

# **Information and Communication Technologies and Social Network Sites: The Digital World of Adolescents**

by

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### **Declaration:**

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I declare that the writing of this thesis and the research contained within is my own work. Any assistance received has been acknowledged where appropriate.

**Signed:** \_\_\_\_\_

*Patrick Delaney*

**Date:** \_\_\_\_\_

## **Dedication**

This thesis is dedicated to my brothers and sisters, Deborah, Audrey, Kirk, Jason, Yvonne and Shane, to my niece Chelsie and nephew Keelan and in particular, to my parents, Paddy and Frances.

This thesis is a testament to how you raised me and to the help and support you have given me over the years. It's a pity I didn't make a bet with you ten years ago that I would be submitting a PhD today.

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**Information and Communication Technologies and Social  
Network Sites: The Digital World of Adolescents**

**Abstract**

At present, it is hard to imagine many adolescents in Ireland experiencing life without Information and Communication Technologies (ICTs) and Social Network Sites (SNSs) in their everyday social and leisure pursuits. Many have access to a range of ICTs and most are registered with at least one Social Network Site. To date however, limited academic attention has been given to the context of ICT and Social Network Site use in Irish adolescents' lives.

The aim of this research is to contribute to the understanding of Irish adolescents' access to and use of ICTs and SNSs with particular emphasis on the Social Network Site 'Bebo'. This research utilised a method triangulation approach implemented in the South-East of Ireland with transition year students as the sample base. The initial research involved a questionnaire and logbook based survey of four hundred and ten students based in eleven secondary schools. Next, digital ethnography was utilised to examine key concepts surrounding Social Network Site practice. This was augmented by questionnaires and focus group interviews. A sample of one hundred and eight students from three secondary schools were utilised in this Phase. The data retrieved from both Phases, provided for an in-depth examination of adolescent's day-to-day use of the Social Network Site 'Bebo' and a comprehensive overview of their access to, use and engagement with ICTs and SNSs.

It would appear from the research findings that ICTs and SNSs have both a space and place in the lives of many adolescents, and are becoming increasingly important in their daily social and leisure experiences. It would also seem that there is a shift towards a domestication of ICTs in the family home. In addition, SNSs seem to be changing the means in which adolescents communicate and search for information on a daily basis. These sites appear to be altering socialisation processes, allowing adolescents both to foster new relationships and fabricate a real or virtual image online. Other important issues explored include the digital divide, communication practices and risk behaviours online and parental mediation practices.

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## **Acronyms**

<b>CMC</b>	-	Computer-Mediated Communication
<b>CSO</b>	-	Central Statistics Office
<b>ICTs</b>	-	Information and Communication Technologies
<b>MSU</b>	-	Michigan State University
<b>NMT</b>	-	New Media Technology
<b>PC</b>	-	Personal Computer
<b>SES</b>	-	Socio-Economic Status
<b>SMS</b>	-	Short-Messaging Service
<b>SNSs</b>	-	Social Network Sites
<b>TV</b>	-	Television Set
<b>UK</b>	-	United Kingdom

*Chapter One*

~

*Introduction*

# 1 Introduction to Research

## 1.1 Introduction

“Young people have a natural affinity for technology that seems uncanny. They instinctively turn first to the Net to communicate, understand, learn, find and do many things...a good night to see a movie? You<sup>1</sup> look to the newspaper to see what’s playing; they go online. You watch the television news; they have RSS feeds to their favourite sources or get their news by stumbling upon it as they travel the Web. Sometimes you enjoy music; their iPods are always playing. You consume content on the Web, but they seem to be constantly creating or changing online content. You visit YouTube to check out a video you’ve heard about; they go to use YouTube throughout the day to find out what’s new. You buy a new gadget and get out the manual. They buy a new gadget and just use it. They seem to feast on technology and have an aptitude for all things digital that is sometimes mind-boggling.”

(Tapscott, 2009, p. 9-10)

In the above passage, Tapscott (2009) draws attention to a typical difference in attitude towards the use of new media technology between the current generation of teenagers and those who have gone before them. Central to this view, Tapscott (2009) argues that the present generation of teenagers, termed by Tapscott as the ‘*Net Generation*’, have become immersed in technology. As a result, technology has augmented the ways and means in which many of them go about their daily social and leisure practices. Tapscott (1998; 2009) believes that ICTs represent a social sphere for adolescents, which facilitates the creation of an environment in which children and adolescents may sustain new and complex forms of social interaction and leisure activity. He contends that adolescents of the Net Generation possess sophisticated knowledge and skills in information technologies that express values, which support learning by experience and the formation of a culture in a virtual environment. This generation of teenagers according to Tapscott (2009), engross themselves in

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<sup>1</sup> Tapscott assumes that you are of a different generation born before 1980.

technology on a regular basis, utilising these virtual spaces for identity creation, media production and consumption purposes.

As identified by Tapscott (2009) and many other academics (Prensky, 2001; Webster, 2006; Livingstone, 2008), society is at present developing in a rapidly changing world, in an era of remarkable transformations and in a transitional period of both adoption and adaptation to new technologies (Rosell *et al.*, 2007). Currently, it is hard to imagine many young people in Western society experiencing life without ICTs such as television, mobile phones, games consoles, personal computers or access to the Internet (Strasburger and Donnerstein, 1999; Livingstone, 2002; Thurlow and McKay, 2003; Strasburger, Wilson and Jordan, 2009; Mesch and Talmud, 2010). Teenagers have found in these devices, exciting and extraordinary mediums, which commonly act as an alternative means of leisure and entertainment (Rosell *et al.*, 2007). It is generally perceived that ICTs are an innate part of most adolescents everyday lives (Haddon, 2004; Strasburger, Wilson and Jordan, 2009; Mesch and Talmud, 2010). Indeed, popular representation often portrays adolescents as being ‘media savvy’ (Prensky, 2001; Buckingham, 2006a; McQuillan and O’Neill, 2009; Tapscott, 2009) and to which digital media and online communication have become pervasive parts of their everyday lives (Flanagin and Metzger, 2001; Strasburger, Wilson and Jordan, 2009; Ito *et al.*, 2010). Social Network Sites (SNSs) represent one such means of online communication, which epitomises the very nature of adolescent social activity. As an Internet activity, SNSs have advanced from a pursuit carried out in people’s spare time to their present state, as an interest which many adolescents in the Western world cannot imagine living without (Gefter, 2006).

