

I LEARNING: THE ROLE OF THE INTERNET AND INTERACTIVE SERVICES IN YOUTH SOCIAL LEARNING, SCHOOL AND WELLBEING

Margee Hume
Gillian Sullivan Mort

ABSTRACT

The purpose of this research has been to examine youth consumption of high-speed internet technology and online interactive services and their impact on school learning, social learning and well-being. With the advent of increased speed and capability of the internet, interest in the impact social media and internet usage on youth, social capital, youth anxiety and stress has been topical. Issues including cyber-bullying, stalking, impersonating others, hacking and spying, and bearing on personal brand have all been of interest to researchers with little research focussing on the positive learning outcomes such as school performance and social learning for this cohort. This research project investigates 10-14 years olds' attitudes to the internet, online practices and online usage to ascertain the relationship to learning and well-being.

Keywords: I learning, social learning, schoolwork, interactive services, Internet, youth, literacy, social capital.

INTRODUCTION

The research discusses the online and offline consumption patterns of youth and the access and usage of high-speed Internet technology and how this aids and affects learning. This research investigates the interrelationships and impacts on using social media, chat and interactive services, particularly Facebook, search, msn messenger and gaming on social learning, school and wellbeing in the youth cohort. This paper examines how youth suggest they are using the Internet in learning, advancing knowledge of online behaviour. For the purposes of this research school learning is focussed on curricular and co curricular school based activities. The youth cohort is proposed to be vulnerable to the positive and negative effects of internet usage, yet research has focussed primarily only on the high risk negative behaviours—only advancing negligibly our knowledge of positive outcomes.

This project aims to inform policy for online usage and youth well-being. Bullying, spying, excessive time wasting, effect on personal brand, escalation of cyber relationships and loss of privacy have all been suggested as having a negative impact on young people and their well-being. Despite these issues, Broadband technologies and associated services have also been proposed to enhance education and social interaction and offer positive outcomes for literacy and technological efficacy. Little work has been conducted on social and school learning and well-being in the services paradigm with this research the first in this area. This paper will develop a greater understanding of how online interactive services integrate into the lives of youth.

Margee Hume (Margee.Hume@usq.edu.au) is Associate Professor (Marketing), School of Management and Marketing, Faculty of Business & Law, University of Southern Queensland, Australia; Gillian Sullivan Mort (g.sullivan-mort@latrobe.edu.au) is Head of the Department of Marketing and Tourism and Hospitality, Faculty of Business, Economics and Law at La Trobe University, Melbourne.

LITERATURE HIGHLIGHTS

Apart from media attention, research into the social and academic literacy and the influence of the internet on youth is in its initial stages with this paper being exploratory in nature and the first to explore these relationships. Public awareness of the negative effect of Internet consumption on social well-being is isolated to media reports of extreme behaviours, with little discourse on the positive outcomes that may eventuate from online access and usage. Little research has focused on the outcomes of the internet and social media on learning, literacy social skills, and educational outcomes. With the impending implementation of faster and more accessible Broadband technology and emerging technologies enabling and increasing the ease and availability of Internet services (<http://www.fcc.gov/initiatives.html>; <http://redblock.com.au/blog/australian-high-speed-broadband-petition/>; <http://www.atug.com.au/>) examination of both positive and negative issues and online behaviour is timely. Educational outcomes, social learning and performance have implications for esteem and youth well-being. There is currently no specific research that approaches the online domain linking subjective youth well-being with online consumption, school and social learning. This research addresses the critical challenge facing Australian society for information and guidelines for Internet Broadband developments (faster and more accessible) and youth usage.

Advances in the Internet and innovative technologies have allowed consumers access to a continual supply of information, enhanced the ability to conduct and develop business and provided the ability to communicate on a global level. Recent Broadband technology deployments (by the Australian Government) expanding technological capacities are supporting innovations that increase accessibility and the adoption of user-friendly interactive media. Current research (ABS 2008; Dusseldorp Skills Forum 2007; Vromen 2007; OECD 2006), indicates such interactive services are utilised the most by younger Australians and concerns are arising as to their online consumption patterns and the effect of this consumption on community and youth well-being. Access to Internet (Broadband) services and mobile Internet technology and the consumption of online interactive technology services has increased rapidly with the youth demographic. This increased contact with online technology positions youth as susceptible to both the positive and negative outcomes associated with interacting online. The report specifically focuses on the susceptible high user group of young Australians 10-14 years old.

Both positive and negative dimensions influence the state of well-being (Caplan 2003; Lee & Conroy 2005; AIHW 2007). Despite the negative issues related to youth online activity often being discussed (Gillespie 2006; Ybarra & Mitchell 2005), these technologies have potentially positive effects. They can enhance education (Batat 2008; Thompson, Baranowski, Cullen & Baranowski 2007; Campbell 2006), social interaction (Beatty 2006; Donoso 2006; Blais, Craig, Pepler & Connolly 2008) and offer positive outcomes to literacy and confidence (Rolfe & Gilbert 2006; Lee, Cheung & Chen 2005; Rhodes, Spencer, Saito & Sipe 2006). Critics of online practice focus more on the risks and negative outcomes associated with online practice. The risks to well-being include online hazards (Hope 2006; Willard 2007; Berson & Berson 2005) such as cyber-bullying, stalking and spying, gambling, online shopping, gaming and pornography, with the outcomes including overspending on online services, escalation of cyber relationships and loss of privacy. These outcomes may result in social isolation, loss of social development and a deluded sense of reality (Bryant, Sanders-Jackson & Smallwood 2006; de Jong Giverveld, van Tilburg & Dijkstra 2006;

Whitlock, Powers & Eckenrode 2006) and, in turn, impact educational outcomes and learning.

TECHNOLOGICAL CONFIDENCE

Technological confidence is the self-confidence and ability related to using the interactive applications currently available through high-speed Internet access. Recent research conducting a comparative analysis on challenging online behaviours of adolescent girls in the United States and New Zealand describes youth as 'active agents who can manipulate, adapt, create and disseminate ideas and products through communication technologies' (Berson & Berson 2005, p. 29). As educational institutions incorporate skill building in compulsory curriculum for students, (Bure 2006; Bandura, Barrabaranelli, Vittorio & Pastorelli 2003; Tung & Chang 2007) a degree of interactive ability (media literacy) and resulting feelings of (technological) confidence results (Dwyer 2007; Ofcom 2008a). Up to 90% of students state 'confidence in the use of the Internet and interactive technologies' (Thomson & De Bortoli 2007; OECD 2006) results from online usage and this assists with other educational practices. Contributing to the compulsory skills acquired within the schooling system, 94% of Australian students have access to computer technologies at home supporting skill development (OCED average 79%) (Australian Council for Educational Research: <http://www.acer.edu.au>). Further findings suggest Australian technology skills as above average in comparison to other OCED countries (Australian Council for Educational Research: <http://www.acer.edu.au>):

- 100% of Australian students reported having access to a computer at school.
- 70% of Australian students reported frequent use of a computer for word processing (OECD average 48%).
- 10% of Australian students reported frequent use of educational software (OECD average 13%).
- 74% of Australian students reported frequent use of the Internet 'to look up information about people, things or ideas' (OECD average 55%)
- 90% of Australian students reported being confident Internet users.

