Mobile communication and the protection of children

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4 Mobile communication and potential hazards

When considering communication as an integral element of all living beings, we see communication expressing itself in a myriad of forms. The Internet is described as the best example of modern communication technologies. Its significance as a medium of modern communication has encouraged the development of other communicative yet distinct technologies, such as instant messaging (IM), chat rooms, on-line gaming, social networking, and peer-to-peer sharing.

Before the advent of Internet-enabled mobile phones, access onto the on-line world was via fixed phone lines from a fixed location. It is apparent, that the personal computer will no longer be the main point of entry to the cyber-world. Conversely, it can be said that the mobile phone or its more advanced "brother", the smart phone, is no longer seen merely as an instrument for vocal communicative purposes over short and long distances. Indeed, the convergence between the Internet and the mobile technologies has resulted in establishing the mobile phones and their supporting networks as a significant part of the communicative component. This has led to a profound difference in the way children and young people are accessing the on-line world. In fact, two defining characteristics of this new form of communication are the *mobility* and the *interaction* it provides. As far as mobile communication is concerned, it is apparent that the advent of this form of communication is manifested in all spheres of life where communication is the heart of human activity. This was succinctly stated by ECPAT in their 2005 working draft.

> "The plummeting cost of mobile phones and improved access to satellite links are smoothing the way for many more people to enter into a new communications era, regardless of the availability of fixed phone lines and desk-top computers".[1]

Instead, children and young people will join the on-line world through their mobile phones. We see this new phenomena of youngsters accessing the on-line world via mobile phones evidenced in, for instance, a survey conducted in

1 Working Draft on Cyberspace as a Locale of Violence, ECPAT International 2005 available at www.ecpat.org

the UK in 2008 by Nielsen On-line.[2] The survey revealed that 25% of mobile Internet consumers are aged between 15 to 24 years, compared to 16% for PC-based consumers.[3] It is apparent that the technological advances in mobile communication have given rise to a number of developments. We mention four of them: (1) the creation of new mobile devices such as the Apple iPhone, (2) the development of new operating systems for mobile devices, such as Windows Mobile and Google's Android, (3) the development of Adobe Flash for mobile platforms, and (4) data download plans which will greatly reduce the cost of Internet connection on mobiles. Moreover, we note the launch of a "Facebook phone" called INQ1 by mobile phone company 3. For £15 a month, INQ1 users will obtain unlimited Facebook and Skype calls, as well as access to Windows Live Messenger, and up to 1GB a month of web access, plus unlimited texts, and unlimited electronic mail. We surmise that the developments mentioned would not have materialised without the availability and, perhaps, the affordability of greater bandwidth. Data from OECD shows that broadband users are active on the Internet more than PC-based consumers with up to 27% of the users using broadband for playing or downloading games and music, and 29% sending and receiving electronic mail.[4] Despite these beneficial developments, the launch of the technological advanced mobile communication devices with broadband network connection also herald the rise of many of the same concerns as PC-based Internet has shown. Our line of reasoning supported by three observations is as follows.

1 The endearing attributes of the mobile phone to children and young people (1a) personal items, (1b) independence, and (1c) social networking and relationships.
2 The security and continuous communication are viewed by parents and child carers as an asset.
3 The rapid diffusion of mobile phones as a result of (1) and (2) has facilitated the migration of potential hazards (seen in terms of concerns in the form of content, contact and commercialism) from a fixed location to a more mobile less supervised platform.

While it can be said that continuous communication and interaction is one of the primary reasons for the phenomenal success of mobile phones, we observe that some children and young people appear not to recognise (and appreciate) the harm that may befall them through their communication and

2 Mobile Internet growth 8x greater than PC-based Internet growth, Nielsen On-line, November 2008, Nielsen On-line, available at http://www.nielsen-on-line.com/pr/pr_081124_uk.pdf
3 Supra.
4 The Future of Internet Economy, OECD Policy Guidance for Addressing Emerging Consumer Protection and Empowerment Issues in Mobile Commerce, June 17-18, 2008, Seoul, Korea, available at http://www.oecd.org/document/19/0,2340,en_2649_34255_38051667_1_1_1_1,00.html

interactions they make. We mention three instances of how this might happen: (1) a youngster may make and send pornographic or inviting images of himself or herself via the mobile phone, (2) a child may innocently post personal details on sites, and (3) a child may meet someone on-line and may make arrangements to meet the person face-to-face. Moreover, we observe that the technology has empowered children and young people to act more boldly than they would act in real life. For example, the mobile phone's mobility, portability, and its personal characteristics provide the opportunity for a child bully to transcend the physical locations of the school ground and school premises to harass and bully their victims in the privacy of the victim's own bedroom. Technology has created a very small distance between the bully and the victim, resulting in the failure of the bully to recognise the real harm and distress caused to others as a result of their bullying and harassment. Unlike face-to-face bullying in the real world, bullies in on-line bullying and harassment do not see the painful effect that their actions have on victims since they are created by technological means such as the electronic mail, hateful websites, posting of photographs taken via camera phones, and intimidating SMS.

Further we observe that the integration of location-based services with mobile phones may facilitate and may make more expedient the potential hazards of sourcing and grooming and contact crimes by exploitative adults. While parents and child carers may see the benefits of such services in tracking and monitoring children, LBSs may be abused in its application by other non-well-meaning individuals. The service also raises privacy concerns and may encourage greater aggressive marketing tactics and spamming activities towards youngsters.

In other words, the mobile phone has provided greater access (and intrusion) to the youngsters' most intimate and private settings, thus increasing their risk of exposure to hazards.

This chapter is a preparatory chapter for Chapter 5 in which RQ1 is addressed. Chapter 4 investigates and attempts to evaluate (1) existing potential hazards in the on-line world that are readily available and accessible to children and young people via wireless communication technology, such as mobile telephony; and (2) the implications of the hazards on children and young people.

The chapter starts with the diffusion of mobile telephony (Section 4.1) and the factors that contribute to its rapid diffusion. Children and young people's use of the mobile is discussed under the title: "The younger generation and mobile telephony" (Section 4.2). Having considered attributes of the mobile phone, we briefly describe the content available on the Internet emphasising cyberspace and the potential hazards (Section 4.3). In Section 4.4, child protection concerns are addressed. Three important sections related to the concerns deal with them explicitly and show the potential dangers. We will call them the three C's. They discuss content (Section 4.5), contact (Section 4.6), and commercialism (Section 4.7). Chapter conclusions are given in Section 4.8.

4.1 Diffusion of mobile telephony

In this section, we describe the diffusion of mobile technology since 2000 and the factors that contributed to such a rapid diffusion. The factors enunciated are (a) anytime, anywhere (Subsection 4.1.1), (b) staying in perpetual contact (Subsection 4.1.2), and (c) safety and security (Subsection 4.1.3). Our section conclusion follows in Subsection 4.1.4.

Sale figures of mobile phone handsets have seen an enormous growth in recent years. For example, research firm Gartner reported that worldwide sales of mobile phones surpassed 1.15 billion in 2007, a 16% increase from 2006 (i.e., 990 million units). Sales reached 294.3 million units in the first quarter of 2008, a 13.6% increase from sales as compared to the same period in 2007. It is expected that the sales will reach more than 309 million units in the third quarter of 2008.[5] This is a 6% increase compared to the third quarter of 2007.[6] The US Consumer Electronics Association expected a 1% increase in demand for mobile phones compared to a 3.9% increase in demand for audio and video equipment.[7] The take-up rate of mobile telephony in terms of subscription has also increased exponentially in recent years. At the end of 2007, there were 3.33 billion mobile subscribers globally compared to approximately 1.16 billion in 2005,[8] representing 72% of the total number of telephone subscribers in the world.[9] The statistics thus indicate that wireless communication is diffusing faster than any other communication technology.[10] This is not to suggest that mobile telephony subscriptions have served as communication substitutes for

5 Gartner: 2008 Phone Unit Sales to Rise, Economy Weighs, available at http://www.cellular-news.com/story/31409.php?source=newsletter. Finnish mobile phone Goliath Nokia heads the list for top sellers of mobile phone units with sales of 115.2 million representing a market share of 39.1% during the first quarter of 2008, with Korean manufacturer, Samsung Electronic selling 42.4 million units with a market share of 14.4%.

6 www.gartner.com/it/page.jsp?id+612207

7 Mobile phone demand to grow, October 2008, ITFacts, Mobile Usage; available at http://blogs.zdnet.com/ITFacts/?cat=4. However, it is observed that due to deepening economic concerns, the global mobile phone market is expected to experience a growth rate of 3% down from an earlier forecast of 6% by an UBS analyst. See Analysts cut 2009 cell phone growth estimates, October 2008; available at www.reuters.com/article/technologyNews/idUSTRE4969vw20081007?feedType=RSS&feedName=technologyNew&rpc=69

8 3,331,003.3 (000) represents the total number of mobile subscribers in the five continents in 2007 – Africa 37,036.5 (000) (year 2002), 272,679.0 (000) (2007); Americas 255,451.3 (000) (2002), 658,417.4 (000) (2007); Asia 443,937.2 (000) (2002), 1,490,071.2 (000) (2007); Europe 405,447.7 (000), (2005), 882,824.3 (000) (2007); and Oceania 15,458.9 (2005), 27,001.4 (000) (2007) – See http://www.itu.int/ITU-D/icteye/Reporting/ShowReport.aspx?ReportFormat=PDF&ReportName=%2FWTI%2FCellularSubscribersPublic&RP_intYear=2007&RP_intLanguageID=1&ShowReport=true

9 Supra.

10 Castells, M., Fernandez-Ardevol, M., LinChuan, J.Q., and Sey, A., (2007) *Mobile Communication and Society*, (eds.), MIT Press, Cambridge, Massachusetts.

fixed (land) lines.[11] On the contrary, mobile phones are seen as complementary to the traditional telephone. Although, a number of factors exist that contribute to the diffusion of mobile telephones we have singled out three main factors. They are mentioned at the beginning of this section and will be discussed below.

4.1.1 Anytime, anywhere

As with the Internet, mobile telephony is changing the way individuals conduct their lives. Justifiably, mobile telephony is having a significant impact on transforming the work, family, and social aspects of our lives, by providing us mobility and convenience. Mobile telephony keeps us in continuous communication with our co-workers, family, and peers. We are always in touch; always reachable, anytime, anywhere. This new age phenomenon of being "reachable anytime, anywhere" is facilitated in the myriad forms of communication associated with mobile technology. The forms include (1) short message service (SMS), (2) instant messaging, and (3) video messaging. In addition to the conventional voice telephony, an Internet-enabled mobile keeps you in continuous touch via the use of electronic mail communication. Although mobile phones were initially adopted by field workers, these devices are seen as an ubiquitous necessity accessory for anybody.[12]

In the business world, mobile telephony adds value to the way business is conducted: the employee remains continuously in touch with his office and his employer.[13] However, this innocent conduct of 'being in continuous touch' is often seen as an employer's surveillance of his employees' productivity and whereabouts. It is neither uncommon for employers to use mobile communication as a means of monitoring his employee's time management skills, nor is it uncommon for the employer to control every employee's activity by using mobile communication as a 'wireless leash'.[14] As Kim observed, "managers can constantly check if their salesperson are working properly outside the company, while employees find less opportunity to slacken off".[15] Such a

11 It must however be noted that in some economies like China, one contributing factor to the high diffusion rate of mobile technologies is based on the historical inadequacies in the telecommunication infrastructure.

12 Castells, M., Fernandez-Ardevol, M., LinChuan, J.Q., and Sey, A., (2007), *Mobile Communication and Society*, (eds.), MIT Press, Cambridge, Massachusetts.

13 Supra.

14 See Laurier, E., (2002), The Region as a Socio-technical Accomplishment of Mobile Workers, in Brown, B. et al., (eds.), *Wireless World: Social and Interactional Aspects of Mobile Age*, p. 46-61, London: Springer referred to in *Mobile Communication and Society*, Castells et al. (eds.), (2007), p. 80, MIT Press, Cambridge, Massachusetts.