In Ireland, it is estimated that the majority of adolescents are currently registered with at least one Social Network Site (National Centre for Technology in Education, 2008; O'Neill, Grehan and Ólafsson, 2011), the most popular of which during the course of this research was Bebo (National Centre for Technology in Education, 2008). It is also estimated that just short of 100% of adolescents over the age of sixteen possess a mobile phone (de Róiste and Dinneen, 2005), while close to 100% have access to a television with most having one located in their bedroom (Redbranch, 2006). Additionally, the CSO (2009) indicate that over 70% of the population now have access to a personal computer (PC) in their home with the vast majority of those connected to a broadband Internet connection. In addition, Alexopoulos *et al.* (2009) found that over 60% of adolescents in Ireland have access to a games console in their home, many of which are personally owned. While a small body of research has documented these statistics, even fewer studies in Ireland have documented how ICT usage may be impacting on adolescents' lives. Indeed, there appears to be an absence of research, which has contextualised the means in which adolescents utilise such ICTs, and more specifically, explored how adolescents communicate and present themselves on SNSs.

This is somewhat surprising, largely because adolescence as a life stage is a sensitive time in life, but also because adolescents are highly influenced by the social context in which ICTs and SNSs may be utilised and because these technologies are increasingly noticeable both in their everyday social and leisure pursuits (Rosell *et al.*, 2007) and in their homes (Livingstone, 2002). As trends develop, it is becoming progressively apparent that many aspects of adolescents' lives are being influenced by ICTs and SNSs. For example, today many adolescents rather than participate in traditional

leisure activities are increasingly reverting to their bedroom to watch television, play a games console or socialise with their friends online through SNSs or instant messaging services.

Historically, there has always been a relationship between technology and leisure practices (Zeil, Du Bois-Reymond and Te Poel, 2002). Since the inception of leisure technologies such as television and film, they have remained integral to contemporary leisure behaviours. Nevertheless, in recent years, there has been a marked increase in the amount of time that society in general spends using ICTs during their leisure time (Ito *et al.*, 2010; Rideout, Foehr and Roberts, 2010), and in turn this has facilitated a transformation in contemporary leisure activities (Bryce, 2001). According to Bryce (2001), traditional leisure activities in contemporary society such as going to the cinema and playing sports exist alongside those that are technological such as playing computer games and using the Internet. In fact, traditional notions of leisure spaces and activities may be reproduced technologically in virtual leisure spaces such as socialising and exchanging information online<sup>2</sup>. Bryce argues that these technological leisure activities fulfil the same function as those activities, which are considered as traditional. That is to say, they provide relaxation, stimulation, escape, social interaction and the development of self-identity and lifestyle. Nevertheless, whilst this may suggest a continuity in leisure functions, it would in fact seem that new leisure technologies tend to lead to additional changes in the contemporary experience of leisure and hence an alternative leisure experience. For instance, in cyberspace the experience of time and interaction is transformed (ibid). Likewise, how we identify with and visually interpret the leisure experience is altered.

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<sup>2</sup> Using SNSs is a perfect example of such an activity.



Certainly, in this context, it would appear that new technologies have the capacity to affect adolescents' lives in various ways (Larson, 2002). The invention of the Internet for example has transformed the environment in which adolescents socialise with their peers. Likewise, the Apple iPhone altered the means in which many people look for information and communicate with their family and friends. Having said this however, it must also be acknowledged that the adoption and use of ICTs is tied to longer-term systematic changes in sociability and culture (Ito *et al.*, 2010). Therefore, one must acknowledge that the means in which ICTs are assimilated into and used in society are complex. For instance, the variable uptake of different technologies differs across all adolescent demographic groups and from one country to another (Selwyn, 2003; Thrane, 2003; Thurlow and McCay, 2003; Broos and Roe, 2006) depending in turn on the social, cultural, political and economic context of where a child is raised. Furthermore, the manner in which technology is created often reflects a societal need, which in many instances may not be as accepting in other cultures.

Undoubtedly, the role and use of ICTs and SNSs represents a very broad and rapidly growing area of academic interest, which can be approached from various perspectives and disciplines (Thurlow and McKay, 2003; Mesch and Talmud, 2010). In recent years, there has been a steady increase in research examining adolescents and their ICT and Social Network Site practices. This research however is still at the early stages of piecing together a more holistic picture of the role of ICTs and SNSs in young peoples everyday lives (Thelwall and Marvin, 2009; Ito *et al.*, 2010). In Ireland, as is in Western civilisations; the vast majority of adolescents now have access to a wide array of ICTs (Downey, Hayes and O'Neill, 2007; Livingstone, 2008; Rideout, Foehr and Roberts, 2010; Mesch and Talmud, 2010). Moreover, most adolescents in

Western society are registered with at least one Social Network Site (Thelwall and Marvin, 2009). Nevertheless, despite the widespread ownership and use of ICTs and SNSs, there still remains an absence of literature which examines the context of both ICT and Social Network Site usage (Thelwall and Marvin, 2009; Ito *et al.*, 2010; Mesch and Talmud, 2010).

## **1.2 Justification, Purpose and Scope of Research**

Under the National Children's Strategy 2000-2010, the Irish Government recognised the growing impact of ICTs in children's lives. This report notes that new media technologies have contributed to a rapid change in Irish society and that research is required to place in context these changes (National Children's Strategy, 2000). To achieve the proposed objective, the strategy document recommends that research be commissioned into the impact of technology on children's lives. Since this recommendation, very little research has been published which recognises the influence of technology on adolescents' social and leisure pursuits in Ireland.

In one of a few studies commissioned by the Irish Government<sup>3</sup> to explore the influence of technology in children's lives, Downey, Hayes and O'Neill (2007) conducted research, which sought to explore how technology impacts on the play activities of children in Ireland and what role technology plays in children's lives. This research arrived at many conclusions some of which are relevant to the justification for this research. Firstly, it was established that technology is an integral part of many children's day-to-day activities. Most of those surveyed enjoyed light entertainment through watching television or playing with a games console. Secondly, the growing interaction with various technological devices raised both adult and teacher concerns

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<sup>3</sup> Office for the Minister for Children

regarding exposure to unsuitable material. Finally, it would appear from the results found, that children are aware of the potential risks of the online world and were not panicked by these dangers. As a result of their research findings, Downey, Hayes and O'Neill (2007) identified various issues which they believed warranted further research at the time. These include among others, the need for a more in-depth study into the technological habits of Irish children. In addition, it is also proposed to explore further the relationship between social class and the ownership, access to and use of ICTs. While this research deals with children aged 4-12, few studies to date have focused on an adolescent sample group in Ireland and particularly in the context of how they use ICTs. What is more, many of the conclusions outlined in the latter study have yet to be addressed comprehensively with an Irish adolescent sample base.