Research suggests that with maturity, young people's media literacy (interactive ability) expands as they adapt to the ongoing technological advancements and innovations (Ali 2007) and this complements their literacy and advances processing ability. The advancement of media literacy and technological confidence represents a positive outcome for Broadband and Internet provision and offers support in principle for the development of new interactive services delivered through high-speed Internet access.

Proposition 1: Interacting online will improve technological efficacy and technological literacy and complement literacy and advanced processing.

Instant Messaging and Chatrooms

The use of chat applications to instant message (IM) via a technological device is one of the most popular methods for adolescents to conduct social communication (on the Internet) (Green, Hilken, Friedman, Grossman, Gasiewski, Adler & Sabini 2005; Greenfield & Subrahmanyam 2003; Thulin & Vilhelmson 2007; Ling & Baron 2007). The Pew Internet and American Life Project (2003) indicate almost 74% of adolescents utilise chat functions such as instant messages; and approximately 68% use IM at least three days per week (Lenhart Maddie, Magill & Smith 2007). Popular instant messaging services include MSN

and Yahoo Messenger, and Google Chat (Olsen 2005). Synchronous, efficient, real time communication is the primary feature of such media and the reason for popularity amongst the younger generation (Suler 2004). Instant messages can be viewed by the online public or blocked to support only private contacts assigned at the user's discretion. This further adds to its popularity. High speed Internet access allows the use of the interactive features associated with instant messaging media such as group chat functions, conferencing services (voice and video), conversation logs, games and file transfers (Garrett & Danziger 2008). High speed Broadband supports the virtual visual chat rooms (webcam) emerging as a favourite amongst adolescents (Suler 2005; Thunin & Vihelmsen 2007). The virtual visual chat room experience may be heightened if 'avatars' or personalised characters are developed to represent the individual (Suler 2005; Yee, Bailenson, Urbanek, Chang & Merget 2007) and many simulation and avatar-based tools are used in the education arena such as Second Life.

Anonymity is available as the user is able to take on a different persona usually only limited by the young person's imagination. The benefits of chat rooms and instant messaging are a sense of social belonging, personal (though virtual) interaction and the ability to meet many people in a single site or online community (Green et al. 2005). However, research cautions users that these emotional connections are not as strong as those developed in a bricks and mortar environment and should not be used as a substitute for these types of emotional connections (Thunin & Vihelmsen 2007; Greenfield & Subrahmanyam 2003).

Proposition 2: Chat rooms and instant message have a role in social learning and school; however, excessive interaction will have a negative effect on school and social learning and wellbeing.

Social Networking Sites

The use of social networking sites (SNSs) has expanded phenomenally from the inception of social networking sites such as My Space, Facebook, Bebo and Pixco. Reid and Grey (2007) note 92 popular social networking sites worldwide with user counts ranging from over one billion to under 100 (Reid & Grey 2007). These social networking sites are widely used for online communication (Boyd 2007; Gross & Acquisti 2005; Ofcom 2008b; Raacke, & Bonds-Raacke 2008; Ellison, Steinfield & Lampe 2006; Hargittai, 2007) with over 50% of American teens between the ages of 12-17 years creating personalised My Space or Facebook profiles (Lenhart et al 2007; ABS 2007, 2008; Australian Clearinghouse for Youth Studies 2008).

Social networks have been defined as a 'personal or professional set of relationships between individuals' or 'a set of people (or organizations or other social entities) connected by a set of social relationships, such as friendship, co-working or information exchange' (Victorian Scrutiny of Acts and Regulation Committee 2005, p239). Online SNSs are web based services that allow individuals to construct a public or semi-public profile within a bounded system [of social connections or relationships]. These SNSs aim to allow communication to a list of others with whom they share a connection and allow individuals to view and navigate their list of connections and those made by others within the system (Boyd & Ellison 2007; Gross & Acquisti 2005; Raacke & Bonds-Raacke 2008). The underlying dynamics involved within social networks are sometimes difficult to evaluate, however, due to the public and exhibitionist nature of computer mediated interactive social networking, researchers have the ability to gain insights into the ties and evolutionary nature of the relationships developed via

online social networking amongst individuals (Jones, Feerreday & Hodgson 2006; Boyd 2007).

Social networking sites seek to provide users with the ability to create profiles and share or allow their personal interests and relationships to be publicly expressed with other users of the networking medium, inviting comment and discussions (Boyd 2007; Raacke, & Bonds-Raacke 2008; Barnes 2008). Classed as a voyeuristic medium, individuals can provide what is personally relevant to them on a SNS that can be viewed on a worldwide scale, restricted only in the first instance to those connected to the Internet (Boyd 2007; Kim & Yun 2007; Mayer & Puller 2007). Whilst the majority of SNS reflect relationships among individuals with common interests, attitudes and beliefs, a SNS can also allow communication among those without such common interests, connected through common acquaintances (Boyd & Ellison 2007). Such social networking sites reach beyond the faceless blog and allow users to create personas, often referred to as online profiles, to trade messages with one and another and those outside their regular circle of friendship and upload and share photos (Boyd 2007). Uploading photos, videos and other forms of multimedia is a crucial factor in a young person life, as this is often a re-creation of what is essential and central to their lives (Arthur Sherman, Appel & Moore 2006). Hence, the popularity of user generated applications beyond social networking sites.

Proposition 3: Interacting online can have a positive effect on social learning, however, excessive and negative social network interactions can negatively impact school work completion, interaction and learning.

User generated video and music applications

User generated video and music download sites, such as YouTube, draw over 6 million viewers per day (Goo 2006). Since its inception in 2005, YouTube has received massive acceptance amongst young consumers as a form of social interaction and networking (Cheng, Dale & Liu 2007). The appeal of YouTube is essentially due to content being primarily user generated, individualising and personalising the viewing experience and encouraging response and reactions, ultimately facilitating social communities and networks (Cheng et al. 2007; Lange 2007; Karch 2008). Goo (2006) describes YouTube as a medium to allow a person 'their one chance of fame' (Goo 2006). More importantly, posting videos often encourages conversation and initiates a social interaction amongst those with similar interests (Lenhart et al. 2007). Facilitating YouTube's success is access to readily available high-speed Broadband, allowing consumers to upload and download media rich content with minimal fuss (Shields 2008). However, as much fun as it is to express personal identities through YouTube, a risk is posed, as youth may take comments allowable in a negative manner, affecting overall self-confidence (Lange 2008). Anonymity is reduced as youth place themselves on public display. This can sometimes lead to risky behaviour in an attempt to attract comments and viewer attention. Youth are also drawn to services that allow experimentation with identity leading to popularity of interactive services that enable this experimentation.

Proposition 4: Excessive entertainment application use has a direct impact on wellbeing, social learning and school.