15 Kim, S-D., Korea: Personal Meaning in Katz and Aarkhus (eds.), *Personal Contact: Mobile Communication, Private Talk, Public Performance*, p. 63 -79, Cambridge University Press referred to in supra Castells et at. n. 12.

permanent connectivity results in the blurring of lines between work and play.[16] Indeed with the modern age society, there is a social expectation that one is always connected and contactable almost instantly. This is aptly expressed by a Professor of Psychology from the University of Michigan, Prof. David Meyer, when he said "The social norm is that you should respond within a couple of hours, if not immediately. If you don't, it is assumed you are out to lunch mentally, out of it socially, or don't like the person who sent the e-mail."[17] Consequently, despite the convenience and connectivity that the mobile phone provides, the technology is regarded as one of the contributing causes of increased stress in the society's fast lane since users feel they need to be contactable and must always answer the phone.[18] As shown above, there are benefits and drawbacks of being reachable anytime and anywhere. For us, at this point of research it is important to establish that 'anytime, anywhere' is a truth that must be seriously included in our investigations.

4.1.2 Staying in perpetual contact

Co-related to the mobile phone's element of 'anytime, anywhere', is its perpetual connectivity. Thus, owning a mobile phone is important even if you are not using it in the course of your work. In the family front, the perpetual connectivity can be seen in terms of, for example, monitoring the activities and whereabouts of children and the elderly. The technology is very helpful in co-ordinating family activities and errands, such as when and where to pick up the children from their school activities,[19] or the elderly ones from their bingo, and bridge sessions, or merely informing the other user to pick up a loaf of bread on the way home. Ling (2004) sees this 'micro-coordination' as an integral part of family life.

> "Micro-coordination is the nuanced management of social interactions. It can be seen in the re-direction of trips that have already started, it can be seen in the iterative agreement as to where and when we can meet friends, and it can be seen, for example, in the ability to call ahead when we are late to an appointment".[20]

16 Supra Kim n. 15.

17 Lohr, S, (2009) *Smart phones rises fast from gadget to necessity*, The New York Times, Technology, June 9, 2009, available at http://www.nytimes.com/2009/06/10/technology/10phone.html?_r=1

18 Calloway,J., Technology, Stress and the Lawyer's Quality of Life, article by Oklahama Bar Association, available at http://www.okbar.org/members/map/articles/technology.htm; see also 'Five of the Biggest Stress at Work and What To Do About Them', available at http://www.dreamcatcher-lifecoaching.co.uk/causesofstressatwork.pdf

19 It is not uncommon for parents to be 'on call' to pick up their children from school practices or social outings on the weekends.

20 Ling, R., (2004) *The Mobile Connection: The Cell's Phone's Impact on Society*, Morgan Kaufmann, San Francisco, CA.

The use of the mobile phone as a form of social reinforcement was supported in a study in 2006 by the Mobile Youth Life.[21] The study found that 25% of the 11-to-17-year-olds agree that the mobile phone had kept them in frequent contact with their grandparents. This is further confirmed by 45% of grandmothers who thought that the devices strengthen their communication with the younger generation.[22] In fact, 78% of those surveyed credited the use of mobile phones to better social lives since contact is easily maintained.[23] The mobile phone's ability to strengthen relationships is more apparent in separated or divorced families. Funston and Hughes (2006), for example, found that many children under the age of 18 from separated or divorced families found the mobile phones useful (1) in contacting or staying in touch with their non-resident parents when their parents are in conflict, or (2) where they have to worry about the feelings of their resident parent when contacting the other.[24]

Obviously, the immediate extension of anytime, anywhere is using the opportunity to be in contact with the other. In daily life, we have established that 'staying in perpetual contact' is a logical follow-up of anytime, anywhere. In family life this extension is much appreciated, in the employer-employee relations it is not yet applied to such a large extent. While we do believe the benefits of perpetual connectivity are significant, we remark that perpetual connectivity provided by the mobile phones serves as a double edged sword for both parents and their children. On the one hand, it serves as a 'digital leash' for children and young people who are expected to be contactable by their parents at all times and on other hand, the mobile is seen as an 'umbilical cord' linking parents to their children which the parents are unable to cast off.[25]

4.1.3 Safety and security

In addition to staying in perpetual contact, safety is one of the main reasons parents invest in a mobile for their children and the elderly. More parents than ever are viewing the mobiles as vital tools in supervising their children's behaviour, giving them peace of mind, and making them feel safer.[26] Personal safety is one of the main factors for diffusion of mobile technologies. This

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21 The Mobile Youth Life Report, (2006), The Carphone Warehouse: available at http://www.yougov.com/archives/pdf/CPW060101004_2.pdf

22 Supra.

23 Supra.

24 Funston, A and Hughes, K., (2006) Use and value of ICTs for separated families, *Telecommunication Journal of Australia*, Vol. 56(2) p.76-85 in Weerakkody, N.D., (2008) Mobile Phones and Children: An Australian Perspective, *Issues in Informing Science and Information Technology*, Vol. 5 p. 459-475

25 Supra.

26 Withers, K., Mobile have key roles for the young, Institute for Public Policy Research, BBC News, 22 October 2006, at http://news.bbc.co.uk/2/hi/technology/6070378.stm

became more apparent in the aftermath of the tragic incident of September 11. Soon after the incident, the status of the mobile phone was elevated to being regarded as a lifeline.[27] Since then the mobile is widely recognized as a personal safety and security device in times of emergencies. The emergencies can range from personal, private emergencies, such as (1) seeking assistance in repairing a flat tire in the middle of the night, via (2) reporting a crime scene, to public emergencies, such as (3) locating survivors due to natural and man-made disasters like earthquakes, hurricanes, floods, collapsed mines, and buildings.

4.1.4 Section conclusion

Having considered briefly, three main factors that led to the diffusion of mobile telephony in society (i.e., anytime, anywhere; staying in perpetual contact; and safety and security), we may conclude that the mobile phone plays a pivotal role in society's communicative practices.

4.2 THE YOUNGER GENERATION[28] AND MOBILE TELEPHONY

In this section we will (1) analyse the younger generation's use of the mobile telephony, and (2) the importance they place on their mobile phones. In this regard, we see the younger generation's use of the mobile phone in establishing their own (1) culture, (2) identity, (3) norms, and (4) language. For our analysis, we start discussing the attributes of the mobile phone. They are evaluated under the following headings: personal expression (Subsection 4.2.1), independence (Subsection 4.2.2), and (c) social networking and relationships (Subsection 4.2.3). In Subsection 4.2.4, we describe common youth traits.

One of the main drivers of the phenomenal success of mobile phones is its high adoption rate amongst the younger generation.[29] This section will

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27 See the mobile increased significance and corollary with that the increased in consumer ownership of mobile phones in the aftermath of September 11 in Dutton, W. H and Nainoa, F, Say Goodbye …let's roll, the social dynamics of wireless networks on September 11', 2003, *Prometheus*, 20 (3), p. 237 – 245.

28 The younger generation in this context will be used to describe children and young people between the ages of 7-to-17. In this respect, the terms 'youth', 'younger generation' and 'children and young people' will be used interchangeably to reflect individuals between 7-to-17 years. In most jurisdiction, these are individuals regarded generally as minors or below 18 years of age.

29 Three are numerous surveys conducted in the U.K. on the ownership of mobile phones amongst children. A sample of the surveys are as follows: (1) OFcom, the U.K.'s communications regulator, reported that 82% of 12-to-15-year-olds owned a mobile phone while just under half (49%) of 8-to-11-year-olds had one. (2) In another U.K. survey conducted by Intuitive Media in association with New Media Age amongst 1500 children, 53% and 72% of children between ages 8-to-9 and 7-to-13 respectively had their own mobile phones. See

evaluate the factors that contribute to that success. Moreover, it will consider the difference (if any) which exists between the younger generation's use of the mobile and its use by the working and family strata of society.

Working adults were the first strata of society to adopt the use and functionalities of the mobile phone.[30] The mobile phone, however, is no longer the sole domain of that class. The family strata soon followed the working strata. Thereafter, the mobile diffused quite rapidly, as a result of the younger generation's embrace of the technology. This is fueled by (1) their openness to new technology, (2) their willingness to adopt, and (3) their willingness to apply the new technology in their daily lives.

It is common knowledge that the younger generation is more adept at understanding and utilising the functions and capabilities of new technologies and the resulting devices than the older generation.[31] The widespread adoption and utilisation of the mobile phone by the younger generation can be seen from a relatively early age. However, despite the fact that children from the ages of 7-to-10-years do not fully utilise the mobile for vocal communication, this practice changes significantly when the children enter the pre-teen and teen years.[32] Within this age group, that is the pre-teen and teen

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http://www.intuitivemedia.com/cc.html . (3) In a 2006 Mobile Youth survey conducted by Yougov of more than 1,250 young people in the U.K., it has been reported that 51% of 10 years olds and 70% of 11 years old own their own phones: see http://www.yougov.com/archives/pdf/CPW060101004_2.pdf

In Germany, a representative poll of 923 children and adolescent by the institute, Synovate Kids + Teens (formerly known as Institut für Jugendforschung [Institute for Youth Research]) indicates that two thirds of 11-to-12-year-olds in Germany have their own mobile phone whilst in the age group of 9 to 10 years, 37% owned a mobile, 6 to 8 years, 8% and in the age groups of 13 to 14, 89% own a mobile phone. See http://www.heise.de/english/newsticker/news/77934

In Italy, the Save the Children survey showed that 31% of 5-to-13-year-olds had mobile phones. The level of ownership increased to nearly 100% for age groups 14 to 18. Poland's Nobody' Children Foundation indicated 92.1% of 12-to-17-years-olds owning a mobile phone. See European Commission summary of results of public consultation on "Child Safety and Mobile Phone Services" available at http://ec.europa.eu/information_society/activities/sip/docs/public_consultation/public_consultation_results_en.pdf

In the U.S., according to a 2004 study by TNS, nearly one-third of the children have their own mobile phones whilst 48% of children from Europe have their own mobiles. See http://www.textually.org/textually/archives/003582.htm; see also http://www.rcrnews.com/cgi-bin/news.pl?newsId=17768

30 In fact, the mobile phone was once more commonly used by people who job functions and responsibilities requires them to travel and not be stationed at one location for example, sales personnel, truck drivers and the police. See Lundin, J., and Nulden, U., Coordinating police work with mobile information technology, available at http://www.ituniv.se/~lujoha//Johan%20Lundin/Publications_files/Choosing%20device%20v1.pdf

31 Keegan, E., (2004) Technology Keynote: The Millenials are Coming, MetropolisMag.com, June 2004, available at http://www.metropolismag.com/cda/story.php?artid=533

32 Children between the ages of 7-to-10-years seem to be more interested in the games application on the mobile phone rather than its communicative element. According to the survey by the Young People and ICT Survey carried out in England for the Department for

years, the mobile phone is seen as an important communication tool with their peers. For this age group, communication with respect to their use of the mobile is also a means of teasing one another. This is done for instance by sending empty SMS and text messages, or by sending a boom call.[33] As stated above, the mobile phone has three main attributes that endear it to the younger generation: (1) personal, (2) independence, and (3) social networking and relationships.[34] We will deal with each attribute below.

4.2.1 Personal expression

The mobile phone has evolved within five years from the appearance where it was bulky and cumbersome with short battery life to the current lightweight handsets with multifunctional capabilities. This has provided new generation mobile phones with two distinct advantages: (1) mobility and (2) portability. Both advantages make the device an item that you have with you at all times; it is a technology which we never leave at home and go out. Ling (2001) and Kasesniemi (2003) see the "wearability" of the mobile as an attractive feature to users much like the watch.[35] In ten years, we have seen a transformation

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Education and Skills in September and October 2002, 41 per cent of girls and 30 per cent of boys aged 5-to-18, and in full-time education, owned a mobile phone. Ownership increased with age: 12 per cent of children aged 7-to-11 owned a mobile phone compared with 52 per cent aged 11-to-14 and nearly 70 per cent of children aged 14-to-18. See http://www.statistics.gov.uk/STATBASE/ssdataset.asp?vlnk=7202&More=Y

In Germany, a representative poll of 923 children and adolescent by the institute, Synovate Kids + Teens (formerly known as Institut für Jugendforschung [Institute for Youth Research]) indicates that two thirds of 11-to-12-year olds in Germany have their own mobile phone whilst in the age group of 9-to-10 years, 37% owned a mobile, 6-to-8 years, 8% and in the age groups of 13-to-14 , 89% own a mobile phone. See http://www.heise.de/english/newsticker/news/77934

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33 A boom call is a mobile phone call that is not designed not to be answered. The purpose of a boom call is to remain in contact; to inform the receiver that the caller is thinking of the receiver or is teasing him.