In respect of the social dimension of technology and more specifically the influence of SNSs; few studies has been conducted in Ireland, which have sought to explore the context of adolescents use of SNSs or their communication through these web domains. The latter point has been highlighted in other academic studies in an international context. According to Conner (2009) for example, while SNSs are a popular form of new media, limited studies have investigated the social influence of these sites. Similarly, Pempek, Yermolayeva and Calvert (2009) suggest that these online domains are considered by many as a new and innovative form of surveying the day-to-day interactions of people online. To date however, limited research has sought to examine the context of adolescents' interactions on SNSs. Hardey (2009) postulates the possibilities and consequences of social research on SNSs presently remains relatively unexplored. In fact, there has been an absence of research, which has examined adolescents Social Network Site behaviours online (Park, 2010). According

to Hardey (2009), research is required to capitalise on the unique nature of SNSs. This is a point, which is shared by other academics (Pink, 2007; Murthy, 2008).

### **1.2.1 Aim and Objectives of Research**

Since the publication of Downey, Hayes and O'Neill's (2007) research, little has been done in the way of exploring the issues outlined and particularly with an adolescent sample base in Ireland<sup>4</sup>. In recent years, more and more research is emerging on adolescents ICT and Social Network Site activities, though mostly from a European and American perspective. To date, little has been done in the way of exploring how adolescents use ICTs and SNSs, especially in an Irish context. Having considered the clear absence of literature available in Ireland and indeed the growing importance of research on adolescents' technology and Social Network Site usage, the aim of this research is therefore to contribute to the understanding of Irish adolescents access to and use of ICTs and SNSs with particular emphasis on the Social Network Site Bebo.

In light of this research aim, a number of specific research objectives have been formulated. These objectives are as follows:

- To examine the extent to which ICTs and SNSs like Bebo feature in adolescents everyday lifestyle patterns;
- To identify the context of adolescents ICT and Social Network Site use with particular reference to Bebo;
- To examine why adolescents utilise SNSs;

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<sup>4</sup> While numerous studies have been conducted with an adolescent sample base in the EU, Ireland is somewhat lagging behind.

- To determine whether there are significant demographic differences in adolescents use of ICTs and SNSs;
- To assess the existence of parental mediation strategies towards specific ICT and Social Network Site related use.

### **1.2.2 Scope of Research**

Up to and during the time in which this research was conducted (October 2006 – June 2011), various technological advancements impacted on how Irish adolescents approached the social and leisure aspects of their lives. It is possible that the findings from this research may provide a benchmark for which these developments in ICT and Social Network Site use may be interpreted. It is also anticipated that this research will contribute to the dearth of literature available in Ireland on adolescents' technological practices. What is more, it is expected that the findings on Social Network use in particular will add to the deficient body of knowledge on Irish adolescent online activities.

## **1.3 *Format of Thesis***

### **1.3.1 Chapter One – Introduction**

The opening Chapter provided a snapshot of the issues, which have influenced and shaped the final study. Consideration is given to current state of research on adolescents ICT and Social Network usage. Upon underlining these issues, the justification, purpose, scope and aim and objectives of this research are outlined.

### **1.3.2 Chapter Two – Literature Review**

This Chapter outlines and critiques previously published research and theory in this research area. The initial focus of the Chapter concentrates on how society has

embraced ICTs. The review then pays specific attention to the various theories on the adoption and use of ICT related devices, whilst also acknowledging the various theories underpinning social change. Upon outlining the current status of ICTs among Irish adolescents, the Literature Review concludes on a comprehensive overview of SNSs and the possible influence which these Internet domains may have over adolescents' lives. The culminations of perspectives discussed in this section thereby provide the context for the study to follow.

### **1.3.3 Chapter Three – Methodology**

The Methodology Chapter outlines the research design and data collection and analysis procedures adopted to investigate the parameters of the outlined objectives detailed in this Introduction Chapter. The theoretical perspective espoused for this research is also outlined. In each of the methodologies utilised, the merits and limitations of use are discussed. Finally to conclude, the procedures used to analyse the data are explained along with the means of statistical analysis.

### **1.3.4 Chapter Four – Presentation and Discussion of Results**

The key findings emerging from an analysis of the collected data are outlined and discussed in this Chapter. Recognition is given to any statistically significant relationships, which emerge from the data. In addition, the research hypotheses outlined in the Methodology Chapter are tested. Finally, an overall discussion is provided on the results outlined in terms of the topics discussed in the literature review.

### **1.3.5 Chapter Five – Conclusion and Recommendations**

This Chapter sets out to reflect on the research outcomes based on the research questions put forward in the Methodology Chapter. Firstly, themes identified from the research findings are discussed in accordance with their relevance to the research questions. Secondly, the contributions of this research are outlined. Thirdly, the research limitations are then outlined. Finally, recommendations for future research and policy will be put forward and following this a concluding statement will be addressed.

*Chapter Two*

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*Literature Review*



## **2 Literature Review**

### ***2.1 Introduction***

The Literature Review undertaken as a background to this thesis served to draw attention to academic studies available in Ireland and indeed globally on issues relating to the ownership and use of ICTs and more specifically the use of SNSs. To date, several aspects of ICT usage have received limited attention in academic discourse. What is more, despite the permeation of SNSs into adolescent's daily social pursuits, limited social research has been conducted on their use among adolescents and especially within an Irish research context. This review will therefore critically audit literature from a diverse range of international and Irish research.

The first section will initially define the term ICT and discuss the notion of an information society. In addition to this, reference will be made to popular sociological conceptions on the effect of technology on society. A discussion will then be put forward to examine the current generation of teenagers and their embracing of ICTs. Following this section, the place of ICTs both in Ireland and internationally shall be outlined. More specifically, factors that influence adoption, use and non-use of ICTs will be presented. Finally, to conclude the Literature Review Chapter, the day-to-day use of SNSs and their inherent benefits or effects on adolescent culture shall be discussed. The discussions put forward in this Literature Review relate to the current topics emanating from academic studies in the area of ICTs and SNSs and their influence on adolescents and society.