Youth Well-being and the Use of Interactive Technologies

Subjective consumer well-being is a substantive issue requiring attention by those investigating the impact of consumer consumption patterns (Cornwell & Drennan 2004). Subjective well-being is 'a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgments of life satisfaction' (Diener, Suh, Lucas & Smith 1999, p. 277). Youth consumer well-being is operationalised in this study as the pleasant and unpleasant emotions triggered by use of technological services and reported life satisfaction in the domains of friendship, family, work, finances, social group and leisure. This construct considers but does not include constructs like self esteem and self worth. New technologies, new audiences and new uses challenge researchers in the area of technology (Haddon 2006; Hekkert, Suurs, Negro, Kuhlmann & Smits 2007) to expand beyond the study of individual cognitive processes and to consider the longer-term consequences for individual and social behaviours of technology consumption (Hekkert et al. 2007).

Research on how youth value and experience technology and experience its impact on well-being is crucial to developing policies and marketing strategies that promote sustainable consumption behaviour. Benefits to youth well-being include increasing involvement in educational endeavours, improving literacy levels and aiding in the development of social skills. Other benefits include provision of media for adolescents to alleviate frustrations and stress and a channel for governments and/or private organisations to connect to youth by individually-targeted health messages (Suler 2005; Owston 1997; Rolfe & Gilbert 2006; Beatty 2006; Thompson et al. 2007). Education and learning platforms provide efficient channelling of information to students while creating a community of practice directly related to the learning group. Platforms such as Moodle, Blackboard and various tools such as Wikis and Wimbas all provide exciting and engaging learning environments for the digital future, learning and youth wellbeing.

Proposition 5: Online interactions will have a direct relationship to wellbeing.

Literacy

Researchers have suggested that the instantaneous, interactive, and flexible access to learning resources characteristic of the Internet has increased performance levels and lowered attrition rates of students (Rolfe & Gilbert 2006; Wu & Lee 2005). Rolfe and Gilbert conducted research in four stages—desk research; interviews with four experts; quantitative analysis through Synovate's online panel; and qualitative research groups—finding that overall youth were very positive toward technology for entertainment and learning. The findings of this study validated the theory that 'adolescents today learn through a process of discovery and participation' (Batat 2008, p. 376) and that online technology improves learning substantially. Beatty (2006) conducted a workshop into the media effects on youth using a multidisciplinary approach, which examined recent research from disciplines including communications, economics, neuroscience, paediatrics, and psychology. It was suggested that from an educational perspective, literacy skills may improve in young people who are easily bored or distracted by using the Internet, as it provides an environment capable of immersing the individual (Beatty 2006; Wu & Lee 2005).

Proposition 6: Students feel online learning improves learning interactions and literacy.

Enhancing Sociality and Self-Expression

In addition to educational advantages, Beatty (2006) found a primary benefit of online interactive services through enhancing sociality of youth—allowing expression of creative written ideas and productive interaction with those with common interests. This research has been replicated and supported by others, strengthening the notion of its findings (Donoso 2006; Blais, Craig, Pepler & Connolly 2008). In addition, ‘cyberspace provides a venue to learn and refines the ability to exercise self control, to relate with tolerance and respect other’s viewpoints’ (Hinduja & Pachin 2006, p. 130). There is the ability to express ideas and thoughts through the creation of web pages, blogs and multimedia presentations without the restrictions common to offline modes of communication, enhancing the freedom of speech of youth (Beatty 2006; Suler 2005). The Internet provides an outlet for empowerment for the individual and a method to vent frustrations (Lyons & Tilling 2004; Blais et al 2008; Suler 2005). Suler (2005, p. 1) suggests the Internet can contribute to higher levels of self-confidence amongst youth allowing ‘mastery and accomplishment’ of online tasks, impressing others within their peer group and facilitating acceptance (Suler 2005). Also, the anonymity of the Internet reduces the awkwardness of expressing intimate details and is suggested to aid youth in becoming more forthcoming and confident (Suler 2005; Bargh, McKenna & Fitzsimons 2002). Socialising on the Internet is suggested to reduce loneliness of teens who may otherwise have problems or suffer exclusion in the offline environment and provide a sense of belonging with the ability to find peers with similar interests (Subrahmanyam 2007; Bure 2006; Suler 2005; Jensen, Davis & Farnham 2002). In addition, ties with existing friendships can be strengthened and maintained through communications via email or instant chat (Jensen et al. 2002; Green et al. 2005).

Proposition 7: Positive online interactions will enhance expression, creativeness and self expression enhancing social learning, school performance and wellbeing.

METHOD

This research approaches consumer research from a services-marketing paradigm focusing on consumer opinion and the factors that influence online and offline learning and usage for the internet by youth. Advancing other work in online behaviour and consumption research, this study has used daily consumption diaries extracted from a sample of youth. These consumption diaries were completed over 7 days at three separate time periods (T1, T2 and T3). Previous research has not focused directly on what the youth cohort are doing online and how this interacts with other aspects of their life, learning and overall well-being. This research explores descriptions and diary scripts of typical daily events, learning events at school and online experiences as described by the youth. The diaries were available in three formats and the participants could choose the most preferred—online, electronic or hard copy. This diary collection method was then triangulated using in-depth interviews. These were conducted on selected information-rich cases drawn from the diary findings. The process identified in more concentration the attributes that are critical and non-critical to online/offline behaviour and well-being.

Sampling

Consistent with the suggested range of case sampling of more than four cases (Eisenhardt 1989), 40 youth diaries were collected and 20 interviews initially undertaken with a further two completed for theoretical sampling reasons. The youth diary participants functioned as

lead users (von Hippel 1986) in this context. The youth cohorts consisted of students age 10-14 and each documented their activities both offline and online, their emotions related to these events using emoticons and any online and offline encounters experienced during the collection period that related to online behaviour and learning. They included headings focused on offline sport, hobbies and schoolwork, critical incidents, expectations, factors of satisfaction, technology type and usage, general demographics, search, gaming and family life. Investigator reminders via their preferred access technology supported this process and this in all cases was a SMS text message. Diary participants were randomly selected from responses to an advertisement placed in local media. Sampling in the interview program proceeded until theoretical saturation was achieved collecting an extra two interviews than originally forecasted (Reynolds & Gutman 1988). Theoretical saturation is a process whereby themes and constructs from one case or interview are substantiated by the evidence of another case, and sampling proceeds until no new issues are introduced (Eisenhardt 1989). The interviews were guided by open-ended questions advancing the emergent themes and practices identified in the diaries. Probing and funnelling techniques were used if required.

Recruitment for sample

Participants were recruited using advertisements in sample appropriate media, with several media interviews conducted to create awareness of the study. Interested parties contacted a researcher's email and diary parcels were offered. Parental approval was sought as per ethical requirements for minors. Ethical clearance was granted and focussed on interviewing youth and specific youth related nuances. .