34 Mobile Youth Culture in Castells et al. (eds.), *Mobile Communication and Society*, 2007, MIT Press, Cambridge, Massachusetts , supra n.12.

35 Ling, R., "It is 'in'. It does not matter if you need it or not, just say you have it": fashion and domestication of the mobile telephone among teens in Norway in L. Fortunati (eds.), Il corpo umano tra technologie, communicazione e moda. Milan: Triennale di Milano referred to in Castells (eds.), *Mobile Communication and Society*, supra n. 12. See also Kases-

of the mobile phone from purely a communicative tool of the new age to an instrument of self awareness and public display.[36] Further, the mobile is no longer seen as a fashion accessory but rather a way of expressing one's own personal identity; an extension of one's individual self.

Katz (2006) opines that the mobile phone is an intimate and personal device; an item to demonstrate 'coolness', and an absolute 'must have' to 'stay in tune' or remain 'in the loop' with members of the peer group. The device is therefore considered more important than computers and televisions. Katz (2006) further suggests that those without mobile phones are regarded as the new generation social outcasts. Disconnected from their peers, they risk social isolation. To children and young people, mobile phones are portals to friendship and social networking, a means of social status and the keys to self image.[37]

Children protect their mobile phones by keeping them under their pillows and share their mobile phones by permission only. Mobiles are kept away from other siblings' prying eyes.[38] Parents are also frequently excluded when children are reading their text messages received.[39]

It is common for youths to personalise their handsets to reflect theirs needs and tastes. This is done for instance by downloading ring-tones, wallpapers, icons from websites maintained by mobile service providers or other content providers, changing mobile handset covers, and making pouches in which the handsets can be kept and carried.[40] Accordingly, we see the mobile technology becoming closely involved in the process of personal identity construction of the younger generation. Understandably, this fact was stated by Mobile Youth in its 2002 report, "The mobile phone is an icon of the youth generation". Therefore, it is appropriate to say that the mobile is an icon and expression of individualism. This brings us to the second endearing attribute of the mobile: independence.

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niemi, E.L., (2003) *Mobile Messages: Young People and a New Communication Culture*, 1st Edition, Tampere University Press, Tampere.

36 Katz and Sugiyama, Mobile Phones as fashion statements: the co-creation of mobile communication's public meaning in Ling, R and Pedersen, P., (eds.), *Mobile Communication: Re-negotiation of the Social Sphere,* p. 63-81, Springer, Surrey, U.K.

37 Katz, J., (2006) Staying connected, South China Morning Post, April 1 2006.

38 Vincent, J., (2005) Examining Mobile Phone and ICT Use amongst Children aged 11-to-16, Digital World Research Centre, University of Surrey, available at http://www.surrey.ac.uk/dwrc/People/Vincent.htm

39 Supra.

40 In China, young people customize their handsets by using "hand-phone cosmetics made from small beads, crystals and feathers. They are commonly made in the shape of "Hello Kitty" and "Garfield". See Yue, Z., Mobile phone demonstrates individuality: new expression of today's hand-phone culture. Beijing Morning Post 24 February, 2003: available at http://www.mobile.tom.com/Archive/1145/2003/2/24-53731.html

4.2.2 Independence

Closely linked with the concept of individualism (i.e., the personal attribute) is the concept of independence. Independence is more evident and is more strongly expressed by the younger generation. The youth's assertion of independence was used as a marketing tool by one of Japan's foremost mobile companies, i.e., NTT Docomo. A key leader in NTT Docomo's marketing force aptly expressed the youth's assertion of independence, in their promotion of the 'i-mode' as follows.

> "For me, 'i mode' is a declaration of independence; it is the 'I' mode, not the company mode (…). This is me in individual mode (…). The 'i' in the 'i-mode' is about the Internet and information, but it is also about identity".[41]

To the younger generation, independence is reflected in the freedom from (1) continuous parental or adult supervision in activities, and (2) regulation that stems from supervision. One example is in the use of the fixed (land) line telephony which is normally located in a family oriented setting such as the living or family room. The freedom from supervision and regulation facilitates privacy, craved by younger generation mobile users. For example, 52% out of 1,477 6-to-13-year-olds surveyed used their mobile phones without supervision.[42] Thus, the independence attribute of the mobile phone provides a pivotal dimension to the freedom that youths yearned, viz. one of greater freedom of movement and later nights out.

4.2.3 Social networking and relationships

Taken on a wider scale, the most important attribute of mobile communication is developing and maintaining social networks. In contrast to the earlier two attributes of the mobile phone, this third attribute is comparable to the staying-in-perpetual-contact factor previously discussed in Subsection 4.1.2.

The three factors which contribute to the diffusion of mobile telephony (1) anytime, anywhere, (2) communication and co-ordination of family activities, and (3) safety and security] are similarly applicable to the younger generation. For example, as far as the safety and security factor (80% of the 1,250 young people surveyed in the UK's 2006 Mobile Youth survey) reported that owning a mobile makes them feel safer when out and about shopping, socialising, and travelling to and from school or college.[43]

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41 'i-mode' is Japan's NTT Docomo mobile internet service. See http://www.nttdocomo.com; Stocker. T, 'The future at your fingertips', October 3 2000: available at http://www.tkai.com/press/001004_Independent.htm

42 2006 Intuitive Media survey.

43 *The Mobile Youth Life Report*, (2006), The Carphone Warehouse: available at http://www.yougov.com/archives/pdf/CPW060101004_2.pdf

The use of SMS (texting) adds to the uniqueness of the mobile phone, because "unlike voice calls, which are generally point to point and engrossing, messaging can be a way of maintaining ongoing background awareness of others, and of keeping multiple channels of communication open".[44] The use of SMS texting, a non-verbal form of communication is greatly applied in maintaining and re-inforcing social networking and relationships. This is demonstrated in 74% of 11-to-17-year olds who regularly send or receive SMS as compared to 14% who used the mobile for making calls (the 2006 Mobile Youth Survey).[45] Surveys have also shown the usefulness of SMS in removing awkwardness and embarrassment that comes with face-to-face circumstances.[46] Youngsters rather communicate behind the safety of virtual anonymity than speak face to face with the party at the other end. The mobile phone is thus perceived as a method to relay thoughts and feelings without having to see the intended recipient. As one youngster states "I do have a SMS relationship with a female friend but when we bump into one another, I am usually tongue-tied". Since it is so common for youngsters to develop a relationship via the mobile phones, it is not surprising that 25% of 11-to-17-year-olds received a text message inviting them for a date. This figure is doubled for the 16-to-17-year age group where text messages were sent to end a relationship.[47]

4.2.4 Common youth traits

In fact we can argue that the reason why mobile phones are particularly endearing to the younger generation is because the three attributes of the mobile phone: (1) personal, (2) independence, and (3) social networking and relationships, discussed above is synonymous with the traits of youth. Common youth traits include (in their preferred order): (1) the desire for independence (freedom), (2) personal identity (individualism), (3) connectivity (maintaining contact), and (4) community (a sense of belonging). Thus from our observations, we see the traits of youth reflected in (a) the attributes of the mobile telephony, and (b) its usage amongst the youth. Consequently, we may conclude that it is the youth's identification with the mobile phone that is a main contributing factor in the exponential growth of mobile telephony amongst the younger generation.

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44 Ito, Okabe and Matsuda, M., (2005) *Personal, Portable and Pedestrian: Mobile Phones in Japanese Life*, MIT Press, Cambridge, Massachusetts.

45 Supra n. 43.

46 Sohu-Horizon Survey: available at http://www.it.sohu.com/2004/02/19/96/article 219129623.shtml, See also Greenspan, R., IM usage nearly doubles, available at http://www.clickz.com/stats/markets/wireless/article.php/3400661

47 Supra Vincent, n. 37

4.3 New communication technology – the potential hazards

In this section, we briefly describe two sides of the same coin (1) the positive effects of new technologies (Subsection 4.3.1) and (2) a multitude of hazards (Subsection 4.3.2). In Subsection 4.3.3 two main hazards of end users are discussed. Finally, in Subsection 4.3.4, it is established that the greatest hazard is not quantifiable.

4.3.1 The positive effects

New communication technologies are often met by public concerns on their impact on children and young people. The concerns are not new, e.g., Buckingham (2008) suggests "a perpetual recurrence" of questions that have been studied historically in relation to new forms of media (and communication technologies) as they are developed.[48] The questions are usually centered on moral values typically in relation to violence and sex. However, there are beneficial effects experienced as a result of new media and communication technologies. For example, we mentioned earlier cyberspace which is seen as (1) an on-line world built around networks and systems and (2) a spatial sphere very much alive with the users' activities and experiences. With creative inputs and contributions by many users, cyberspace continues to be an expanding and enriching experience. For the greater part, a user's experience of cyberspace is positive even though we may distinguish two types of reason for a positive reaction. On the one hand, the reaction is positive for education, for research, as a business platform, as a marketing tool, or for the pursuit of entertainment and leisure. On the other hand, it may be positive for straightforward reasons, such as merely for purposes of communication. Communication in this sense, encompasses a full range of (1) sharing information, (2) forming new friendships, (3) re-inforcing older relationships, (4) exchanging experiences, and (5) merely keeping in touch.

4.3.2 A multitude of hazards

We have, however, observed that the benefits of the new technology are not "stand-alone" benefits, since they are and can often be strongly co-related with the hazards. The hazards take a variety of forms and can affect individuals and organisations in different ways. For example, content producers are

48 Buckingham, D., (2008) The Impact of Media on Children and Young People with a particular focus on the Internet and video games, prepared for the *Byron Review on Children and New Technology*, available at www.dcsf.gov.uk/byronreview

concerned with the unauthorised use, and distribution of content.[49] Organisations are also experiencing significant losses due to confidential data leakage.[50] Research conducted by the Enterprise Strategy Group reported that although the biggest threat comes from malicious and negligent insiders, there is an increasing concern that the organisation's intellectual property is likely to leak via traffic on the network, such as the electronic mail and the web.[51] In comparison to content providers, the concern of network operators stem from concerns that terminal devices, and the user's data application may be affected by viruses,[52] worms,[53] and Trojans horses.[54] Generally, a virus attack can cause damage by (a) corrupting the data, (b) deleting files, (c) causing systems to crash, (d) initiate denial of service attacks, and (e) leave Trojan horses, resulting in heavy financial losses.[55] A virus attack is costly for two main reasons. First, viruses and worms are costly to isolate and remove manually. They force businesses and IT staff to spend time deleting large volumes of spam e-mail, reactively patching and cleaning systems, and loading hot fixes, and anti-virus software.[56] Second, a virus attack disrupts business continuity.[57]

In addition, according to the network equipment manufacturer, Cisco, the disruption caused by the virus attacks can seriously damage the organisation's

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49 Grant, I., (2006) Telecoms – Convergence Challenge, *Infosecurity* Today, Vol. 3, Issue 3, May-June 2006, p. 19-21; available at http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B7GWT-4K3N2JD-9&_user=13304&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C000001598&_version=1&_urlVersion=0&_userid=13304&md5=b623beed9742224fe8a93f9f1857f282

50 One third of the organizations surveyed admitted to losing intellectual property. See Jaques, R., (2007) Intellectual Property Theft Spreading fast, March 2007, ITNews, available at http://www.itnews.com.au/News/NewsStory.aspx?story=46935

51 Supra.

52 A computer virus is a computer program that can copy itself and infect a computer without permission or knowledge of the user. A virus can only spread from one computer to another when its host is taken to the uninfected computer, for instance by a user sending it over a network or the Internet, or by carrying it on a removable medium such as a floppy disk, a CD or a USB drive. Viruses can also spread via the email, the World Wide Web and file sharing programmes. Some of the more well known virus attacks were caused by Code Red virus, I Love You virus and Melissa virus. See http://en.wikipedia.org/wiki/Computer_virus