## **2.2 ICTs, Society and Social Change**

Information and Communication Technology is a relatively new concept that has in recent times been shown by research to be impacting on the social, leisure and lifestyle patterns of adolescents (Bryce, 2001; Ho and Lee, 2001; Rehor *et al.*, 2001; Chia *et al.*, 2002; Wake, Hesketh and Waters, 2003; Koezuka *et al.*, 2006; Mota *et al.*, 2006; Strasburger, Wilson and Jordan, 2009). Indeed, society has progressively embraced the concept of ICTs in recent years and in recent decades the term has been researched as a major influence in sociological research. The term ICT is often narrowly defined as consisting mainly of desktop computers (Norris, 2001; Plowman and Stephen, 2003) however, less specific definitions have also been put forward. For example, Crowley, Davis and Steadman (2006, p.36) suggest that ICT is “a broad concept that includes equipment such as personal computers and mobile telephones”. Cohen, Salomon and Nijkamp (2002, p.35) on the other hand describe ICTs as “a family of electronic technologies and services used to process, store and disseminate information, facilitating the performance of information-related human activities, provided by and serving the institutional and business sectors as well as the public-at-large”. The use of technology however, extends far beyond the realm of the computer, with technologies such as digital television, mobile telephones and games consoles, all constituting important but disparate elements of contemporary techno-culture in today's society (Choi, 2002). Taking such factors into consideration, Selwyn (2004a, p.346) encapsulates a much broader and lucid understanding of the idiom. He states that:

“ICT is best seen as an umbrella term for a range of technological applications such as computer hardware and software, digital broadcast technologies, telecommunications technologies such as mobile phones, as well as electronic information resources such as the world wide web and CD ROMs.”

Having considered the connotation of the term ICTs, it is important to reflect on their significance in adolescent society. As highlighted by Marsh and Keating (2006), the importance of the media and current technologies within everyday society cannot be over estimated. Advances in electronic technologies over the last century are leading to dramatic changes in society in the most fundamental ways. Life as we know it is rapidly evolving in a cyber world which transcends time, distance, space and national borders which in turn are altering our conceptions of these issues (Bandura, 2002). The ability to use ICTs is now seen as a prerequisite to life in the ‘*information society*’<sup>5</sup> (Selwyn, 2003). Primo (2003, p.5) advances that:

“...the most potent forces shaping the 21<sup>st</sup> century are the new ICTs. Their revolutionary impact affects the way we live, learn, work, spend our leisure time, and communicate. ICTs are becoming a vital engine of growth for the world economy. They have the potential to enable many enterprising individuals, firms, communities, in all parts of the planet, to address economic and social challenges with greater efficiency and imagination.”

Certainly, the technical characteristics of ICTs are increasingly dominating justification of contemporary change and development (Sassen, 2002). Moreover, digital technologies are bringing rapid change in the economies and cultures around the world (Hamelink, 1997). In most western societies, the use of ICTs in the home and workplace is widespread. These technologies have become an inherent aspect of the daily activities of many individuals, not just as a novel or extra-ordinary activity but also as a means of forging new paths for the accomplishment of not so common activities (Mesch and Talmud, 2010). Throughout Europe and indeed worldwide, we are increasingly living in a society, which is permeated by ICTs, where digital tools repeatedly mediate our actions, and the objects we encounter are shaped by digital intervention (Martin, 2008). In post-modern societies, media technologies are culturally taken for granted instruments available for social consumption, which day-

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<sup>5</sup> This term will be discussed later within this Chapter.

by-day have become progressively essential and inevitable in many people's ordinary lives (Devís-Devís *et al.*, 2009).

### **2.2.1 The 'Information Society'**

Golding (2000) postulates that understanding the sociology of the shifts engendered by the rapid expansion of ICTs draws on a selection of key concepts, the most fundamental and important of which, is the idea of an 'information society'. The term 'information society' has been used extensively as shorthand for complex social, economic and institutional transformations, related to the proliferation of ICTs (Lievrouw, 1998), and are often used to describe the most recent stage of social history (Karvalics, 2007). The key idea of the 'information society' is that breakthroughs in information processing, storage, and transmission have led to the application of ICTs in virtually all corners of society (Webster, 1994). The term is often found in accounts of the 'social impact of new technology', and is consistently referred to in policy documents. Moreover, it is strongly related to key concepts such as that of the 'information worker' (Lyon, 1998). Although it is commonplace to speak of, or reference the 'information society', there is as yet no single and universally accepted theory of its nature and characteristics (Burri-Nenova, 2006). Thus, as it is now, the term or concept may run the risk of being defined in many different ways, possibly to suit the users agenda (World Summit on the Information Society, 2003).

Lyon (1998) for example, suggests that two kinds of information society theses exist. The most popular view in many academic and media accounts stresses the social changes that follow the wake of information technology. By contrast, the other view is more cautious and open-ended. Within this understanding, information society is a problematic rather than a descriptive term. Conversely, Webster (2006, p.444)

suggests that it is possible to identify six ways of distinguishing an information society, five of which he states focus on measures of one or another of the following phenomena: technological innovation and diffusion; occupational change; economic value; information flows; and the expansion of symbols and signs. The sixth definition he states “refers not to the fact of there being more information, but to changes in the ways in which life is now conducted because of information”. Mesch and Talmud (2010) on the other hand, suggest that the term ‘information society’ denotes the growing tendency in society to involve computers in the maintenance of data records, information flows, knowledge systems and communication channels, while Burri-Nenova (2006) propose that the term denotes a society in which the creation, distribution and manipulation of information is the foremost economic and cultural activity. Finally, Karvalic (2007, p.240) defines ‘information society’ as “a new form of social existence in which the storage, production and flow of networked information plays a central role”.

While there has been widespread use of the term information society, there has been some discontent in academic circles concerning the use of the term. Martin (2008) for instance argues that a major problem with the term is that it can be a powerful metaphor with a misleading message. This message according to Martin (2008) can be misleading in three ways. First, the term may create the impression that social change is determined by technology. He notes that the term obscures the fact that change and technology are both products of human action and interaction and for this reason; the relationship of technology to social change is not a simple one. Second, he writes that the attribution of events to a technological origin is a moral statement, that is, blaming human actions on technology allows humans to escape responsibility for the actions,

which were their own choice. Third and finally, Martin puts forward that the information society suggests that social change is characterised by revolutions. In reality, change displays embeddedness in what arose beforehand, and certainly all inventions have an ancestry.