Actual sample

Of the initial 40 diaries collected, five candidates failed to complete all weeks and questions: these diaries were excluded in the final analysis. The final sample included 35 completed diaries. This diary collection included 14 males and 21 females with even distribution of 10-14 year olds. From these diary respondents, a sample of 20 was drawn for interviewing. A further two interviews (one for each cohort) were completed to reach theoretical saturation and clarify responses. A total of 22 interviews were completed overall. The interview respondents included equal gender and age representation. Overall, even numbers of gender with a good distribution of ages were established, fulfilling sampling requirements. There was a high involvement for all interviewees in offline activities with good coverage of both school and non-school related online interactions. There appeared in this group to be no pattern emerging reflecting compulsive or obsessive online behaviour. There appears to be an online/ offline behaviour balance emerging in the overall sample with online behaviour equalling offline behaviour. Some students were found to go online more than 5 hours a day, which was considered excessive but not compulsive.

Content Analysis

A content analysis (Budd, Thorp & Donohew 1967) was undertaken on the tabulated findings of the diaries and used to inform the interview process. These findings highlighted the emergent themes and behaviours. A set of transcripts were created verbatim from each of the interviews. Consistent with the method outlined by Hubbert, Sehorn and Brown (1995), the unit of analysis was the script that is comprised of the diary findings and documentation of the interactive experiences and the transcripts of the in-depth interviews. These scripts were coded and organised using sequential incident analysis in order to develop emergent themes (Miles & Huberman 1994) and sub-classifications of themes (Danaher & Mattsson 1995).

Further inductive analysis was undertaken based on understanding of the extant literature. This technique is consistent with Arnould & Price (1993).

QUALITATIVE ANALYSIS

The themes identified from the qualitative study are discussed in more depth in the following discussion section offering further understanding and clarification to youth behaviour online. . This section presents general summaries of the qualitative collection. Candidates were offered two diary formats and chose the one they were most comfortable with completing. The first was a traditional open-ended (calendar 24 hr clock) diary where candidates completed open-ended writing. The second diary offered candidates a more structured format including a checklist style with some opportunity for open-ended writing. The two diary formats were adopted as pretesting of formats in each age cohort and revealed differing levels of preference and competence. Diaries completed in full over the three periods (T1, T2, T3) were analysed. Incomplete diaries were discarded. A total of 35 diaries over three time frames were analysed. This process combined to provide a longitudinal examination of experiences and behaviours. This discussion on findings is supported by narrative lifted from the diaries and interviews.

FINDINGS AND DISCUSSION FROM THE QUALITATIVE ENQUIRY

The diaries and interviews yielded substantial content with all propositions accepted. These will be discussed in length in the next section. Overall, there are substantial positive benefits to social learning, school and wellbeing, however, excessive use that impact school life balance and sleep has a negative impact on school and wellbeing. Indirectly a negative impact on school performance can have a negative impact on social learning and wellbeing. The following will advance the findings raised by the participants and includes narrative comment.

Preferred Online Activity

Finding: Chat, fact-finding and music, video downloading and gaming are the most common online activity, with the male cohort more interested in gaming. YouTube search and fact finding are used frequently by all participants for school work and co-curricular learning.

The sample suggests that gaming and chat are the preferred online activities, with music, video and school-related fact-finding also frequently chosen. It is evident that candidates use online interactions to enhance current offline relationships and friendship networks for co-curricular activities such as debating, sport and the creative arts. Candidates suggested this was more popular than seeking out new online friendships. Little prohibited site search, gambling and no pornography is evident in this age group. However, the older male cohort suggested they would most likely engage in one of these behaviours '*as they got older*' and had engaged in '*girl stuff search*'. It is also notable that online shopping is scant, but viewing and search for shopping is frequent.

Female 11 (diary and interview) "I chat daily with my school friends after school, it is my way of keeping in touch with friends. It is not safe to meet outside and mum won't let me...so chat lets us...you know....keep in touch safely. I can have up to seven single chats going at once and maybe a school group...we just LOL and share stuff. I do all my school work online both at school and at home. We have blackboard learning at school and all our projects require Googling stuff"

Online activity focused very heavily on social interactions, with MSN and Skype being the main mediums: Some male candidates were more involved in games/gaming in this age group and they suggested they would do this rather than their school work, negatively affecting school performance. These games included Club Penguin, Runescape, Minecraft, Skyrrm, Call of Duty and free offerings on minclip games. Few females from this sample played online games. All participants suggested that when they socialised too much on line via Skype, chat and email that it negatively influences school work and completion. However, they felt that it positively affected their social bonds with their friends

Cyber-bullying and unwanted online exchanges

Finding: Bullying only evident in a small number in this cohort.

Most participants indicate positive experiences and online emotional outcomes, with few reporting online bullying, dissing or exposure to happy slapping and other negative online encounters. For this cohort, unwanted exchanges were more focused on simple unwanted jokes and comments. One male respondent reported during the in-depth interview that cyber bullying is an often and expected pastime online for his peers at school, yet he had not experienced it himself, but felt it was an inevitable practice. He suggested that students who were getting bullied saw reduced school performance.

Male 13 (interview) 'I haven't yet been bullied but most of my mates have, one took time off school cause he was so upset...you know depressed and it impacted his school work really badly'.

Most members of the cohort suggested that switching off from online activity was the management strategy used. Interestingly, in both the qualitative diaries and interviews, the majority of participants had not been bullied online and suggested they were not allowed online during the week except for school work.

Unwanted content

Finding: All candidates received unwanted spam, advertising and chat intruders and this intruded on their private learning space and search.

Unwanted content included spam, spam emails, advertising and some newsletters. All participants suggested they received many unwanted emails, and unwanted content online. All participants reported they immediately deleted these and/or blocked them via anti-spam software. With respect to MSN, all participants reported they only allowed/interacted with their contact list and blocked all other persons. All participants did report unwanted persons at some time did try and contact them, however, as they were blocked there was no interaction. All participants had interacted with shareware such as LimeWire at some time; all reported getting a virus and have no longer interacted with file sharing. They preferred music purchase from iTunes. Students suggested that once they knew how to delete and manage the unwanted content there was no impact on their learning environment, learning and wellbeing.

Male 11 (interview) 'When I go and check my email it can be full of stupid stuff, ads and silly emails...I just delete them...never read them some time it is annoying as I have to waste time before I find my school emails and notifications of stuff I need for assignments.....and school'.

Offline activity**Finding: High levels of offline activities minimise online activities**

Most participants were involved in a large amount of offline activity and found on the days that this was excessive they did not go online at all or only texted and uses their mobile smartphone. Offline activities took priority with the majority of participants, with only one interview participant forgoing sport and other after school activities to game online. The practice of offline activities reduced participation and commitment to online activities including gaming and excessive chat. It was evident in the respondent cohort and depicted in the qualitative data that high levels of offline commitment and activity minimised negative online practice including visiting illicit sites, bullying others online and excessive gaming. It was evident in both diaries and the interviews that those who did little extracurricular activities were more likely to take risks online and show 'need' to go online. It is evident that increased offline activities are 'valuable protection' from online issues. The respondents overall had strong offline activity including sport, television viewing, volunteering and caring for others. Exercising more than half an hour a day and having hobbies were shown to have a positive and significant relationship with well being.