53 Worms are different from viruses in that they are self replicating programmes; using the network to send copies of itself to other unsuspecting terminals. Unlike viruses, worms do not need to attach themselves to an existing programme. They can damage the network merely by consuming bandwidth. See http://en.wikipedia.org/wiki/Computer_worm

54 Trojan horses are harmless until executed. The Trojan unloads hidden programs, commands, scripts, or any number of commands with or without the user's knowledge or consent. See http://en.wikipedia.org/wiki/Trojan_Horse_%28Computing%29

55 Technical Overview: Preventing Worm and Virus Outbreaks with Cisco Self Defending Networks; available at http://www.cisco.com/en/US/solutions/collateral/ns340/ns394/ns171/net_implementation_white_paper0900aecd801e009f.html

56 Supra.

57 Supra.

prestige and customer goodwill.[58] This was confirmed in a Computer Crime and Security Research Survey conducted by the Computer Security Investigation in participation with the San Francisco Federal Bureau of Investigations (FBI) Computer Intrusion Squad in 2006, which cited that virus attacks are the leading cause of financial losses.[59] Trojan horses may be launched by a virus. They are harmful as they can interfere with anti-virus and firewall programs, erase data, and allow remote access to a victim's computer. Thus, we may state that viruses, worms, and Trojan horses are hazards which may have the effect of causing a significant financial loss by infecting and destroying the system. While this may true of computer viruses, the threat to corporate infrastructure caused by *mobile viruses* cannot be underestimated. This threat arises from the common fact that the majority of mobile devices are brought into the organizations by individuals who had purchased them independently, rather than being issued as part of a coordinated IT department roll-out. The devices can thus be used as a transmission medium from which organizations can be infected.[60] With more sensitive data beginning to be stored in mobile devices, so is the threat of a malicious mobile virus code. Thus, the hazards that affect computers are equally prevalent in mobile phones.

4.3.3 Two main hazards for end users

Although there are a number of hazards to be faced by end users, we briefly describe two main concerns: (1) invasion of privacy, and (2) identity theft. First, invasion of privacy has been a cause of increasing concern amongst users of new technology and is the subject of much debate and regulation (both by statute and case-based law).[61] Second, identity theft resulting in losses is a hazard commonly faced by individuals. It is closely related to the invasion

58 Supra.

59 The top four categories of causes for financial losses are virus attacks, unauthorized access to networks, stolen/ loss of laptops and mobile hardware and theft of intellectual property. Despite the anonymous nature of the survey, only 50% of those organizations surveyed revealed actual financial losses due to breaches of security. See Virus Attacks Named Leading Culprits of Financial Loss by U.S. Companies in 2006, CSI/FBU Computer Crime and Security Survey, available at http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/07-13-2006/0004396284&EDATE

60 Jaques, R., (2004), The Dangers of Mobile Viruses, May 2004; available at http://www.v3.co.uk/vnunet/features/2129936/danger-mobile-viruses

61 It has been argued that invasion of privacy can encompasses surveillance technology, e-mail surveillance, excessive e-mail and SMS spam messages via on-line marketing tactics, and radio frequency identification tags (RFID). See for example, Schermer, B.W., Software agents, surveillance, and the right to privacy: a legislative framework for agent-enable surveillance, 2007, Leiden University Press, Netherlands., Risen, J. and Lightblau, E., E-mail surveillance renews concern in Congress, June 2009, The New York Times, available at http://www.nytimes.com/2009/06/17/us/17nsa.html?_r=1,. See also The Sorting Door Project – a project which explores the various issues of radio frequency identification including privacy and Surveillance; available at http://www.sortingdoor.com/

of privacy. An example of identity theft is electronic mail fraud where the electronic mail is used as a medium to perpetuate fraud.[62] A relatively new form of identity theft is phishing.[63] Phishing works by the fraudster sending an electronic mail to convince consumers to share or disclose their user names, passwords, and personal financial information for the purpose of using it to commit fraud. Identity theft fraud caused by phishing attacks has caused great concern since these attacks have resulted in considerable financial losses. However, despite numerous reports on the financial losses suffered,[64] a recent Microsoft study revealed that such losses were overestimated. According to Microsoft, US victims lose US$ 61 million a year instead of US$ 3.2 billion reported by Gartner in 2007.[65] Nonetheless, notwithstanding the accuracy of the estimate of financial losses incurred, we accept that phishing does cause economic loss. What it indicates is that individual users are not spared from either (a) an infringement of their rights or (b) from financial losses caused by the hazards as a result of continuing abuses of the new technology.

4.3.4 The greatest hazard is not quantifiable

The effects of the hazards described so far have been economic and financial losses. They are quantifiable, although it may be difficult to do so. However, in comparison with the losses suffered by the adult individuals and organisations, we submit that the hazards arising as a result of advancements made in new communication technologies in so far as children and young people are concerned have an equally, if not more damaging effect. Yet, they are with the current means not quantifiable. We mention here as an example, the invasion of privacy. We describe below, the exposure of the younger generation to the new technologies. We do so from an early age and note that as the children and young people mature, their sophistication in the use of the new technological devices and applications increases.

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62 What is Email Fraud? What Can I Do About It?, Knowledge Base, University Information Technology Services, Indiana University; available at http://kb.iu.edu/data/afvn.html. See also Email Scams, Phishing and Fraud; available at http://antivirus.about.com/od/emailscams/Email_Scams_Phishing_and_Fraud.htm

63 Phishing (or personal information scam) is a term used to describe the action of assuming the identity of a legitimate organisation, or web site, using e-mail or web pages and is regarded as one of the most common form of e-mail fraud.

64 Gartner: (2007) Phishing losses up $3.2 million, December 2007, Bank Technology News, available at http://www.americanbanker.com/btn_article.html?id=200712184RBWEMTG, Leyden, J., U.K. banking fraud rises to £301.7 million, available at http://www.theregister.co.uk/2008/10/01/uk_banking_fraud_soars/Phishing losses hit $3.2 billion in 2007 – Gartner, December 17, 2007. The survey was conducted on more than 4500 on-line U.S. adults, around 3.6 million U.S. adults fell victim and lost money in phishing attacks in the 12 months ending in August 2007, up from 2.3 million adults the year before. See http://www.finextra.co.uk/fullstory.asp?id=17871

65 Espiner, T., (2009) Microsoft: Phishing losses greatly overestimated, January 2009, ZDNet, U.K., available at http://news.zdnet.co.uk/security/0,1000000189,39589445,00.htm

Children and young people are no strangers to modern communication technologies having been weaned on them. It is common for children and young people to employ these technologies from their home, school, club, libraries, street cafes, shopping malls, and cybercafés. Indeed, it is not uncommon for children to spend a large part of their daily lives in the on-line world since the Internet, the WWW (world wide web), and other applications are used regularly to communicate with their peers. Children and young people are regular users of Instant Messaging (IM). They frequently chat on-line, electronic mail friends and family, play interactive games, download music and movies, do their homework, and perform other activities. However, we observe that it is with the regular use of these technological functionalities and applications that we arrived at establishing potential hazards that are not quantifiable. We will deal with these hazards in the remainder of this Chapter.

4.4 Child protection concerns

New technological innovations in communication technologies and devices, such as mobile phones, are not inherently harmful. We have seen the virtues of such devices in the previous sections. Despite the benefits, the devices may also be used in ways and for purposes that go beyond their original intended purpose. Whether intentionally or inadvertently, harm can be caused to children and young people whom we view as vulnerable strata of our society. In the following sections, we will investigate the potential mental hazards or key mental concerns that can be brought about by mobile phones. We will group the key areas of concern under three headings: (a) Content (Section 4.5), (b) Contact (Section 4.6), and (c) Commercialism (Section 4.7).[66]

As an aside, we mention one other related yet distinct concern for the younger people, i.e., the health concern. As society progresses with new technological innovations, the risk of harm resulting from the use of the innovations justifiably increases. For example, the use of mobile phones has given rise to health concerns. One such concern is whether the electromagnetic radiation emitted by mobile phones can have a stronger effect on children than adults.[67] In a recent study by brain surgeon Dr. Vini Khurana, it was claimed that the risk of brain tumours doubles for mobile phone users. Dr. Khurana

66 Also known as the "3Cs": see www.child-net.org.

67 For adults there have been claims that prolonged use of mobile phones lead to headaches, nausea, problems with concentration, cancer and brain tumour. See Mobile phones and young brain, The Age, January 26, 2008, available at http://www.theage.com.au/news/mobiles--handhelds/mobile-phones-and-young-brains/2008/01/26/1201368996791.html, also Can Mobile Phones Harm Children?, available at http://www.safekids.co.uk/MobilePhoneHarmChildren.html

warns "(…) that the danger has broader health ramifications than asbestos and smoking and directly concerns all of us particularly young children".[68]

It is clear that health concerns are not restricted to mobile phone usage. There are growing concerns that youth using other technological devices, such as the MP3, are experiencing hearing loss, a loss that is generally experienced in individuals of 50 or 60 years of age. Although, research into this health concern is continuing, there are unconfirmed reports that this might be due to being played loud music on MP3 players.[69] These concerns are physical concerns that are in addition to the mental harm that computers and other new technologies might have on children.[70] These concerns, however, are not the focus of our study and will not be dealt with.

4.5 CONTENT

We have observed from numerous studies that children and the youth can be exposed to various forms of harm: (1) through the use of new technological devices and (2) through the experiences they encounter whilst in the virtual world.[71] The studies have indicated that the experiences encountered are manifold and are not restricted to inappropriate materials accessible via the mobile phone.[72]

In this section, we will consider mobile content, i.e., (a) content available on the mobile service providers portal and (b) content that is accessible via the mobile phone. In this regards, we see issues of indecency and appropriateness that were often debated in conventional media, such as the television, film, and the print media (magazines and periodicals), emerging on the mobile platform. With content seen as the main driver of the new generation mobile phones, content developers are striving to meet and satisfy the demands of

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68 Thomson, I., (2008) Mobiles more dangerous than smoking, April 1 2008, available at www.vnunet.com/vnunet/news/2213238/mobile-phones-dangerous

69 Fisher, M.J., (2007) Experts worry about Harm to Hearing from MP3 Players, The Sydney Morning Herald, January 4, 2007 available at http://www.smh.com.au/news/digital-music/experts-worry-about-harm-to-hearing-from-mp3-players/2007/01/04/1167777193761.html. Also, see Healy, Jane. M., Failure to Connect: How Computers Affect Our Children's Mind – For Better or For Worse, Kindle edition.

70 See Children and Computer Technology: Analysis and Recommendations, available at http://www.futureofchildren.org/usr_doc/vol10no2Art1.pdf, also Wireless laptop may harm children, April 2007, available at http://www.metro.co.uk/news/article.html?in_article_id=47055&in_page_id=34&in_a_source=

71 The experiences in the virtual world may transpose itself or migrate to the real world. For example, a child may be abused following an initial contact made via the Internet enabled mobile phone. See further discussion on sourcing children and grooming in Section 2.6.1.

72 See An Evaluation of Getting to know IT all, Policy document, April 2006, 'Fair game? Assessing commercial activity on children's favorite websites and on-line environments, Policy document, December 2007; available at http://www.childnet-int.org/publications/policy.aspx

mobile users.[73] As a case in point, analysts predict that mobile content and the entertainment market in Western Europe alone will reach 32 billion euros by 2012.[74] The report expects games, sport, music, and multi-media downloads to lead the way, with adult content providing "an important revenue stream".[75] Consequently, we surmise that there can be a lack of vigilance and a callous attitude on the part of content developers and providers in return for increased profits.

With that in mind, content will be discussed in terms of two expressions of content (Subsection 4.5.1). It will be followed by a matter of grave concern (Subsection 4.5.2) inappropriate materials (Subsection 4.5.3), appetite for adult material (Subsection 4.5.4), pornography (Subsection 4.5.5), and incidence of exposure to pornography (Subsection 4.5.6). Finally, content in terms of mobile gaming will be discussed in Subsection 4.5.7.