To conclude, while the term 'information society' is used uncritically in both mainstream media and academia, and has caught on in the popular imagination (Lievrouw, 1998; Dutton, 1999; Webster, 2006), it is not the only term used to describe the information age. Over the years, social scientists have used different metaphors to describe this period in time. For example, 'network society' (Mesch and Talmud, 2010) and 'digital society' (Martin, 2008) are both terms, which are used to describe the information age. Nevertheless, there are some definitional differences with these terms. Mesch and Talmud (2010) for instance suggest that the notion of a network society rests on various social changes driven by technology. That is, a central dimension of social change focuses on the development of a new technological condition in which ICTs facilitate the formation of new modes of social organisation and social interaction over electronically based networks. ICTs they state are not the cause of social change, but instead provide the infrastructure to make the change possible. Martin (2008) on the other hand, notes that the digital society notion advocates that society is made by the digital. That is to say, their essential components have been created because of the development of digital technology. Certainly, the idea of an information society tends to lurk behind several characterisations (Golding, 2000). What is more, in many cases, these characterisations are synonymous with other terms used to describe the information age. For example, as postulated by Martin (2008), the digital aspect of society is well implicated in the genesis and maintenance

of this post-modern society, but it is also the major actors in that society that have driven it so.

## **2.2.2 The Evolution of Television, PCs, Games Consoles & Mobile Phones**

Notwithstanding the various terms used to describe the information age we live in, Webster (2006) advocates that new technologies are one of the most discernible indicators of new times, and accordingly are commonly taken to signal the coming of an information society. Certainly, society is not static (Martin, 2008) and has long been transformed by the passage from the ‘solid’ to the ‘liquid’ phases of modernity. In this context, new technological innovations consequentially replace old forms and evolve as the year’s progress and in turn, advance society (Bauman, 2005). For example, Hamelink (1997) posits that four stages in the development of technologies can be identified from human history. The first derives from approximately 35,000 BC right up to the first telegraphic transmission in 1838 where information delivery was handled through both physical and mechanical power<sup>6</sup>. The second phase emerged as a result of the invention of electricity, which allowed for the development of the telegraph, telephone, radio and television. In the third phase, Hamerlink notes the possibilities of electronics were further explored. As a result, the electronic computer first emerged which enhanced telecommunication technology and over time made networking possible. The fourth phase is marked by digital technology. Satellites began to introduce full digital services and expand the speed at which information was transmitted. Computers and televisions became much more advanced and technology as a whole began to develop and expand at a rapid pace.

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<sup>6</sup> For example, pigeon carriers, fast-running couriers and smoke signals.

Television has over the past number of decades been at the forefront of this information technology modernisation. In fact, few people could have ever predicted the social impact that this device would have on the world during its early development (Berry, 1998). In 1911, electronically scanned television was a soundly grounded scientific conception, however, by the mid 1950s the device had become a mass medium device (Winston, 1998). Like many types of modern technologies, television was first used as a defence tool (FisherKeller, 2002). Evidentially, the crucial factor which transformed television from a military tool to a mass medium device was the spare capacity of the electronics industry following the War in 1945 (ibid). This medium has since become central to family and social life (Livingstone, 1999) and is continuing to advance into the 21<sup>st</sup> century. What is more, historical studies of the arrival of television put forward the point that far from fitting into the home, television has undoubtedly transformed the structure of the family environment by prompting a rearrangement of domestic space (Spigel, 1992).

The history of the personal computer is a story of continuous improvements punctuated by the introduction of significant new component technologies since the Second World War (Malerba *et al.*, 1999). Like television, during the 1950s computers were expensive and largely used for military service (Winston, 1998). However, over time with the development of the integrated circuit and microprocessor, these large hefty devices evolved into what we know today as the personal computer. In 1984, at the introduction of a new Apple Macintosh computer, Steve Jobs CEO of Apple, proclaimed that the personal computer would become a common household appliance, much like a toaster or television set. To his surprise, a large proportion of the computer industry dismissed this assertion claiming that



computers were too complex and too expensive to appeal to the average Joe (Freed, 1995). Jobs foresight was however correct and his vision was later to become a reality. Today the personal computer is an important dimension of adolescents' lives and an essential component in almost every aspect of social life. Adolescents regularly use these devices for school homework and browsing the web, but more importantly to socialise with their friends instantaneously via instant messaging programs and SNSs.

In conjunction with the development of personal computers came the development of computer games and games consoles. Indeed, as personal computer technological capacity improved, computer games too became more graphically advanced. The history of computer games can be traced back to 1961 with the invention of the game *Spacewar*<sup>7</sup> (Johns, 2006). Since this initial conception, computer games have been part of domestic leisure since the 1970s (Bryce and Rutter, 2003a) and today are a multi-billion dollar industry (Johns, 2006). Two stages in the development of computer games can be identified in the history of computer gaming (Kirriemuir, 2006). The first period dates from the early 1970s through to late 1980s. At this time, the Atari video computer system became the first games console to be bought in significant numbers (ibid). Following a collapse in the market<sup>8</sup> however in 1984, a second wave of computer gaming dominated by the Japanese companies SEGA, Nintendo and Sony emerged in the latter half of the 1980s and early 1990s (Buckingham, 2006a). Since then, gaming technologies have evolved from a virtual square ball bounced between two rectangular bats, to near photorealistic images based on the physics and real life conceptions of humans (Bryce and Rutter, 2003a).

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<sup>7</sup> MIT student Steve Russell created this game. The game performed a diagnostic function and was used to demonstrate the ability and accessibility of computers.

<sup>8</sup> This was primarily due to the economic circumstances at the time. Due to a recession people could not afford to buy their children the games consoles that were available on the market and as a result, the market collapsed.