Male 11 (interview and diary) 'I gave footy away too hard, took up too much time and didn't like it any more, I haven't found a sport yet I like, maybe skating....but don't like to go alone...it is easier to come home and play guitar here or mind craft online...you know Wii can go online like play station and Xbox...or I play runescape or whatever is popular at the time...I would not have time for this if I was at sport'.

Female 11 (interview and diary) 'I do a lot of sport water polo, netball, swimming, touch football and lots of school stuff...debating, speech and drama...online for me is the weekend or if sport is cancelled cause of the rain...I do go online for school work a lot and I can now have Facebook but only use it on the school holidays'.

Access technology**Findings: Less online hazards and excessive use encountered if computers are in a communal areas and usage monitored. Faster access allowed for more complex download and more efficient searching.**

Participants who came from larger families spent less time online if computer was shared, as did participants where the computer was in a communal area. The time spent online was specifically related to search and fact finding and completing school related activities. All students reported their school access was via a learning platform such as Blackboard and Moodle. Half of the participants' parents limited online time and of these participants, offline activities were more prominent in overall life activities. Search and school email/notice boards was the only time online. One candidate reported due to this they would sneak online after hours. Interestingly, the other participants were not supervised at all—with many reporting they had free unsupervised access all the time.

Male 13 (interview and diary) 'Mum and dad go to bed early I am supposed to be asleep but if I can't I just go online....sometimes I have fallen asleep with the laptop...mum is very unhappy when that happens!'

Male 11 (diary) 'I share the computer with my sister and my brother; we get 20 minutes lots...my sister is forever checking out what I have been doing...we all know each other's passwords...mum says that is part of the deal'.

Online and offline emotions

Overall, the group interviewed appeared happy. Some participants report feelings of sadness related to both offline and online life. Feelings of sadness were related to feelings of being left out at school, feeling bored or not accepted with their chosen social groups. A second cohort suggested they felt sad if they did not achieve at school. The majority reported these as uncommon occurrences and related them to a specific event. Overall, the group reported most of the time they were happy with offline life and felt they had happy offline lives. Specific negative emotions were related to navigational issues, inability to interact with the chosen activity and the inability to find online content relevant to school work on what was been searched for. In general, the emotional outcomes showed an optimistic sense of well-being in the youth sampled.

Online harassment was of some concern in the group as a whole, with a few instances of targeted bullying (as evidenced only in the 13-14-15 year old group). There was no doubt that online activities added another dimension to bullying, however, it was the exception rather than the norm for the group. Verbal/language based harassment was quite frequent; with little direct sabotaging (bullying) of schoolwork online reported. There was some evidence of picture and message-based harassment using nude and rude material. Participants suggested they have simple and pragmatic ways of dealing with unwanted messages and intrusions and generally did not seek others' advice or support. It was evident harassment or targeted bullying was perceived to affect reputations and did negatively affect schoolwork and there was a strong relationship with well-being. This finding suggests it was not the actual practice of bullying or harassment, but how each recipient reacted to the practice that had some bearing on the well-being outcome. Some participants suggested they just laughed it off; with others taking it more seriously. Short messages, pictures or images mediated a larger amount of cyber-bullying and harassment. There was a strong belief that social networking sites aided in personal development and social skills development. These sites were used mainly by the 13-14 year old cohort. All participants in the qualitative work in each cohort indicated positive outcomes for social, communication and academic skills through the use of online chat services and sharing funny popular media.

Online service and other sites

Findings: Fan clubs of little interest, social networking and chat very popular with chat and email also used frequently. Little prohibited activity evident.

Online activities focused on communication and schoolwork across all ages. The majority of participants chat online with offline friends, interact on Facebook and use the Internet for fact-finding and schoolwork, including interactive programs such as mathletics and school blackboard platforms. Moreover, the majority of participants in both studies download and listen to music, download and listen to TV, with Youtube being very popular for both downloading, general viewing and uploading. The male sample of the qualitative study was more interested in gaming with excessive gaming interfering with sleep and schoolwork. Those who participated in offline activities were less likely to game on a regular and time-consuming basis. Gaming provided intense short-term pleasure and arousal, but it was suggested by participants that it did have a negative impact on relationships at times with family—including siblings.

Fan club sites were not often accessed, with only one participant visiting a fan club. Sports sites and prohibited sites (gambling) experienced similar rates with a small number of males visiting 'Girl related sites'. Limited use of shopping sites for purchase was evident, with those that do use shopping sites reporting frequent searching online and purchasing offline due to difficulty with electronic funds access. One female in the cohort reported extensive use of shopping sites for search and comparison. Both Facebook and email access were reported by this cohort as popular. Interestingly, fact-finding was the most popular activity and focused on schoolwork. Chat and gaming was more frequent during holidays; and mobile texting was the primary contact medium for organizing social activities. It was evident that overuse of any online activity apart from search and school related learning platforms had a negative impact on school performance, but often had a positive effect on social learning and friendships.

Female 14 (interview) 'I don't have time apart from school work...texting is faster....holidays I use SN sites and update stuff, post photos and holiday stuff, SN sites are good to show your friends photos and stuff like your formal dress'.

School and home access and use

Findings: Home and school use of online interactive services is partitioned to entertainment at home and education at school, with schools showing more rigid supervision and policy related to online use.

Members of this cohort displayed strong technology self-efficacy. However, they did limit their Internet access mode and did not switch between modes readily. School and home both figured as enabling this cohort to access online interactive services, with home use largely utilised for entertainment and fact finding for school projects, with school use restricted to education uses by school policy with most schools operating a learning platform online. Schools were reported to have strong policies on use and behaviour online, with schools also limiting usage. Many participants suggested if they were caught doing the wrong 'stuff' at school they would lose privileges and their password would be blocked for a detention period. Home use was more focused on entertainment and not closely monitored by parents or restrictions placed on usage. Participants suggested they rarely visited online or restricted sites at school or home. Some males suggested they visited free 'girl sites' but never paid to joined illicit sites.

Male 13 (diary and interview) 'I have never been exposed to any bad stuff... most of us look up... stuff, funny stuff and links people tell you about...like viral stuff, song parody's...some may be a bit rude....but nothing really bad.... we would never pay and give our details for anything...they all send you a heap of stuff if you do...'

Well-being

The survey identified that students with a strong online/offline balance felt a better sense of well-being. Candidates with a happy and strong social activity felt a better sense of well-being and students who perceived they were doing well at school and were creating good school assessments had a stronger sense of well-being. The survey identifies online harassment had a prominent relationship with well-being and the participants who experienced it and felt harassed had some detrimental effects to well-being; and this also influenced social and school learning.

Cyber-bullying was evident in the 13-14-15-year age group, corresponding with the year nine school level. These ages were shown to be the at-risk age bracket in this sample. Targeted cyber-bullying was not directly found to have an effect on well-being, but did have an effect on social and school learning and other constructs such as esteem and self-worth. These were not directly tested but certainly would be advised as dependant variables for future work. It was only reported by a small amount in the sample. This may not be indicative of a larger sample that may have a higher incidence of bullying. It was evident that the candidate needed to feel a sense of harassment to have a detrimental effect on well-being. Some forms of bullying were ignored/overlooked and were seen not to be a threat.