4.5.1 Two expressions of content

Before we investigate the types of content, the better approach would be to consider the terms used in this context. The common verbal pairing of the term "illegal and harmful" have been the subject of both a national and an international debate as to what the term actually means, or rather, what the term encompasses? Assistance can be sought in the 1996 European Commission on Communication on Illegal and Harmful Content on the Internet. Below we discuss the notions (A) "illegal content" and (B) "harmful material" separately. We consider the two different expressions of a word that we would like to change.

A: Illegal content

"Illegal content" is said to reflect the illegality of the material, where the utterance or the publication of such material attracts criminal penalties.[76]

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73 It has been reported that mobile content is seen as a catalyst for the sales of new mobile phones to recoup the heavy investments made on 3G spectrum licenses. See Mobile Entertainment in Europe: Current State of Art, A European Commission User Friendly Information Society Accompanying Measures Project, 2003; available at www. knowledgehut.fi/projects/mgain/MGAIN_wp3-d311-delivered.pdf

74 Mobile content in Western Europe to reach 32 billion euros in 2012, September 1 2005, available at http://www.moconews.net/?p=3377. See also Mobile content market is booming, July 11, 2005 at http://www.theregister.co.uk/2005/07/11/mobile_content_triples/

75 Despite great optimism on the growth of mobile content, growth was reported to be slowing down in the United States. A Forbes Lifestyle Feature reported that reasons for the lagging growth of mobile content include unimaginative marketing and the failure of carriers to identify a lucrative niche audiences and their to their interests, see Tercek, R., Mobile Going Slow, May 18, 2006 available at http://www.forbes.com/2006/05/17/mobile-content-tercek_cx_rt_0518mobile_ls.html

76 Communication to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions COM(1996) 487 http://www.ispo.cec.be/legal/en/internet/communic.html

Examples of illegal material include child pornography, terrorist activities, incitement to racial or hatred discrimination, violence, and money laundering. Material that is illegal is defined by the laws of each jurisdiction. There is, however, more consensus in respect of content that is considered illegal than there are for harmful materials.[77] This is illustrated, for example, in child pornographic materials where the materials are universally banned irregardless of the consumer's age or the jurisdiction in which he lives (see below).

B: Harmful material

In contrast to "illegal content", the term "harmful material" is more vague, in that it is dependant more on the 'local culture'. Hargrave and Livingstone (2006) suggest that harm is widely (though not necessarily) conceived in objective terms; harm is taken to be observable by others, irrespective of whether harm is acknowledged by the individual concerned.[78] Hence, Hargrave and Livingstone opine that harm is measurable in a reliable fashion.[79]

However, it should be noted that what might be considered harmful in one jurisdiction or locality might not be so in another. This is most appropriately expressed in the 1996 European Commission document.

> "What is considered to be harmful depends on cultural differences. Each country may reach its own conclusions in defining the borderline between what is permissible and not permissible (…)".[80]

Moreover, seen from a scientific point of view we should also take into account that the notion "harmful material" is challenged by the fundamental law of expressing a free opinion. The question here is: to what extent is one allowed to express a harmful free opinion? Here the balance between "harmful" and "free opinion" should be settled by a new legal framework. This implies that some harmful free opinions are seen to be illegal.

In the circumstances mentioned above, material that "offends the values and feelings of others" and materials that are only dangerous when exposed to children and young people will be classified as "harmful material".[81] The latter, that is, materials that are dangerous when children and young people are exposed to them are materials that are generally not prohibited by law. These materials are accessible and consumed by the adult population but the provision of access of these material to children and young people becomes

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77 Note that the terms "banned" or "prohibited" can and is sometimes used in place of "illegal".

78 Hargrave A.M and Livingstone S., (2006) *Harm and Offence in Media Content: A Review of the Evidence*, Intellect Books, Bristol, U.K.; available at http://www.lse.ac.uk/collections/media@lse/pdf/Harm%20and%20Offence,%20summary.pdf

79 Supra.

80 Supra European Commission Communication 1996, n. 76.

81 Supra n. 76.

a matter of anxiety and grave concern. A good example is pornography (see Subsection 4.5.5). The concern expressed is the effect that the material might have on the physical, mental, and psychological development of the younger, immature generation to whom the materials are exposed.

4.5.2 A matter of grave concern

Despite the differences between the two expressions of content, both "illegal" content and "harmful" material are two sides of the same coin. What is important to note is that, both these contents are easily available and accessible by children and the young people. A matter of grave concern is that a majority of the inappropriate material is unwanted, i.e., the material is neither voluntarily sought nor solicited. Below, we will consider four types of content available on the Internet. They are mentioned in the beginning of this section.

4.5.3 Inappropriate materials

The Internet provides a vast database for inappropriate and potentially harmful materials. Deciding what is inappropriate is not an easy task since the decision is influenced by many factors such as the age, experience, environment, values, beliefs, and culture of the person making that decision. The perception of what is inappropriate also varies from one family to another. Notwithstanding, we provide a non-exhaustive list of what is generally accepted as inappropriate sites for children and young people. These sites include suicide sites,[82] do-it-yourself sites on how to make a bomb,[83] terrorists' sites, hate speech sites, and pornography. High on the list of inappropriate materials are pornography sites or sites which contain a relatively high degree of explicit sexual content. Pornography will be discussed in section 4.5.5. In the following Subsection we will briefly consider the demand for adult material.

82 For example, The Church of Euthanasia site. The Church professes four pillars which are a) suicide, b) sodomy, c) abortion, and d) cannibalism. See http://www.churchofeuthanasia.org/press/st_louis_suicide.html. See also "Ten common methods of suicide" at http://listverse.com/health/top-10-ways-to-commit-suicide/. There have been concerns over the recent spate of teenage suicides in Wales, United Kingdom. It was reported that the teenagers had used the Internet to research and discuss suicide amongst themselves. The government is considering changes to the law. See Suicide sites to be investigated, January 26, 2008 at http://www.thesun.co.uk/sol/homepage/news/article731078.ece

83 See for example, http://www.digg.com/gadgets/Kid_builds_homemade_rocket_launcher. On fact, the social networking site YouTube has some sites which shows how bombs are made.

4.5.4 Appetite for adult material

The market and profitability for adult content is huge. Experience drawn from the Internet and Wireless Application Protocol (WAP) indicated a strong upward demand from such content. Statistical evidence confirms this upward trend. For example, a study by market analyst Juniper Research indicates that the adult mobile content market is set to reach US$ 5 billion by 2013 with video chat services expected to be the largest contributor.[84] The expected revenue for 2008 is US$ 2.2 billion.

The figure is expected to rise with newer generations of mobile phones possessing greater broadband, larger capacity, and more vibrant colours.[85] Juniper Research of the UK expects the worldwide mobile adult content market to be worth US$ 3.3 billion by 2011, up from its current level of US$ 1.4 billion.[86] This is a significant increase on forecasts by Informa Telecoms and Media in 2007, which predicted a market value of US$ 2.3 billion by 2010. A total of US$ 14.5 billion in revenue is expected to be generated by the adult mobile content sector over the next five years with Europe accounting for 39% revenue over this period. The study also estimates that video-based services will account for over 70% of revenue in the mobile adult content market by 2011.[87]

The studies demonstrate an upward trend in the consumption of adult materials. Thus, we may tentatively conclude that what is required is the adoption of measures restricting the access to the adult material for children and young people.

4.5.5 Pornography

We have previously observed that pornographic materials are considered harmful content. Although we have seen the easy availability of pornographic materials being offered in conventional forms, such as video tapes and printed material, the Internet provides an easier, more expedient form of access to these materials. Illicit material may include banned pornographic material, such as child pornography or hard core adult pornographic material that is legal but regarded as inappropriate and repulsive even for the adult audience. Recent research by OFCOM (the UK's Office of Communication) (2007) have

84 Savvas, A., (2008) Mobile adult content still swelling, Computer Weekly, December 10 2008, available at http://www.computerweekly.com/Articles/2008/12/10/233820/mobile-adult-content-market-still-swelling.htm

85 Reardon, M., (2006) Red Light District on a Tiny Mobile Phone, February, 2006 at http://www.news.com/Red-light-district-on-a-tiny-mobile-screen/2100-1039_3-6161930.html?tag=st.rn

86 Ryan, E., (2006) Mobile porn market set to explode, Electric News Net, November 27, 2006; available at http://www.electricnews.net/frontpage/news-9851932.html

87 Supra.

found sexual content to be one of the main concerns of 37% of parents of 8-to-17-year-olds. The concern was also mentioned by 28% of 8-to-17-year-olds as the issue they are most concerned about with the Internet.[88] Notwithstanding, studies have revealed that there are youngsters who do seek out such content. For example, a survey by Wolak, Mitchell, and Finklehor (2005) reported that the great majority of youth with *wanted* exposure were teenage boys. The report showed that more than 38% of the male Internet users aged between 16 to 17 years surveyed, had visited X-rate sites on purpose.[89]

4.5.6 Incidence of exposure to pornography

In this section, we deal with the incidence of exposure to pornography in two aspects: (A) involuntary and accidental visits and (B) unwanted exposure. We conclude the subsection by: (C) significance of surveys.

A: Involuntary and accidental visits

Searching for pornography is not just for the curious.[90] However, we admit that pornographic sites may be encountered involuntarily. Despite the US Supreme Court's opinion of the US *Communication Decency Act* that "the odds are slim (…) that a user would enter a sexually explicit site by accident (…), the receipt of information on the Internet requires a series of affirmative steps",[91] research has indicated that in contrast to 13% of those surveyed having admitted to voluntarily visiting sex related sites, 34% were exposed to the sites without taking 'affirmative steps'.[92] Internet users (including children and young people) may be tricked into visiting these sites by capturing users searching for non-sexually related websites. Others are trapped when they mis-type innocent looking names of websites, such as 'whitehouse.com' or 'disnie.com'.

We observed that it is not uncommon for a child's attention to be diverted to pornographic sites via (1) spam mail and (2) pop-up advertisements on

88 OFCOM, (2007) *Children and the Internet: Consumer Panel Report*, London.

89 The 2005 survey was conducted amongst 1,500 young people between the ages of 10 and 17. See Wolak, J., Mitchell, K.,. and Finklehor, D., (2007) Unwanted and Wanted Exposure to On-line Pornography in a National Sample of Youth Internet Users, February 2007, *Pediatrics*, Vol. 119, No. 2.

90 In a 2006 Internet Review Statistics, it was indicated that the average age of first exposure to pornography is 11 years old. See http://internet-filter-review.toptenreviews.com/internet-pornography-statistics.html#anchor4

91 *Reno vs American Civil Liberties Union,* 117 S.Ct. 2329, 138 L.Ed 2d 874 1997.

92 Supra Wolak, Mitchell and Finkelhor supra n. 89. This is an increase of 5% and 8% respectively in a similar survey conducted by Wolak. J. Mitchell. K.J., and Finkelhor, D., in 2003. See Mitchell, K.J., Finkelhor, D., and Wolak, J., (2003) The Exposure of Youth to Unwanted Sexual Material on the Internet, Vol. 34, No. 3, March 2003, *Youth & Society*, p. 330 -358, Sage Publications.

interactive sites.[93] First, spam electronic mails are unsolicited electronic mails sent to unsuspecting Internet users with links to pornographic sites and images. For the curious child, this is sufficient to begin his exploration. Once a child enters a site, he may be 'mouse-trapped', into not being able to leave the site. Attempts to leave the site usually fails and the child will be led back to the same site or other pornographic sites. In fact, some sites configured the exit buttons so that clicking the button will take the user to other sexually explicit sites. A second way of introducing and exposing the inquisitive child is by using pop-up advertisements on interactive sites. Moreover, peer-to-peer (P2P) file sharing via on-line chat-rooms and newsgroups are also a popular means of attracting and diverting a child's attention. This was confirmed in the Wolak, Mitchell, and Finklehor's (2005) study where it was revealed that the risk of unwanted exposure to sexual materials increased with the use of file-sharing programs to download images.[94]Indeed, the risk of exposure to youths is increased by 20% when using such file-sharing programs.