Finally, the arrival of the mobile phone and its rapid and widespread growth may well be seen in the historical context as one of the most significant developments in the fields of Information and Communication Technology over the past two decades (Plant, 2000). While the concept of a mobile or cellular phone first emerged in 1947, it was not until 1973 that the first call was made on a modern handset. In 1984, the first phones went into production in the US and by 1994 subscribers would be allowed to connect to a communications network (Andrews, 2008). It was from this point forward that mobile phones were to change the way we communicate on a daily basis. During the latter half of the 1990s their popularity began to soar and by the turn of the millennium, they had penetrated quite substantially into the youth population (de Róiste, 2005; Lalor, de Róiste and Devlin, 2007). The most recent advancements in mobile phones have allowed adolescents to expand their use of these devices. Today, many teens update their Social Network profile while on route to school, while others shop online and book tickets for various events.

### **2.2.3 Leisure & Information and Communication Technologies**

The evolution of technology as discussed in the latter section, today continues to exert an ample influence over many adolescents' lives. Over the years, various technological developments such as those discussed, have influenced how adolescents and indeed people in general work, live, learn and importantly, spend their leisure time (Zeil, Du Bois-Reymond and Te Poel, 2002; Leung and Lee, 2009). At present, there are numerous leisure activities for adolescents to choose from. These may include indoor and outdoor pursuits; sport and games orientated activities, reading, arts, entertainment and hanging around with friends (Young *et al.*, 2001; Piko and Vazonyi, 2004; de Róiste and Dinneen, 2005; Wight *et al.*, 2009). The home is one arena however, which is often overlooked in terms of leisure provision. Most people for

example, will spend a large part of their lives at home often requiring amusement to fulfil their free time (Leung and Lee, 2009). Since the rapid expansion of television in the 1950s and 60s, the idea of home centred leisure has radically changed (Rojek, 2000). Indeed, from the beginnings of radio, through to the advent of the television, and on to the innovative ICTs of the 21<sup>st</sup> Century, electronic media have established a ubiquitous presence in the homes of many adolescents in Western society, often dominating after-school activities (Kleiber and Powell, 2009), and creating new arenas for leisure participation (Leung and Lee, 2009). With the advancements in technology in the 21<sup>st</sup> century such as the Apple iPhone and PSP<sup>9</sup>, these traditionally indoor technological pursuits are increasingly expanding beyond their geographic boundaries. Nonetheless, their role in leisure pursuits appears to remain.

It is generally acknowledged by sociologists, that the manner in which children and adolescents organise and spend their leisure time alters as societal developments advance. The developments and increasing presence of technological paraphernalia in our recent history has contributed to how children and adolescents orientate themselves towards an increasing variety of technological leisure products (Zeijl, Du Bois-Reymond and Te Peol, 2002) Today, these leisure technologies such as personal computers, games consoles, mobile phones and television form a central role in the contemporary experience of leisure (Bryce, 2001; de Róiste and Dinneen, 2005). To what extent however, do classifications of leisure activity relate to the use of these devices? (ibid). People for example, often participate in leisure pursuits for experiences, which are in some way enjoyable, personally satisfying, and to relax and escape from the stresses of everyday life (Driver, Brown and Peterson, 1991; Iso-

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<sup>9</sup> Playstation Portable.

Ahola, 1999). Indeed, leisure activities often contribute to life satisfaction, providing basic experiences, which are beneficial wherever they are obtained, albeit through various activities, social contact or receiving praise from others (Leung and Lee, 2009).

As noted in the Introduction Chapter, traditional leisure practices of adolescents exist alongside those, which are technological such as playing computer games and surfing the Internet (Bryce, 2001). These leisure practices satisfy the same purpose as those activities, which are considered as traditional such as going to the beach, playing sports or hanging around with friends. They provide stimulation, relaxation, escape, social interaction and more (Driver, Brown and Peterson, 1991; Iso-Ahola, 1999; Kleiber and Powell, 2009; Leung and Lee, 2009). Bryce (2001) contends however, that while this suggests a continuity of leisure functions, it would appear that new technologies in fact add to the contemporary experience of leisure. Home computers, games consoles, SNSs and even the iPhone may for instance challenge traditional conceptions of the spatial and interactional organisation of leisure by as Bryce argues, blurring the boundaries between domestic, virtual and commercial leisure spaces. In this context, he asserts, that contemporary leisure experiences may be experienced as multiple, diverse and simultaneous. That is to say, these leisure arenas may then become a heterotopic space<sup>10</sup>. These cyberspaces he states, are the context in which virtual communities form (ibid).

With progressive developments of the Internet in recent years coupled with the increased connection rates experienced across Ireland and indeed across Western

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<sup>10</sup> This implies that leisure spaces are simultaneously physical and mental such as instant messaging online.

Europe, virtual communities such as SNSs are increasingly becoming important locations for leisure activities in cyberspace (Bryce, 2001; Leung and Lee, 2009). Today, increasing academic attention is being paid to social spaces online such as SNSs (Boyd, 2008a) where people check each other out, share their views on movies or just mindlessly browse comments posted online or other peoples photographs (Arora, 2011). According to Arora (2011, p.117), such “leisure spaces are multitudinous, conflicting and dynamic with varied authorships and scripts intersecting with one another forming incomplete and constantly transforming narratives”. Social Network Sites such as Facebook and Bebo he states are increasingly being viewed as popular spaces to fulfil these experiences. These sites he contends, are both a novel and rewarding experience, both producing and consuming leisure (Arora, 2011).

In summation, it would appear that ICTs and SNSs are perhaps transforming the contemporary experience of and organisation of leisure time. Technological paraphernalia such as those discussed provide multiple leisure spaces that support a variety of leisure activities and experiences, suggesting changes in the interactional, spatial and temporal experience of leisure (Bryce, 2001). In taking these factors into consideration, many academics have come to question the extent to which technology may exert change and particularly in society. The following section, will therefore examine theoretical perspectives on technology and social change. Reference will be made to key theoretical perspectives, and furthermore, discussion will be targeted at their interpretation of technology and societal transformation.

## **2.2.4 Perspectives on Technology and Social Change**

Social scientists have long attempted to explain the scope, effects and conditions of the development of technology (Callon, 1989). McLuhan (1964) for instance, in his book *Understanding Media*, suggests that alterations in various media devices over the years were the main force for change in society. He suggests that the real importance of media does not lie in their content or application, but in the way that they alter our social worlds. In a similar manner, Giddens (2001) suggests that over the past several decades in particular, we have witnessed a process of convergence in the production, distribution and consumption of information technology. He notes that if at one point in time, ways of communication such as print, radio, television and film were relatively self-contained spheres, now they have become interconnected in an unforeseen manner. Certainly, many perspectives have emerged over the years, which try to explain or reflect on the effect of technology on society. However, none more debated than that of technological determinism and social constructivism.