Social skills and learning and academic skills and school performance in general were reported to increase by using the Internet and interactive services; however, there was no reported relationship between these and well-being. Those that were socially isolated and saw themselves as having few friends spent more than 3 hours a day online. Others who were isolated geographically also showed high levels of usage of online interactive services in both age cohorts. Candidates who spent more than 5 hours a day online did not actively pursue offline activities, suggesting excessive online activity encouraged sedentary behaviour; with a strong relationship to well-being found for participants who did more than half an hour of exercise daily and had offline hobbies.

Online use was shown to be used to enhance offline relationships and social exchanges, advancing and supporting previous research. As you will note, harassment, academic skills, social networking and online chat and offline activities all show a significant contribution to positive well-being at varying levels of significance.

Finally, all propositions were supported. Interacting online was shown to improve technological efficacy and technological literacy and complement literacy; and advanced processing with chat rooms and instant message having a role in social learning and school performance. Excessive interaction was shown to have a negative effect on school and social learning and wellbeing. Interacting online had a positive effect on social learning with excessive and negative social network interactions showing negative impact on school work completion, interaction and learning. Online entertainment music and video applications showed a direct impact on wellbeing, social learning and school and when consumed in a positive way in balance with other aspects had a positive impact on wellbeing. Students felt online learning improved learning interactions and literacy and that positive online interactions enhanced their expression, creativeness and self expression. Overall, the majority of candidates felt that online activity enhanced social learning, school performance and wellbeing.

CONCLUSIONS

This research indicates the use of online Broadband and associated services is high and is substantially integrated into educational and social aspects of life for young people aged 10-14 years old. Offline/online balance, including offline social interactions, is the key to social learning and well-being in this youth cohort. Online activities have some negative effects on well-being and school if usage is excessive; and school/life balance is affected. Practices such as lack of parental/carer supervision, isolated computer practice, excessive use, lack of offline activity, and exposure to online hazards all increased the risks associated with the negative well-being outcomes, negative impacts on school and social learning. There is no doubt that developing guidelines, educating parents on the capability and online capacity

and developing usage framework for parents, teachers and carers would be of value in managing the negative exposure and capitalising of the positive opportunities created by online services and interactions. Overall, search and fact finding are essential to school performance and access is essential to interact with school learning platforms.

REFERENCES

Ali, S 2007, 'Upwardly mobile: a study into mobile TV use amongst children', *Young Consumers*, 8(1), 52-57.

Arnould, EJ & Price, LL 1993. 'River magic: Extraordinary experience and the extended service encounter', *The Journal of consumer research*, 20(1), 24-55.

Arthur, D, Sherman, C, Appel, D & Moore, L 2006, 'Why young consumers adopt interactive technologies', *Young Consumers*, 7(3), 33-38.

Australian Bureau of Statistics (ABS) 2007, *8153.0 Internet Activity, Australia*, December, 2007. Retrieved 10 April, 2008, from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8153.0Main+Features1Dec%202007?OpenDocument>.

Australian Bureau of Statistics (ABS) 2008, *4102.0 - Australian Social Trends – Internet Access from Home*. Retrieved 10 July, 2008, from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Chapter10002008>.

Australian Clearinghouse for Youth Studies 2008, *Internet Use and Social Networks*. Retrieved 20 September, 2008, from http://www.acys.info/youth_facts_and_stats/technology/technology_2007/Internet_use.

Australia Council for Educational Research 2007, *ICT use and familiarity in Australia*, Issue 58 October 2007, http://www.acer.edu.au/enews/0710_mon62.html.

Australian Government 2008), *Budget Paper No. 2, Part 2: Expense Measures, Broadband, Communications and the Digital Economy 2008-2009*. Retrieved 10 August, 2008 from <http://www.apf.gov.au/budget%20dummy/budget%202007-08%20backup/2008-09/content/bp2/html/expense-04.htm>.

Australian Institute of Health & Welfare (AIHW) 2007, *Young Australians: Their Health and Well-being 2007*. Retrieved 10 August, 2008, from <http://www.aihw.gov.au/publications/aus/yathaw07/yathaw07.pdf>.

Bandura, A, Barrabaranelli, C, Vittorio, C & Pastorelli, C 2003, 'Self-Efficacy Beliefs as Shapers of Children's Aspirations and Career Trajectories', *Child Development*, 72(1), 187-206.

Bargh, JA, McKenna, KYA & Fitzsimons, GM 2002, 'Can you see the real me? Activation and expression of the "true self" on the Internet', *Journal of Social Issues*, 58, 33-48.

Barnes, S 2008, *A privacy paradox: Social networking in the Unites States*. Peer Reviewed *Journal on the Internet*. Retrieved 22 August, 2008, from http://www.firstmonday.org/issues/issue11_9/barnes/index.html.

Batat, W 2008, 'Exploring adolescent development skills through Internet usage: a study of French 11-15 year olds', *International Journal of Consumer Studies*, 32, 374-381.

Beatty, A 2006, *Studying Media Effects on Children and Youth: Improving Methods and Measures, Workshop Summary. Program Committee for a Workshop on Improving Research on Interactive Media and Children's Health*. Retrieved 10 May, 2008, from http://209.85.173.104/search?q=cache:VrKiPaWQ_iIJ:www.sapo.org.au/binary/binary2061/Popular.doc+positive+aspects+of+Internet+consumption+youth&hl=en&ct=clnk&cd=9&gl=au&client=firefox-a.

Berson, IR & Berson, MJ 2005, 'Challenging Online Behaviours of Youth: Findings From a Comparative Analysis of Young People in the United States and New Zealand', *Social Science Computer Review*, 23, 29-38.

Blais, JJ, Craig, WM, Pepler, D & Connolly, J 2008, 'Adolescents Online: The Importance of Internet Activity Choice to Salient Relationships'. *Journal of Youth and Adolescence*, 37, 522-536.

Boyd, D 2007, *Why Youth Social Network Sites: The Role of Networked Publics in Teenage Social Life, MacArthur Foundation Series on Digital Learning – Youth, Identity and Digital Media Volume* (ed. David Buckingham). Cambridge, MA: MIT Press.

Boyd, D & Ellison, N 2007, 'Social Network Sites: Definition, History and Scholarship', *Journal of Computer-Mediated Communication*, 13(1).

Bryant, JA, Sanders-Jackson, A & Smallwood, AMK 2006, 'IMing, text messaging and adolescent social networks', *Journal of Computer-Mediated Communication*, 11(2). Retrieved 20 September, 2008, from <http://jcmc.indiana.edu/vol11/issue2/bryant.html>.

Budd, RW, Thorp, RK & Donohew, L 1967, *Content analysis of communications*, New York: Macmillan Company.

Bure, C 2006, 'Digital Inclusion without Social Inclusion: The consumption of information and communication technologies (ICTs) within homeless subculture in Scotland', *Journal of Community Informatics*, 2 (2), 1-17.