B: Unwanted exposure

Wolak, Mitchell, and Finkelhor's (2005) survey also indicated that 34% of young people in the US who used the Internet regularly had experienced unwanted exposures[95] to sexually explicit pictures.[96] The researchers defined unwanted exposure to Internet pornography as "without seeking or expecting sexual materials, being exposed to pictures of naked people or people having sex when doing on-line searches, surfing the website and opening electronic mails or electronic mail links".[97] An earlier survey conducted by the same researchers, revealed that 32% of the images showed people having sex, with 7% involving violence in addition to nudity and sex.[98] 73% of these exposures occurred when young people were surfing the Internet. 27% occurred while opening electronic mails, or clicking links embedded in the electronic mails or instant messages.[99] 92% of those who encountered the offensive materials through electronic mail did so by opening messages from senders unknown

93 A survey was conducted by Symantec, an internet security firm in 2003. The survey conducted amongst 1,000 young people between the ages of 7 and 18 showed that 80% of them received spam on a daily basis. 47% of the spam received were from x rated websites. See www. symantec.com/press

94 Supra Wolak, Mitchell, and Finklehor, n. 89.

95 Note that the term 'unwanted exposure' can and may include 'inadvertent exposure'. Inadvertent exposure is defined as the tendency to be exposed to Internet pornography without the user's deliberate action. See Thornburgh, D., and Lin, H.S., *Youth, Pornography, and the Internet*, 2002, National Academy, Washington, DC.

96 Supra Wolak, Mitchell, and Finkelhor, n. 89.

97 See Mitchell, K., Finklehor, D., and Wolak, J., (2003) The Exposure of Youth to Unwanted Sexual Materials on the Internet: A National Survey of Risk, Impact and Prevention, 34 *Youth & Society* 2003, p. 330-358.

98 Supra n. 89.

99 Supra n. 89.

to them.[100] Further, 26% of surfing incidents was attributed to mouse-trapping instances, in which clicking on the exit buttons led the surfer to another sexually explicit site.[101] In 2006, Internet pornography statistics reported that 34% had received unwanted exposure to sexual material.[102] OFCOM reported that 12% of 5-to-7-year-olds and 16% of 8-to-17-year-olds had reportedly come across inappropriate content on the Internet in the first half of 2008.[103] This was supported by a recent study conducted by criminologists White, Gregory, and Eith (2008) which confirms the position that Internet users run the risk of accidental exposure to pornography via (a) electronic mail, (b) spam, (c) errors in typing URLs, and (d) key-word searches.[104] The criminologists continue by stating that "Although there are numerous software programs which offer parental controls in order to moderate content for children's viewing, children may still be inadvertently exposed to pornography and may subsequently seek out this material".[105] Such incidents of accidental exposure often result in user panic and distress especially if the user is not an adult and may result in feelings of being sexually harassed and fear in others.

C: Significance of studies

The studies cited above are significant in that they confirm three points: (1) the pervasiveness and proliferation of adult content material, (2) an upward trend in the incidence of unwanted exposure to pornography and unwanted sexual solicitation,[106] and (3) users need not actively seek such material; rather the material can be "exposed" to surfers who had no intention to access the material.

We may tentatively conclude that the rise in (2) justifiably reflects (2a) the increase in the time spent on-line by youngsters, (2b) rapid technological changes, such as faster broadband connections and digital photography, and

100 Supra n. 89.

101 Supra n. 89.

102 Internet Filter Review: Internet Pornography Statistics, 2006: available at http://internet-filter-review.toptenreviews.com/internet-pornography-statistics.html#anchor4

103 See www.ofcom.org.uk

104 White, L., Gregory, C., and Eith, C., (2008) The Impact of Accidental Exposure to Cyber-pornography on Sexual Offending Among Youth: A Case Study, Paper presented at the annual general meeting of the American Society of Criminology, Royal York. Toronto, November 9, 2008; available at http://www.allacademic.com/one/www/research/index.php?cmd=www_search&offset=0&limit=5&multi_search_search_mode=publication&multi_search_publication_fulltext_mod=fulltext&textfield_submit=true&search_module=multi_search&search=Search&search_field=title_idx&fulltext_search=%3Cb%3EThe+Impact+of+Accidental+Exposure+to+Cyberpornography+on+Sexual+Offending+Among+Youth%3A+A+Case+Study.%3C%2Fb%3E&PHPSESSID=fffaec3085fffe269730b1d91108f6fa

105 Supra.

106 Researchers Mitchell, Ybarra and Finklehor reported a decline in passive sexual solicitation, aggressive sexual solicitation i.e., solicitation that most likely would evolve to crimes of contact offline registered an increase in incidence. See supra.

(2c) aggressive marketing strategies of pornography merchants.[107] In fact, in relation to (3) and (2c), we observe that the aggressive marketing strategy is part of the strategy in a competitive business employed by the adult sites to drive traffic to their sites.[108] Using such a strategy the materials need not be requested for but are rather "pushed" towards the young users, enticing them to consume the material.

4.5.7 Mobile gaming

Further and in addition to pornography, there is an increasing concern in the gravity of violence that is emerging in on-line games[109] and in videos clips shared between and amongst youngsters. For example, according to a German 2006 JIM study, exchanging violent video via the mobile phone is a common practice of German adolescents. One out of three mobile phone owners has friends who have had violent video sent to them. 7% have themselves received violent videos. However, this section will focus on violent mobile games since mobile gaming is a major revenue source for the mobile gaming industry.

Mobile phone games have come a long way since Snake was first embedded in Nokia devices in 1997. Though the market for mobile phone on-line games has not reached the levels experienced by the adult content market, statistics has indicated that the market for the mobile gaming sector will increase in the near future. It is apparent that the mobile gaming industry is seen as a growth industry with revenues reportedly hitting US$ 4.5 billion in 2008.[110] Mobile application retailer, Handango indicate in their market survey that games and entertainment have surpassed their mobile business and professional applications. Games accessible via the mobile phone provide children and young people with (1) immediate gratification, (2) peer influence,

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107 Mitchell, K. J., (2007) Trends in Youth Reports of Sexual Solicitation, harassment and unwanted exposure to Pornography on the Internet, *Journal of Adolescent Health*, p. 116-126

108 Some of the tactics used by these adult sites include a) Click-throughs: this is to increase the advertising revenue with every click. To increase the number of click-throughs, some sites use pop-up windows. Known as 'mouse napping,' this technique traps users in an endless loop of porn, b) Home page hi-jacking involves planting a Java script command on computers to change the user's default home page to a porn site, and c) using hidden key words that are picked up by search engines. Porn operators bury key words, including brand names of popular toys, in the code of their Web sites to attract children. See http://www.bewebaware.ca/english/pornography.aspx#impact

109 Video games are generally marketed primarily towards children. A number of video games attract the young audience by incorporating sexuality as the dominant theme where much of the action takes place in strip clubs and bars with scantily clad women. Examples of such videos include Playboy: The Mansion and Singles: Flirt Up Your Life. See Stock, P., (2004)The harmful effects on children of exposure to pornography, 2004 Canadian Institute for Education on the Family, available at www.cief.ca/pdf/harmpornography.pdf

110 Perez, M., (2008) Handango partners with mobile games publishers, Information Week, December 2008, available at http://www.informationweek.com/news/personal_tech/smartphones/showArticle.jhtml?articleID=212501891&subSection=All+Stories

and (3) the convenience of not having to carry an additional electronic gaming device.[111] This is further spurred on by developers of mobile phones who are increasingly customising their devices for games. Nowadays we see mobile phones with bigger screen displays, better sound quality, and a variety of game downloadable sites. In a 2006 Nielsen Entertainment research commissioned by Nokia to provide an overview of the gaming habits and what mobile users are looking for in their mobile phones, it was reported that 80% of the mobile phone gamers played mobile games at least once a week with 34% playing every day.[112] It is observed that mobile gaming is an popular feature of the mobile phones for two reasons: (1) games can be played anywhere whether you are on the move, waiting, or at home (this is evidenced by 61% who reportedly played games on the move, 56% whilst waiting and 61% whilst at home)[113] and (2) users need not have a separate games console like a PlayStation (PSP) to play mobile games. However, there is concern that the increasing violence in traditional video games will be created for mobile consumption. While there is no research data available on violent mobile games, we opine that the concern is real. We find support for our position by noting what the legendary Nintendo game designer, Miyamoto, correctly said in an interview with the UK's television channel, Channel 4.

> "I don't want to curb freedom of expression, but I am concerned that many developers focus just on excessive violence in order to stimulate people's mind". "I believe that there are more ways of grabbing players' attention than violence alone". (Miyamoto, 2008)[114]

We surmise that what is important to note is that despite the impending growth of mobile gaming there does not appear to be adequate monitoring by the relevant authorities to ensure that the games offered are suitably appropriate for the relevant age groups.

4.6 CONTACT

This section deals with the second area of key concern: contact. Contact is closely related to content (e.g., pornography). As such, contact will be con-

111 Petroff, P., (2004) Teens want m-everything – but at what price?, Wireless Week, April 22 2004; available at http://www.wirelessweek.com

112 Evolution of Mobile Gaming: Exploring worldwide gaming habits, December 2006, available athttp://www.forum.nokia.com/info/sw.nokia.com/id/c52ab94e-e29d-498a-a36a-e80296e4184a/Evolution_Of_Mobile_Gaming_1_0_en.pdf.html. The research was conducted amongst 1,800 respondents across 6 countries.

113 Supra.

114 Snow, B., (2008), Miyamoto concerned with violent video games, October 2008, Game Pro, available at http://www.gamepro.com/article/news/207575/miyamoto-concerned-with-violent-video-games/

sidered under three headings: (1) sourcing and grooming, (2) unwanted sexual solicitation and (3) bullying. More specifically, the section will briefly discuss how the Internet, in particular its anonymity and its interactivity in combination with the functionalities of new generation devices is adopted to fuel, and facilitate the process of sourcing, and grooming of children and young persons (Subsection 4.6.1). Further and in addition to sourcing and grooming, Subsection 4.6.2 briefly considers unwanted sexual solicitation. In Subsection 4.6.3, we discuss the purpose of paedophile activities. Finally, we consider a new form of peer bullying: cyber-bullying in Subsection 4.6.4.

4.6.1 Sourcing children and grooming

Traditionally, sex crimes against children have largely centered on abuse perpetrated by the child's family members or friends.[115] We observed how the Internet has expanded this circle of child abusers to people outside the family using two main attributes of the Internet: (1) anonymity and (2) interactivity.

A: Anonymity

For paedophiles, before the advent of the Internet, sourcing children was risky and required a well planned strategy. Paedophiles had to make physical visits to places frequented by children, such as children's playground, swimming pools, arcades, and school grounds. Paedophiles would also need to seek employment in jobs which provides the necessary contact with and exposure to children. The Internet has done away with these cumbersome measures. In their desire to contact children, paedophiles have taken advantage of the anonymity of the Internet to meet, entice, and exploit children and young people.