In respect of the technological deterministic approach, Livingstone (1999) attests that many social scientists in the Western world are very sceptical of the overblown and ill-specified claims about societal changes, which may or may not follow technological innovation. For some researchers she comments, the implicit assumption that ICTs are a cause rather than a consequence of social change is too technologically determinist. That is to say, social change itself depends on a complex of social, political and economic processes (ibid). The technological deterministic view presents the Internet as an innovative force, which has an overwhelming influence over children and youth (Mesch and Talmud, 2010). From this perspective, technology is seen to bring about social and psychological changes irrespective of the manner in

which it is used or the social contexts and processes into which it enters (Buckingham, 2006a; 2008). According to Mackay and Gillespie (1992), the technological determinist will emphasise that technological development is autonomous with respect to society; that is, it shapes society but is not reciprocally influenced. Rather, it exists outside society, but at the same time influences societal transformation. They go on to note that in the more extreme varieties of technological determinism, technology itself is seen as the most significant determinant of the nature of society.

However, according to Williams (1974), the link between technological determinism and descriptions of progress as the driver of not only technological innovation but also social change can be misleading. As postulated by Bimber (1990), the term technological determinism is somewhat an elusive concept for several reasons. For example, while the term is often utilised to describe a variety of distinct views concerning the relationship between technology and society, the views portrayed often employ disparate theoretical assumptions, which sometimes are not made explicit. Similar to this argument, Herring (2007) advocates that technological determinism is both controversial and problematic. She states that the notion of technological determinism glosses over contextual factors and social motivations, which shape human behaviour. What is more, Herring posits that it is hard to fathom that ICTs are essentially a force, which amalgamate youth into a single generation with unique characteristics. Furthermore, she believes that many texts in academic discourse construe the Internet as an exotic<sup>11</sup>. That is she quotes (p.76):

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<sup>11</sup> Herring believes that many academics have eroticised their discussions on the impact of technology on youth. She notes “for those of us who did not grow up with digital media, they are indeed new and different compared with our past experience” (p. 76). As a result of this, many academics have a tendency towards hyperbole.

“Their hyperbolic idealisations reflect the digital optimism of educated, presumably early adopter adults who tend to be pro-technology and committed to integrating technology into their technological vision for youth”.

To this end, she believes that much of academic debate concerning the current generation of adolescents and its transformative potential fail to acknowledge the influence of adults and indeed the fact that adults create and regulate media technologies consumed by youth (ibid).

In contrast to the technological deterministic approach, social constructivism instead argues that technology use is entirely determined by social factors (Mesch and Talmud, 2010). Indeed, under the umbrella of the social construction of technology, several areas of theory and research co-exist but all share a basic theoretical commitment. That is, technological determinism is an inadequate explanation or description of technological innovation (Lievrouw, 2006). As outlined by Campbell and Russo (2003), there is a clear distinction between technological determinism and that of social constructivism. Technological determinism maintains that at a macro-level, changes in social order are mainly caused by new technologies. In turn, they exert micro-level influences over how people perceive and use technology. In contrast to this, Campbell and Russo (2003) maintain that social constructivism approach asserts that humans shape technology and not the other way around. In this respect, they reject the deterministic approach in favour of the latter; however nonetheless still acknowledge a reciprocal relationship between people and technology. More specifically, they note (p.330):

“Just as new technologies influence the ways people live their lives, the ways people live their lives influence how they think about and use technologies.”

Under the social constructivist manner of inquiry, it is stressed that one looks carefully at the inner workings of real technologies and their histories to see what is truly taking



place. It stresses that rather than employing broad gauged notions such as that of technological determinism, scholars instead should talk more precisely about the dynamics of technological change (Winner, 1993). Indeed as noted by Boyd (2008b), a technology's value is shaped by its social construction. That is how designers create it and how people use it, interpret it, and reconfigure it. In this manner, it is not an outcome of the technology alone or its potential (ibid).

While technological determinism and social constructivism are undoubtedly the main theories of social change, other perspectives have also been proposed. For example, Martin (2008) reflects impartially on the effects of technology on society. He postulates that the causes and direction of social change are countless as with all social changes. Technology he states (p. 154): "is simultaneously its tool, its medium and its reflection". To this end, Martin advocates that technology is both a *means* and a *symptom* of social change. Mesch and Talmud (2010) on the other hand suggest that technology should be viewed as an inherent part of society as social groups differ in the extent of their access, skills and meanings, which they associate with technology. Similarly, Sassen (2002) argues that understanding the place of new and emerging technologies, particularly from a sociological perspective, requires sidestepping a purely technological interpretation and recognising the social embeddedness of technology and its variable outcomes.

In summation, it could be construed that the polar perspectives of technological determinism and that of social constructivism are situated in two extremes. That is to say, they presume that only one effect of both social and technological factors is dominant (Mesch and Talmud, 2010). In this sense, a balanced perspective may

provide a more concise and overarching perspective on the matter. For instance, Williams in his book *Television: Technology and Cultural Form*, asserts that technology is both socially shaped and socially shaping (Williams, 1974). In this respect, the function and influence which technology may have over society is partially determined by the uses to which it is put, but also encloses the inherent constraints and possibilities which restrict the ways in which technology can be used, which in turn, are largely shaped by the social interests of those who control its production, circulation and distribution (Buckingham, 2008). Certainly, given the contexts offered, it would be hard to outrightly accept or reject one dimension of social change. Therefore, it should be acknowledged that many complex factors are involved in the interrelation of technology and society and the extent to which ICTs are embedded in the social context of adolescents' daily lives.

### **2.2.5 Technological Generations**

Whatever a researcher's theoretical stance may be, there is no disputing that the emergence and assimilation of information technologies into the most fundamental aspects of daily living is undoubtedly evident. The plethora of multimedia applications which have materialised in the past century each have their place in history and indeed in the society or generation in which they were developed. Over the past number of decades, various generations of technological users have evolved. In particular, generational names have been put forward to label and describe the cultures of various generations (Rettie, 2002). These labels attempt to identify a cohort of adolescents who grew up at the time of Internet expansion, and were consequentially exposed to a media rich environment (Mesch and Talmud, 2010).