Campbell, C 2006, *The Role of the Internet in the Primary School Classroom*, University of Wollongong, Faculty of Education. Retrieved 20 September, 2008, from <http://www.library.uow.edu.au/adt-NWU/uploads/approved/adt-NWU20080102.171945/public/02Whole.pdf>.

Caplan, SE 2003, 'Preference for Online Social Interaction: A Theory of Problematic Internet Use and Psychosocial Well-Being', *Communication Research*, 30, 625-648.

Cheng, X, Dale, C & Liu, J 2007, *Understanding the Characteristics of Internet Short Video Sharing: YouTube as a Case Study*. Retrieved 10 May, 2008, from http://arxiv.org/PS_cache/arxiv/pdf/0707/0707.3670v1.pdf.

Cornwell, TB & Drennan, J 2004, 'Cross-Cultural consumer/consumption research: dealing with issues emerging from globalization and fragmentation', *Journal of Macromarketing*, 24, 108-121.

-
- de Jong Giverveld, J, van Tilburg, T & Dijkstra, PA 2006, *Loneliness & Social Isolation in Cambridge Handbook of Personal Relationships*, A Vangelisti & D Perlman (eds.), Cambridge: Cambridge University Press, p. 485-500.
- Diener, E, Suh, EM, Lucas, RE & Smith, H 1999, 'Subjective Well-Being: Three Decades of Progress', *Psychological Bulletin*, 152(2), 276-302.
- Donoso, V 2006, *Impact of the Internet on the Development of Intimacy among Chilean Adolescents*. Retrieved 10 May, 2008, from <http://www.nordicom.gu.se/cl/publ/letter.php?id=70>.
- Dusseldorp Skills Forum 2007, 'How Young People are Faring 2007: At a Glance'. Retrieved 29 July, 2008, from <http://www.dsf.org.au/papers/197.htm>.
- Dwyer, J 2007, 'Computer-based learning in a primary school: Differences between the early and later years of primary schooling', *Asia-Pacific Journal of Teacher Education*, 35, 1, 89-103.
- Eisenhardt, KM 1989, 'Building theories from case study research', *Academy of Management Review*, 14(4), 532-550.
- Ellison, N, Steinfield, C & Lampe, C 2006, *Spatially Bounded Online Social Networks and Social Capital. Annual Conference of the International Communication Association*. Retrieved 10 May, 2008 from https://www.msu.edu/~nellison/Facebook_ICA_2006.pdf.
- Gillespie, AA 2006, 'Cyber-bullying and harassment of teenagers: the legal response', *Journal of Social Welfare and Family Law*, 28(2), 123-36.
- Goo, SK 2006, *Five Months After Its Debut, YouTube is a Star: Online Video Site could Help Create Old-Media Celebs, Too*. Washington Post, May 1, 2006. Retrieved 20 May, 2008, http://www.washingtonpost.com/wp-dyn/content/article/2006/04/30/AR2006043001040_pf.html.
- Green, MC, Hilken, J, Friedman, H, Grossman, K, Gasiewski, J, Adler, R & Sabini, J 2005, 'Communication Via Instant Messenger: Short and Long-Term Effects', *Journal of Applied Social Psychology*, 35 (3), 445-462.
- Greenfield, P & Subrahmanyam, K 2003, 'Online discourse in a teen chatroom: New codes and new modes of coherence in a visual medium', *Journal of Applied Developmental Psychology*, 24 (6), 713-738.
- Gross, EF 2004, 'Adolescent Internet Use: What we expect, what teens report', *Applied Developmental Psychology*, 25, 633-649.
- Gross, R & Acquisti, A 2005, *Information Revelation and Privacy in Online Social Networks (The Facebook Case). ACM Workshop on Privacy in the Electronic Society (WPES)*. Retrieved 20 September, 2008, from <http://www.heinz.cmu.edu/~acquisti/papers/privacy-facebook-gross-acquisti.pdf>.
- Ha, J, Kim, S, Bae, S, Bae, S, Kim, H, Sim, M, Lyoo, I & Cho, S 2007, 'Depression and Internet Addiction in Adolescents', *Psychopathology*, 40, 424-430.
-

Haddon, LG 2006, 'The Contribution of Domestication Research to In-Home Computing and Media Consumption', *Information Society*, 22 (4), 195-203.

Hargittai, E 2007, 'Whose Space? Differences Among Users and Non-Users of Social Network Sites', *Journal of Computer Mediated Communication*, 13 (1).

Hekkert, MP, Suurs, RAA, Negro, SO, Kuhlmann, S & Smits, REHM 2007, 'Functions of innovation systems: A new approach for analysing technological change', *Technological Forecasting and Social Change*, 74 (4), 413-432.

Hinduja, S & Patchin, JW 2008, 'Cyberbullying: an exploratory analysis of factors related to offending and victimization', *Deviant Behavior*, 29, 129-156.

Holbrook, M & Hirschman, E 1982, 'Hedonic consumption: emerging concepts, methods and proposition', *Journal of Marketing*, 46 (3), 92-101.

Hope, A 2006, 'School Internet use, youth and risk: a social-cultural study of the relation between staff views of online dangers and students' ages in UK schools', *British Educational Research Journal*, 32 (2), 307-329.

Hubbert, AR, Sehorn, A & Brown, SW 1995, 'Service expectations: the consumer versus the provider', *International Journal of Service Industry Management*, 6(1), 6-21

Jensen, C, Davis, J & Farnham, S 2002, 'Finding others online: reputation systems for online spaces', Proceedings of the SIGCHI conference on *Human factors in computing systems: Changing our world, changing ourselves*, Minneapolis, Minnesota, USA, 447-454.

Jones, C, Feerreday, D & Hodgson, V 2006, 'Networked Learning, a Relational Approach—Weak and Strong Ties', *Journal of Computer Assisted Learning*, 24 (2), 90-102.

Kanuga, M & Rosenfeld, WD 2004, 'Adolescent Sexuality and the Internet: The Good, the Bad, and the URL', *Journal of Paediatric Adolescent Gynaecology*, 17, 117-124.

Karch, M 2008, *YouTube Explained – Overview of the Google Video Sharing Tool*. Retrieved 20 September 2008, from <http://google.about.com/od/moreaboutgoogleleaps/p/youtubeprofile.htm>.

Kim, KH & Yun, H 2007, 'Cying for me, Cying for use: Relational dialectics in a Korean social network site', *Journal of Computer Mediated Communication* 13 (1).

Kolo, C & Baur, T 2004, 'Living a Virtual Life: Social Dynamics of Online Gaming', *Game Studies*, 4 (1).

Lacohée, H, Wakeford, N & Pearson, I 2003, 'A social history of the mobile telephone with a view of its future', *BT Technology Journal*, 21 (3), 203-211.

Lange, PG 2008, 'Publicly private and privately public: Social networking on YouTube', *Journal of Computer-Mediated Communication*, 13 (1). Retrieved 10 May, 2008, from <http://jcmc.indiana.edu/vol13/issue1/lange.html>.

