT READ OUT:	
Don't know	6

Q5 How much, if at all, do you think playing violent computer or video games would encourage other adults to act aggressively in real life?

Not at all	1
Very little	2
Some	3
Quite a lot	4
A great deal	5
DO NOT READ OUT:	
Don't know	6

Q6 What sort of behaviour did you think of when I said 'act aggressively'?

PROBE FULLY:

Where were you thinking of the aggressive act taking place?

Were you thinking about aggression on the street, or at home?

IF UNSURE PROMPT:

Were you thinking of aggression in the movies, on television, on computer games, or in public places?

RECORD VERBATIM.

FOR CODING, SEE CODING FRAMES FILE

SECTION 5: PERCEIVED DIFFERENCES BETWEEN COMPUTER GAMES AND OTHER MEDIA.

QUESTIONS 1 AND 2 ASKED OF ALL RESPONDENTS REGARDLESS OF PLAYER STATUS

Q1 In what ways do you think violence shown in computer games is different to violence shown in movies?

RECORD VERBATIM

FOR CODING, SEE CODING FRAMES FILE

Q2 Which of the following comes closest to your views:

READ OUT. ROTATE FIRST TWO STATEMENTS ONLY.

I am more concerned about violence shown in computer games	1
I am more concerned about violence shown in movies	2
I am equally concerned about the violence shown in both	3
I am not concerned about the violence shown in either	4

Q3 ASK FOR PARENTS/ STEPPARENTS/ GUARDIANS ONLY

IF (ONE CHILD AND ACTUAL PARENT) S3=1 AND S4=1, ASK:

Have you ever stopped your child playing a computer or video game because the content of the game was too violent?

IF (ONE CHILD AND STEP-PARENT OR GUARDIAN) S3=1 AND S4=2 OR 3, ASK:

Have you ever stopped the child that you care for playing a computer or video game because the content of the game was too violent?

IF (MORE THAN ONE CHILD AND ACTUAL PARENT) S3=2 OR MORE AND S4=1, ASK:

Have you ever stopped your children playing a computer or video game because the content of the game was too violent?

IF (ONE CHILD AND STEP-PARENT OR GUARDIAN) S3=2 OR MORE AND S4=2 OR 3, ASK:

Have you ever stopped the children that you care for playing a computer or video game because the content of the game was too violent?

DO NOT READ OUT

Yes	1
No	2
Don't know	3

SECTION 6: CLASSIFICATION OF COMPUTER AND VIDEO GAMES

ALL QUESTIONS ASKED REGARDLESS OF PLAYER STATUS.

Q1 As you might know, TV, films and videos are classified. Are you aware of a classification system for computer and video games?

DO NOT READ OUT

Yes	1
No	2
Don't know	3

Q2 KNOWLEDGE OF CLASSIFICATIONS (GENERAL)

IF (AWARE) CODE 1 AT Q1, ASK: ELSE GO TO SECTION 7.

Can you tell me any of the classifications for computer games?

DO NOT READ OUT

PROMPT: Any others?

ON SCREEN CODING:

G	1	
G8	2	
PG	3	
PGR	4	
M	5	
MA	6	
R	7	
X	8	
AO	9	
A	10	
Other (specify)	11	RECORD VERBATIM
None recalled	12	

Q3 KNOWLEDGE OF MA CLASSIFICATION

IF (AWARE) CODE 1 AT Q1, ASK: ELSE GO TO SECTION 7.

Do you know which of the following best describes the MA classification for computer and video games? Would that be:

READ OUT

Restricted to adults 18 years and over	1
Parental guidance recommended for persons under 15 years	2
Not to be sold, hired or demonstrated to persons under 15 years	3

DO NOT READ OUT:

Don't know	4

Q4 FREQUENCY OF USE OF CLASSIFICATION SYSTEM

IF (AWARE) CODE 1 AT Q1, ASK: ELSE GO TO SECTION 7.

How often, if at all, do you use the classification system for choosing a computer or video game, whether for yourself or someone else?

IF UNSURE PROMPT: How often, if at all, do you check the packaging of a computer game for ratings information before purchasing or renting a computer or video game for yourself or someone else, for example, a child? The ratings would be either "G", "G8", "M" or "MA" with an explanation of whether the game contains any violence or sexual references.

Would that be:

Always	1
Often	2
Occasionally	3
Never	4
DO NOT READ OUT:	
Don't buy or rent games	5
Don't know	6

SECTION 7: EXTRA DEMOGRAPHICS

PREAMBLE

Now to end I'd like to ask a few questions about yourself.

Q1 Do you work full time or part time?

IF NEITHER: Are you looking for work, a full time student, retired or performing household duties?

DO NOT READ OUT

Full time	1
Part time	2
Unemployed looking for work	3
Full time student	4
Retired	5
Household duties	6
None of these	7
Refused	8

IF Q1 IS 4, 6, 7 OR 8, GO TO Q3 (INCOME)

Q2 OCCUPATION:

IF CODES 1 OR 2 @ Q1 ASK:

When you are working, what job or type of work do you do?

IF CODES 3 OR 5 @ Q1 ASK:

When you last worked, what job or type of work did you do?

ASK ALL

What would be the title of your position ?

What would be some of the main duties in that job ?

RECORD VERBATIM

POST CODING FRAME (OCCUPATION)

Professional	1
Managers	2
Technician	3
Clerical Supervisor	4
High value sales	5
Base level sales/clerical	6
Upper blue collar/trades	7
Middle blue collar/Semi-skilled	8
Lower blue collar/unskilled	9
Occupation not stated	10
Student	11
Housewife/ home duties	12
Don't know	97; L
Other	98; L
No reply	99

Q3 We realise that questions about household income are a sensitive issue, but it would help us a lot if we could find out this information. Could you please tell us which of these categories best describes your annual household income BEFORE tax? If you are not sure, what would be your best guess?

READ OUT

Less than $20,000	1
$20,000 to less than $30,000	2
$30,000 to less than $40,000	3
$40,000 to less than $50,000	4
$50,000 to less than $75,000	5
$75,000 to less than $100,000	6
$100,000 or more	7

Q4 What is the highest level of education you have achieved? Would that be:

READ OUT

A University Degree requiring the equivalent of at least 3 years full time study	1
A Diploma or certificate requiring at least one year part time study but not a qualified trades person	2
A Trades qualification (like carpentry, brick laying, hair dressing)	3
The Upper level of secondary school (equivalent of Year 12 now)	4
The Lower level of secondary school (equivalent of Year 10 now)	5
Other	6

Q5 MEASURE OF STRENGTH OF RELIGIOUS BELIEFS –

Would you say your religious beliefs are:

Very strong	1
Fairly strong	2
Not very strong	3
Not strong at all	4
Not religious	5

DO NOT READ OUT:

Don't know	6
Refused	7

STANDARD END OF INTERVIEW

COMPUTER GAMES AND AUSTRALIANS TODAY

"My father is good to play with as he's the same level"

(male, 8-11 years)

"There are no repercussions from the computer, but if you did it in real life, it would be real sad"

(male, 15-17 years)

"I do two other sports, so the computer games are an in-between thing"

(female, 12-14 years)

This report presents the results of a comprehensive nation-wide research project into community attitudes to computer games.

It provides a wealth of information on the use of computer games among adults and children, both male and female.

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OFFICE of FILM and LITERATURE CLASSIFICATION