A number of investigations have shown a significant number of young people that have been contacted by strangers on-line. Research by Livingstone and Bober (2005) suggests that 31% of 9-to-19-year-olds who go on-line at least weekly, reported having received unwanted sexual comments via e-mail, chat, instant messenger or text message,[116] whilst researchers Peter, Valkenberg, and Schouten (2006) found age to be a discriminating factor, with 12-to-14-year-

115 Child sexual abuse, American Academy of Child & Adolescent Psychiatry, available at http://www.aacap.org/cs/root/facts_for_families/child_sexual_abuse. See also ECPAT's Child Pornography and Sexual Exploitation On-line, (2008) World Congress III against Sexual Exploitation of Children and Adolescents, Rio De Janeiro, Brazil, November, available at http://www.ecpat.net/worldcongressIII/PDF/Press_Release/ECPAT_WCIII_ENG.pdf

116 Livingstone, S and Bober, M., (2005) U.K. children go on-line: Final Report of Key Project Findings', 2005 London: LSE Research On-line; available at http://eprints.lse.ac.uk/399/

olds tending to talk to strangers on-line more than older teenagers.[117] In his research, Smith (2007) revealed that 32% of on-line teens have been contacted by someone with no connection to them or any of their friends. Nearly 23% say that they feel scared or uncomfortable as a result. Overall, 7% of the on-line teens experienced disturbing stranger contact.[118] Although evidence indicates the increasing potential dangers of meeting strangers off-line who they first met on-line, there is still a high proportion of young people who do so.[119] This suggests that there may be some lack of clarity about who is a friend, an acquaintance, or a stranger.[120]

B: Interactivity

In addition to anonymity of the Internet, paedophiles benefit greatly from interactive communication technologies such as Internet Relay Chats, on-line chat rooms and instant messaging. Chat rooms appeal to children and young people because of the chat room allows communication with many people of similar interest in real time. For the paedophile, chatting on.line enables him[121] to identify a naïve vulnerable child with the intention of developing a relationship with. Once the relationship develops to a point where the child is able to confide and trust the paedophile, the paedophile may then move to sexualise the contact. This is done by (1) persuading the child to perform sexual acts, or (2) having the child agree to be photographed participating in such activities.[122] Paedophiles are also becoming adept at using software applications available and this is seen in the increasing use of peer-to-peer (P2P) networks by paedophiles.[123]

4.6.2 Unwanted sexual solicitation

Studies have shown that youngsters who are on-line regularly whether via the personal computer or an Internet enabled mobile phone have received unwanted sexual solicitation. Researchers Mitchell, Wolak, and Finklehor (2007)

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117 Peter, J., Valkenberg, P., and Schouten, A., (2006) Characteristics and Motives of Adolescents talking with Strangers on the Internet, *CyberPsychology and Behaviour*, Vol. 9 (5) p.526-530; available at http://www.lieberton-line.com/doi/abs/10.1089/cpb.2006.9.526

118 Smith, A., (2007) Teens and On-line Stranger Contact, October 2007, available at www.pewinternet.org/PPF/r/223/report_display.asp

119 Byron, T., (2008) Safer Children in a Digital World: Byron Review, Children and New Technology, March 2008; available at http://www.dcsf.gov.uk/byronreview/pdfs/Final%20Report%20Bookmarked.pdf

120 Supra.

121 For brevity we use 'he' and 'his' when 'he' or 'she' and 'his' and 'her' are meant.

122 Carr, J., Child abuse, Child pornography and the Internet at www.nch.org.uk

123 P2P applications have become well known because of Napster. P2P are used to share files – music, video, software and other files but it is increasing used to traffick pornography. Other P2P applications using the same principle of file share and swapping include KaZaa, Morpheus and Gnutella.

defined unwanted sexual solicitation as requests (1) to engage in sexual activities or sexual talk or (2) to give personal sexual information that was unwanted by an adult.[124] The researchers suggest that the impact is no less severe than unwanted exposure to pornography (see Subsection 4.5.5).

4.6.3 Purpose of paedophiles' activities

This subsection discusses some of the reasons, why child pornography materials continue to fuel interest despite it being considered illegal, and is banned in most jurisdictions. The "demand" for these materials, will continue to provide a stimulus for individuals to use new technological means to source, and exploit children and young people. We seek to find the reasons by asking two questions. First, why do paedophiles seek out children and exploit them? Second, what is the purpose behind the paedophiles' activities? The answer to these two questions reads: paedophiles source and abuse children to (1) satisfy their own desire, and (2) for the purposes of grooming. Grooming in this sense is seen as a means to an end. It is regarded as an integral part of familiarising, and making the child a participant in child pornography. In addition, (3) paedophiles source and abuse children to add them to their collection of child pornographic materials.[125]

We have observed that a high number of cases progress from on-line contact to direct face-to-face sexual encounters. This is evidenced from Wolak, Finkelhor, and Mitchell's (2004) study which shows that 93% of face-to-face encounters entail illegal sexual contact between offenders and victims.[126] A great majority of victims (83%) who met offenders face-to-face willingly went elsewhere with them.[127] Wolak, Finkelhor, and Mitchell classified the victims who attended such face-to-face meetings with offenders as follows: (1) 40% were given illegal drugs or alcohol, (2) 23% were exposed to adult pornography, (3) 15% were exposed to child pornographic materials, and 21% were photographed in sexual poses.[128]

From the foregoing, we can appreciate how and why child pornographic materials (1) continue to fuel interest amongst paedophiles and (2) continue to be one of the great potential hazards of the mobile phone, and its applications. From the findings above, we may conclude that it is difficult for children

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124 Mitchell, K. J., (2007) Trends in Youth Reports of Sexual Solicitation, harassment and unwanted exposure to Pornography on the Internet, *Journal of Adolescent Health*, p. 116-126

125 Taylor, M. & Qualye, E., (2003) *Child pornography and the Internet*, Brunner-Routledge, Hove and New York, N.Y.

126 The survey was conducted 2,574 law enforcement agencies from which information from 1,723 cases were obtained. See Wolak.J., Finkelhor.D., and Mitchell K.J., (2004) Internet initiated sex crimes against minors: Implications for Prevention based on findings from a national study, *Journal of Adolescent Health*, Vol. 35, No. 5, p. 424.

127 Supra.

128 Supra.

and young people to avoid unwanted exposure and solicitation whether the encounter (a) is by exposure to adult materials, or (b) by being solicited on-line for a subsequent off-line encounter.

4.6.4 Cyber-bullying

Next to sourcing and grooming, a second element of contact is cyber-bullying. We have observed from our investigations (1) the disagreements in definitions of bullying and (2) the variety of definitions. The disagreements are well documented in the literature (Berger, 2007[129]; Stein, 2001[130]). Moreover the definitions may vary in many ways such as in (2a) type (Crick and Werner, 1998[131]), (2b) intentionality (Naylor et al., 2006[132]), (c) degree of seriousness (Rigby & Johnson 2006[133]), and (2d) reference period (Solberg and Olweus, 2006). However for the purposes of our study, we will adopt the definition put forward by Coloroso (2003).

Coloroso (2003) defines bullying as a conscious, willful and deliberate activity intended (1) to harm, (2) to induce fear through threat of further aggression, and (3) to create terror.[134] In simple terms, we regard bullying on the one hand as persistent unwelcome behaviour which includes teasing, deliberately ostracising someone to assaults, and abuse.[135] Cyber-bullying on the other hand, comprises "the use of information and communication technologies to support deliberate, repeated, and hostile behaviour by an individual or group, that is intended to harm others" (Belsey, 2008).[136]

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129 Berger, K.S., (2007) Update on bullying at school, 2007 Science Forgotten Review, Vol. 27 p. 90-126 in Langdon, S.W and Preble, W., (2007) The relationship between levels of perceived respect and bullying in 5th through 12 graders, *Adolescence*, Libra Publishers, Inc. p. 1-13, available at http://www.accessmylibrary.com/coms2/summary_0286-35987533_ITM?email=lwong@cityu.edu.hk&library=

130 Stein, N. Introduction, What a difference a discipline makes, 2001, Bullying research and future directions, in *Bullying behavior: Current issues, research and interventions*, R. A. Geffner, M. Loring, & C. Young (Eds.), New York: Haworth Maltreatment and Trauma Press, Haworth Press, Inc.

131 Crick, N.R.,and Werner, N. E., (1998) Response decision process in relational and overt aggression, Child Development, 69, p.1630-1639 in Langdon & Preble.

132 Naylor, P., Cowie, H., Cossin, F., de Bettencourt, R., and Lemme, F., (2006) Teachers' and pupils' definitions of bullying. *British Journal of Educational Psychology*, 76, p. 553-576 in Langdon & Preble.

133 Rigby, K., & Johnson, B., (2006) Expressed readiness of Australian schoolchildren to act as bystanders in support of children who are being bullied, *Educational Psychology*, 26, p. 425-440 in Langdon & Preble.

134 Colorosa, B., (2003) '*The bully, the bullied, and the bystander: From preschool to high school-how parents and teachers can break the cycle of violence*'. HarperCollins, New York, N.Y.

135 See http://www.besafeon-line.org/English/bullying_on-line.htm

136 Belsey,B., (2008) Cyberbullying, Always Aware, Always On, 2008 available at wwwcyber-bullying.ca

Traditionally, bullying was restricted to a place, for example, (1) at school, or (2) at one's workplace. However, our observations revealed that the 'net generation kids' are increasingly using the Internet and their mobile phones to antagonize, and intimidate others. Virtual bullying amongst young people has become more pervasive with the onset of new technologies. This is observed as more children and youngsters make the Internet chatroom, bulletin boards, and instant messaging a central part of their daily lives, it is clear that more children and youngsters will either use the new technologies as bullies or be victims as a result of the technologies. The mobile phone, for example, has taken bullying into a whole new dimension: one can now bully 'on the go', anytime, anywhere away from the watchful eyes of the authority. As far as children are concerned, this makes it difficult for schools and teachers (1) to intervene, (2) to monitor bullying cases, and (3) to provide immediate adequate counseling services to victims of bullying. For those bullied, home is no longer a safe refuge.[137]

On-line bullying (also known as on-line harassment) can take a number of forms: (1) by sending threatening or insulting electronic mails and text messages, (2) spreading comments by postings on websites,[138] and (3) the creation of a web page for the purposes of targeting and victimising the child victim. It is apparent that as more new technologically advanced devices are being developed, on-line bullying utilising these new functionalities will become commonplace. For example, the image or video of a bullying incident can be captured on the mobile camera, and circulated amongst members of the peer. It is possible to torment the victim of the bully further by posting the images and video onto a website specifically created for the purpose. We see this in a study conducted by researchers Ybarra, Diener, and Leaf (2007) where they reported that 32% of on-line teens have experience some form of on-line bullying/harassment. 15% of the teens have reported that private material (text or electronic mail about them) was forwarded to others without their permission, 13% have received threatening messages, 13% said someone had spread rumours about them on-line and 6% had embarassing photos of them posted on-line without permission.[139]Researchers Ybarra, Mitchell, Wolak, and Finklehor revealed that more than half the bullies or harassers are adolescents between the ages of 13 years old to 17 years old with 8% of

137 Supra.

138 In Louisiana, a 15 year old was arrested in January and accused of cyber-stalking for posting photos of a male student on a website. See Swatz. J., "Schoolyard bullies get nastier on-line", USA Today March 7, 2005: available at http://www.usatoday.com/tech/news/2005-03-06-cover-cyberbullies_x.htm. See also 'Cyber-bullying in Flanders' at www.viwta.be/files/executive%20overview%20cyberbullying.pdf

139 Ybarra, M.L., Diener-West, M., Leaf, P.J., (2007) Examining the Overlap in Internet harassment and School Bullying: Implications for School Intervention, *Journal of Adolescent Health*, Dec 41 6 Supp 1, p. 42-50.

them in the age of 10-to-12-year-olds.[140] The statistics reflecting the incidence of bullying and harassment in youngsters increase with age (1) as the technology becomes more accessible and (2) as they become increasingly aware of how technology can be abused. 30% of the youth targeted by on-line bullying reported that they feel extremely upset or afraid because of the incident.[141] Criminologist Patchin opines that cyber-bullying can have an even more detrimental effect on the victim than conventional playground bullying since "It's school-yard bullying taken to the next level". This is because for on-line bullying the number of people who can view something that is posted on-line is far greater than when compared to a bullying incident in real life. This is supported by psychologist Kowalski when he correctly opined that "It would be bad enough to be cyber-bullied by one kid and nobody else knew about it, but a video seen by hundreds or thousands of your peers could be devastating".[142]

Thus, we observe that cyber-bullying is not a passing concern or merely an incident being a new kid on the block. We have seen the tragic consequences that stem from such an activity. There is thus an urgent necessity for the community and the regulators to identify (1) the causes, (2) the impact, (3) the measures that should be adopted to reduce the incidence of cyber-bullying, and (4) the assistance to be provided to victims of cyber-bullying.

4.7 COMMERCIALISM

Commercialism is the third heading related to child protection concerns. The world cannot exist without commerce. However with commerce comes marketing. Both commerce and marketing are co-existent elements of market economy. As consumers, our senses are continuously influenced by all forms of media marketing.[143] This can be in the form of (1) visual moving images as in television commercials, (2) audio by way of radio advertisements, and (3) print media: newspapers, magazines, and periodicals. Generally, media marketing is tolerated since they do play a role in information sharing. However, there comes a point when they are regarded as excessive and referred to as junk mail.