Lee, CKC & Conroy, DM 2005, 'Socialisation through Consumption: Teenagers and the Internet', *Australasian Marketing Journal*, 13 (1), 8-19.

-
- Lee, MO, Cheung, CMK & Chen, Z 2005, 'Acceptance of Internet-based learning medium: the role of extrinsic and intrinsic motivation', *Information and Management*, 42 (8), 1095-1104.
- Lenhart, A, Madden, M, Macgill, A & Smith, A 2007, *Teens and Social Media, Pew Internet and American Life Project*, Retrieved 28 May, 2008, http://www.pewInternet.org/pdfs/PIP_Teens_Social_Media_Final.pdf.
- Ling, R & Baron, NS 2007, 'Linguistic Comparison of American College Data', *Journal of Language and Social Psychology*, 26 (3), 291-298.
- Lyons, T & Tilling, M 2004, 'Popular Youth Attitudes to Globalisation', *Social Educator*.
- Matsuba, MK 2006, 'Searching for Self and Relationships Online', *Cyberpsychology and Behaviour*, 9 (3), 275-284.
- Mayer, A & Puller, SL 2007, *The Old Boy (and Girl) Network: Social Network formation on University Campuses*. Retrieved 20 May, 2008, from <http://ideas.repec.org/a/eee/pubeco/v92y2008i1-2p329-347.html>.
- Miles, MB & Huberman, AM 1994, 'Qualitative data analysis', *Qualitative Inquiry*, 2, 320-336.
- Office of Communications (Ofcom) 2008a, *Media Literacy Audit: Report on UK's children media literacy*. Retrieved 22 August, 2008, from http://www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrss/ml_childrens08/ml_childrens08.pdf.
- Office of Communications (Ofcom) 2008b, *Social Networking: A quantitative and qualitative research report into attitudes, behaviours and use*. Retrieved 10 August, 2008 from http://www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrss/socialnetworking/report.pdf.
- Olsen, S 2005, *Google vs. Yahoo Clash of Cultures*. Retrieved 20 August, 2008 from http://www.zdnet.com.au/insight/software/soa/Google-vs-Yahoo-Clash-of-cultures/0,139023769,139198113,00.htm?feed=pt_google.
- Organisation of Economic Cooperation and Development (OECD) 2006, *Regular computer users perform better in key school subjects*. Retrieved 10 May, 2008, from http://www.oecd.org/document/17/0,2340,en_2649_201185_35992849_1_1_1_1,00.html.
- Owston, RD 1997, 'The World Wide Web: A Technology to Enhance Teaching and Learning', *Educational Researcher*, 26 (2), 27-33.
- Raacke, J & Bonds-Raacke, J 2008, 'MySpace and Facebook: Applying the Uses and Gratifications Theory to Exploring Friend-Networking Sites', *CyberPsychology and Behavior*, 1192, 169-174.
- Reid, M & Gray, C 2007, *Online Social Networks, Virtual Communities, Enterprises and Information Professionals: Notable Social Networking Sites. Searcher*. Retrieved 20 August, 2008, from http://www.infotoday.com/searcher/jul07/Reid_Grey_WebsitesTable.pdf.
-

Reynolds, TJ & Gutman, J 1988, 'Laddering theory, method, analysis and interpretation', *Journal of Advertising Research*, 28 (1), 11-31.

Rhodes, JE, Spencer, R, Saito, RN & Sipe, CL 2006, 'Online Mentoring: The Promise and Challenges of an Emerging Approach to Youth Development', *The Journal of Primary Prevention*, 27 (5), 497-513.

Richards, R 2005, *Users, Interactivity and Generation*. Retrieved 20, July, 2008 from <http://www.user-production.co.uk/papers/cpg.pdf>.

Rolfe, J & Gilbert, M 2006, 'Youth, new media, technology and communication', *Young Consumers*, 3, 15-21.

Shields, M 2008, 'All the Kids are Doing It', *Mediaweek*, 18, 23.

Softpedia 2008, *Stories About: MMORPG*. Retrieved 10 August, 2008, from <http://news.softpedia.com/newsTag/MMORPG>.

Subrahmanyam, K 2007, 'Adolescents on the net: Internet use and well-being', *Adolescence*, 42 (168), 659-677.

Suler, J 2005, *Adolescents in Cyber Space: The Good, The Bad, The Ugly*. *Psychology of Cyberspace*. Retrieved 10 May, 2008, from <http://www-usr.rider.edu/~suler/psycyber/adoles.html>.

Suler, J 2004, 'Computer and Cyberspace Addiction', *International Journal of Applied Psychoanalytic Studies*, 1, 359-362.

Thompson, D, Baranowski, J, Cullen, K & Baranowski, T 2007, 'Development of a theory-based Internet program promoting maintenance of diet and physical activity change to 8-year-old African American girls', *Computers and Education*, 48, 446-459.

Thomson, S & De Bortoli, L 2007, *Exploring scientific literacy: How Australia measures up. The PISA 2006 survey of students' scientific, reading and mathematical literacy skills*. ACER: Melbourne.

Thulin, E & Vilhelmson, B 2007, 'Mobiles everywhere: Youth, the mobile phone, and changes in everyday practice'. *Young*, 15 (3), 235-253.

Tung, F & Chang, S 2007, 'Exploring Adolescents' Intentions Regarding the Online Learning Courses in Taiwan', *CyberPsychology & Behavior*, 10 (5), 729-730.

Victorian Scrutiny of Acts and Regulation Committee 2005, *55th Parliament: Inquiry into Electronic Democracy—Final Report*. Retrieved 28 July, 2008, from http://www.parliament.vic.gov.au/SARC/E-Democracy/Final_Report/Final_Report.pdf.

Von Hippel, E 1986, 'Lead Users: A source of novel products concepts', *Management Science*, 32 (7), 791.

Vromen, A 2007, 'Australian young people's participatory practices and Internet use', *Information, Communication and Society*, 10 (1), 48-68.

Whitlock, JL, Powers, JL & Eckenrode, J 2006, 'The Virtual Cutting Edge: The Internet and Adolescent Self-Injury', *Developmental Psychology*, 42 (3), 1-11.

Willard, NE 2007, *Cyberbullying and Cyberthreats: Responding to the Challenge of Online Social Aggression, Threats, and Distress*. Retrieved 11 August, 2008, from http://findarticles.com/p/articles/mi_6889/is_5_14/ai_n28482999.

Wu, C & Lee, GC 2005, 'Use of Computer-Mediated Communication in a Teaching Practicum Course', *International Journal of Science and Mathematics Education*, 2 (4), 511-528.

Ybarra, ML & Mitchell, KJ 2005, 'Exposure to Internet Pornography among Children and Adolescents: A National Survey', *CyberPsychology & Behavior*, 8 (5), 473-486.

Yee, N, Bailenson, JN, Urbanek, M, Chang, F & Merget, MS 2007, 'The Unbearable Likeness of Being Digital: The Persistence of Nonverbal Social Norms in Online Environments', *CyberPsychology & Behavior*, 10 (1), 115-121.