140 Ybarra, M.L., Mitchell, K.J., Wolak, J., and Finklehor, D., (2006) Examining charcteristics and associated distress related to Internet harassment: Findings from the Second Youth Internet Safety Survey, *Pediatrics* 118A (4) p.1169-1177

141 Supra Ybarra, Mitchell, Wolak, and Finklehor n. 139.

142 Kowalski, R., Limber, S., and Agatson, P.W., (2008) *Cyberbullying: Bullying in the Digital Age*, Wiley-Blackwell.

143 Coteanu, C., (2007) Electronic agents, Liber Amicorum, H. Jaap van den Herik, October 2007.

In this section, commercialism is discussed under the headings, spam in Subsection 4.7.1, premium-rate services in Subsection 4.7.2, and younger generation as market target in Subsection 4.7.3.

4.7.1 Spam

As in the real world, junk mail has become a nuisance to users of the on-line world.[144] Spam can be equated to the junk mail (messages) that we traditionally received by (1) post, (2) telephone (tele-marketing), and (3) fax.[145] An insidious problem that only seem to proliferate, we note a 2008 research carried out by comScore M:Metrics, which showed that a quarter of all mobile phone users reported that they noticed an increase in unsolicited text (SMS) messages in 2007.[146] The problem was particularly acute in France, where mobile spam increased by more than 60% in the last 12 months. We anticipate that there will be a steady rise in text (SMS) spam in correspondence with the rise in mobile messaging. This is confirmed in one other survey by Cloudmark, Inc. in 2008 which reported that users of text and multimedia messaging are encountering a corresponding increase in the number of unsolicited messages sent to their mobile devices.[147] Data is revealing that mobile operators across Europe admit that up to 20 per cent of their users are affected by mobile (SMS) spam. This has led to two thirds of customers reportedly considering to leave their mobile network because of spam. We opine that the risk of mobile spam is significant. We see risk accurately expressed by Neil Cook, head of technology services with Cloudmark, Inc.

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144 79% of respondents agree that spam costs significant time and money. Pew Internet survey reported in 2006, that 63% Internet users find that spam has made using the e-mail annoying and unpleasant. This is done from 67% in 2005. See also Nucleus Research: Spam costing U.S. businesses $712 per employee per year, April 2007; available at http://nucleusresearch.com/news/press-releases/nucleus-research-spam-costing-us-businesses-712-per-employee-each-year/

145 Spamming is the activity of sending copies of the same message through the use of electronic mails and SMS. The messages sent were neither requested by the recipient nor did the recipient consent to receiving them. Spam can be sent to newsgroups or to individuals. Newsgroup spamming involves sending an identical copy of the message to every newsgroup. It is also noted that the trend of using short message service (SMS) as a tool of trade is on the increase. See Young, D., How Spammers Are Targeting Mobile Phones In Asia, Technology-Reuters, February 2 2004 at http://story.news.yahoo.com/news?tmpl=story&u=/nm/20040203/tc-nm/telecoms_spam_dc_1

146 Beaumont, B., (2008) Mobile phone spam on the rise, November 2008, The Telegraph, U.K.; available at http://www.telegraph.co.uk/scienceandtechnology/technology/technologynews/3514107/Mobile-phone-spam-on-rise-study-finds.html. The research looked at the way people use their mobile phones in the UK, France, Spain, Germany and Italy.

147 Reading, D., (2008) Cloudmark survey: Operators ignore mobile spam, Security Dark Reading, December 15 2008; available at http://www.darkreading.com/mobility/security/showArticle.jhtml?articleID=212500427

> "As the problem grows beyond simple spam attacks to identity theft, phishing and fraud, customer safety will decrease, exacerbating dissatisfaction and churn. Without providing additional messaging security now, mobile operators will unnecessarily put their customers and businesses at risk".

Thus we do not view mobile spam as a passing phenomenon; instead we view mobile spam as a greater concern than on-line spam since the mobile phone has become a ubiquitous necessity.

4.7.2 Premium-rate services

A second cause for concern in commercialism, and related to spam, is premium-rate services. A service is called premium rate if the receiver of the service has to pay an additional amount of money for receiving the service. From our study, we note the increasing abuse of these services specifically with regards to children and young people. Below, we describe briefly how premium-rate services will continue to be an area of increasing concern if left unchecked.

A number of observations about premium-rate services are made. We mention two observations, branched into two versions each. (1) Premium-rate services have become payment methods for information and for consumption of services.[148] Already their use has grown to encompass applications, such as (1a) SMS voting for popularity shows and TV reality shows, and (1b) obtaining visa information from foreign embassies.[149] Often the payment amount is neither sufficiently transparent nor made clear to mobile users. (2) Premium-rate services can involve indiscriminate marketing by marketers and is also known to include mobile phone fraud. We state two ways in which this can happen. (2a) Often, a mobile spam consists of a SMS request to call a number. Unbeknown to the caller, the number is a premium-rate number. This means that the caller will be charged at a higher rate. (2b) A second tactic to lure and direct the caller to the premium rate number is to ring the caller and to end the call before the caller has a chance to answer the call. This will lead the caller to call the number shown on his mobile screen and thus be charged a higher rate for the call.

Moreover, we observed there are three concerns that come with the indiscriminate use of these services by marketers towards children and young people. (1) Premium-rate services are particularly appealing to the children and young people because (1a) of the wide variety of mobile ring-tones and logo downloads and (1b) they are made to 'feel' that they are treated like

148 Alhert., C., Nash, V., and Marsden, C., (2005) Implications of the Mobile Internet for the Protection of Minors, Preliminary Report of Working Group on Mobile Phones and Child Protection of EICN (April 2005), available at http://www.network.foruminternet.org.

149 Supra.

adults by being invited (1bi) to participate in non-existent competitions offering attractive prizes or (1bii) to be subscribed to a service of "goal alerts".[150] (2) Children and young people may not be able to distinguish between what is advertising and what is not. The youngsters are therefore particularly vulnerable to deceptive advertising practices and fraud. (3) There is always a risk that with the privacy and portability of mobile phones, children and young people may be able to access inappropriate material using these premium-rate services. These concerns are so real that a website: www.phonebrain.org.uk, to educate and provide information on premium-rate services targeted at children has been established.[151]

4.7.3 Younger generations as target market

In this subsection, we will examine two specific aspects of commercialism in relation to the younger generations by investigating how organisations are using the mobile phone to target children and young people. We observe they do so (1) by taking advantage of the youngsters' yearning for individuality and (2) by targeting children and young people as consumers. There are two reasons for this: (a) the younger generation is seen as early adopters of new technological devices and new lifestyles, and (b) they seem to express strong consumption habits and social behaviour. The latter relates to (1) where (as we have discussed in section 4.2) youths are open to experimentation, adopting what they like, and sharing their interests with their peers.[152] Adopting new technology is also a reason for the youth to interact more effectively with their environment.[153]

Youth is more inclined to express their individuality. As far as mobile phones are concerned this is mostly seen in fashioning their handsets as an extension of oneself and one's individuality. The entertainment industry is quick to recognise the trend, and provides a market niche with a view to strengthening the younger generation's individual identity. We observe, for example, how ring tones are the simplest yet the most popular product for personal expression.[154] In the UK, mobile phone users reportedly spend more on mobile content such as ringtones and wallpaper than any other European nation, with an average annual outlay of around £5.90 per person on mobile games, music downloads, video clips, and other entertainment for their

150 http://www.phonepayplus.org.uk/consumers/phonebrain.asp
151 The website was established in December 2006. See supra.
152 Going to Market: The Mobile Youth Market, April 10, 2006 at http://www.phonepayplus.org.uk/consumers/phonebrain.asp
153 Supra.
154 Akeny, J., (2008) Entertainment, Games top smart phones content sales, Fierce Mobile Content, September, available at http://www.fiercemobilecontent.com/story/entertainment-games-top-smartphone-content-sales/2008-09-17

phones.[155] In such circumstances, we see 50% who had paid for a ring-tone, 23% for wallpaper, 14% paid for music, and 23% had bought a mobile game. It was reported that in 2006 alone, youth worldwide spent US$ 130 billion of their disposable income on mobile. This is expected to rise to US$ 350 billion by 2010.[156] The statistics (1) indicate that children and youngsters are aiming at a personal expression of identity and (2) show their willingness to pay for it.

In addition to spending for purpose of expressing their identity, we observe that children and young people are increasingly being commercialised. They are seen as valuable market in themselves and as driving forces of market consumption.

Below we provide two examples, viz. (1) product offers, and (2) location-based services (LBS).

We observe that it is becoming common for commercial promotions by large multinational corporations like Coca Cola to target the younger generation by their product. For example, there was the "Coke COOL Summer" SMS promotion in China in 2002. The promotion was a national SMS-based interactive contest offering a one year's free supply of Coke & new Siemens mobile phones as prizes everyday. During the contest, over 4 million messages were exchanged over a 34-day period with consumers. It was reported that there were close to 50,000 downloads of the Coke ad jingle recorded nationally and 19,500 downloads of McDonalds Mobile coupons were downloaded by consumers in Shanghai and Beijing.[157] Coke's China SMS campaign was a phenomenal success. However, what is more evident was that the campaign demonstrated the growing importance of the mobile phone, an icon of the youth, as a vital marketing tool in shaping the younger generation's consumption habits. This is evidenced further from the recent agreement between Burger King, Virgin Mobile USA, and Warner Music Group.[158]

The second issue that has become an increasing concern for children and young people are location-based services (LBS). Location based services are services developed by the network providers and their partners to provide personalised services and offer products which are specific to the location. For instance, LBS can advise users of current traffic locations thus providing users navigational support, help users find nearby eateries, and mobile-tracking services. While LBS services come in three basic forms, i.e., (1) where the request

155 Supra Beaumont, n. 146.

156 Today's youth spend 10% of their disposable income on mobile. However in Japan, Korea and the Middle East, the figure is as high as 15% to 20%. See http://xendolev.typepad.com/xellular/2007/04/special_a_sneak.html

157 Coke pulls off SMS campaign success in China, Cellular News: available at http://www.cellular-news.com/story/7806.php

158 BK Value Menu concept to the mobile platform, offering subscribers a selection of ringtones for the same $1 price tag attached to bacon cheeseburgers, onion rings and five-piece chicken tenders. See Burger King serves mobile food for thought, May 2008, available at http://www.fiercemobilecontent.com/story/burger-king-serves-mobile-food-for-thought/2008-05-02

for LBS comes from the mobile user, (2) where the mobile user receives news, information, and updates from the service provider, and (3) tracking services, it is the mobile tracking services that has raised concerns. This is because privacy and security issues are highlighted with LBS since the services constitutes sensitive personal data of the mobile user. Sensitive data in this respect can include the mobile user's phone number, the location details, and the profile. An SMS message, for example, may be sent to the mobile phone user when he is within such a location that a product or service is on offer or promotion. This may entice a young user to purchase the products or services.

As an aside from using LBS to further a commercial activity, we mention as another related concern of LBS to potential hazards the use of LBS to facilitate the location of children and young people by paedophiles, child molesters, and bullies. It is conceivable that the services can be abused for the perpetration of illegal and unlawful activities.

Thus, we observe how such large multi-national corporations are taking advantage of the new communications technology platform as a new marketing strategy and are establishing partnerships with the mobile-content sector to target the youngsters. While this may generally be seen as beneficial for consumerism as a whole, we opine that applications like LBS may add further risks to the already existing potential hazards to children and young people.

4.8 CHAPTER CONCLUSION

The foregoing sections provide an examination of the protection concerns for children and young people that arise as a result of the exposure of materials accessible via the use of mobile phones. These concerns are neither new nor are they created as a result of technological innovations. Rather, the concerns are "old" or are common concerns in the real world but they are transposed onto a new environment and setting. Having seen the technological development so far, we may conclude that it is worthwhile to examine the impact of the concerns raised and particularly to form the research on children and young people.