Prensky (2001) for example, makes the distinction between '*Digital Natives*' and '*Digital Immigrants*'. He contends that Digital Natives are those who have grown up with technology. These individuals have spent their entire lives surrounded by and using computers, videogames, MP3 players and many more multi-media devices. Moreover, they have a very different style of learning. This group crave interactivity, value graphical images, and demand random access to technological paraphernalia. Consequently, this group are discontented with dated styles of instruction and see Digital Immigrants as out-dated. Prensky notes that the Digital Immigrant can be seen as turning to the Internet second rather than first, or reading a manual for a program first rather than assuming the program itself will teach the individual how to use it. To this end, Prensky asserts that today's 'old folk' were socialised in an entirely different manner than their kids and for this reason are now in the process of learning a new language.

Tapscott (1998; 2009) adopts an alternative perspective on generational technological attributes. According to Tapscott, each generation is exposed to a unique set of events or criteria, which defines their place in history and shapes their outlook. The Baby Boomers for instance, born between 1946 and 1964 essentially became the TV generation with the introduction of television in the 1950s. This period in time was the focal point of a communications revolution to which television played a major role. The next generation to emerge was the Generation X or Baby Bust (born between 1965 and 1976). These were among the best educated in history due to the shortage of employment. Today, this generation are said to be aggressive communicators who are extremely media centred. Finally, Tapscott refers to what he terms the Net Generation (born between 1977 and 1997), the generation of teenagers and young adults today.

These individuals came to view technology as just another part of their environment. For many Tapscott states, technology was as natural as breathing. Like the view of Prensky on what he terms 'Digital Natives', Tapscott highlights that the Net Generation have naturally become familiar with technology as it has always been a facet of their lives. McCrindle (2006) embraces a similar view to Tapscott, the main difference being however that he uses alternative terms to describe different generations in history. Instead of describing those portrayed by Tapscott as the Net Generation, McCrindle alternatively refers to them as Generation Y while still maintaining the same characteristics. Conversely, social researchers Howe and Strauss (2000; 2003) labelled this generation (Net Generation or Generation Y) the Millennials. They viewed this new generation, as optimistic, team-oriented achievers who are talented with technology, and claim they will be the next 'great generation'.

While a difference in terminology has been utilised in academic discourse, it would seem evident that the generation born roughly between 1980 and 1997 are characterised today as the Digital Natives, Net Generation, Generation Y or indeed Millennials (Prensky, 2001; Rettie, 2002; Bennett, Maton and Kervin, 2008). Notwithstanding the attention, which has been devoted to this generation, few studies have actually documented the characteristics of this group (Kennedy *et al.*, 2007). Therefore, the following section will where possible identify key facets of this group.

#### **2.2.5.1 The Current Generation: Their Attributes & Characteristics**

Futurist Alan Toffler (1980) suggests that over time, the world has been determinedly shaped by three waves of technological innovation. First, was the agricultural revolution, second the industrial revolution and third, the information revolution which is currently engulfing our society. Certainly, there is no doubt that new and

emerging technologies are one of the most prudent indicators of new times (Webster, 2006). Today, adolescents live surrounded by media of one form or another (Prensky, 2001; Livingstone, 2008). In Western societies, the vast majority have access to a personal computer and the Internet, while nearly all have a mobile phone and television at their disposal. Many more even have televisions, personal computers connected to the Internet and games consoles located in their bedroom. Given the status of such technological innovation in society, youth in the global information age who are unable to access technological devices are at an increased disadvantage (Cullen, 2001).

Nevertheless, the current generation of teenagers appear to be amongst the most technologically advanced in history. Since technology has been an intrinsic part of the present generations experiences since their formative years, a number of assumptions have been put forward in relation to their attitude towards learning and specifically, their use of new technologies (Kennedy *et al.*, 2007). For example, Prensky (2006) in referring back to the individuals he coined 'Digital Natives' (Prensky, 2001) outlines that students in the current generation are fluent in the language of online communication, video games, and the Internet. Many academics have also drawn attention to the point that students today are more technologically advanced than their educators (Prensky, 2001; Tapscott, 2009; Mesch and Talmud, 2010). This generation of youths expect immediate access to information, expect prompt answers and more importantly are accomplished at multitasking (Barnes, Marateo and Ferris, 2007). According to Lorenzo and Dziuban (2006), the current generation of youths seem to adopt and drop technologies very quickly. Their communication between individuals has become increasingly digitised and finding friends is not just limited to meeting

people in their class. Moreover, SNSs now facilitate their communication on a global scale but also in new and emerging online languages, which in many respects adopt and change depending on the environment in which they are used. In this manner, young students have now become empowered. When they want information, they do not go to the library; instead they just go online from their personal computer or laptop or indeed their mobile phones (ibid).

Tapscott (2009) summarises what he calls the 'Net Generation' into eight respective norms. These norms are rooted in the diverse experiences of youth today. The Net Generation he states "have grown up being the actors, initiators, creators, players and collaborators" (p. 74). It is for this reason that the youth of today are different from their parents and their grandparents before them. The eight norms which Tapscott posits are characteristic of the Net Generation are: 1) freedom; 2) customisation; 3) scrutiny; 4) integrity; 5) collaboration; 6) entertainment; 7) speed; and 8) innovation.

Tapscott (2009) notes that freedom is an integral aspect of the way in which the Net Generation go about life. They see no reason to commit to jobs. What is more, they feel no one can tell them what to do. Customisation allows them to individualise their own technological devices or their Social Networking pages. Moreover, they adopt things they own to fit their personal needs and desires. Given the degree of unreliable information on the Internet, Tapscott believes the Net Generation have become increasingly analytical. He states that youth of this generation have developed an innate ability to distinguish between fact and fiction and in this respect have become media savvy. With this scrutiny, arises an issue of integrity. The Net Generation he states, now more than ever are wary of where certain products come from. For this

reason he notes, teenagers of this generation will quite often refuse to buy products from certain companies. However, while this is the case, they are quite happy to collaborate with multi-national cooperations in order to assist in the development of new products in the hope it will benefit them and in particular, for entertainment purposes. In addition, it is quite often the case that this group have no issues in illegally downloading music or videos<sup>12</sup>.

Tapscott advances that the generation of today (Net Generation) require entertainment when bored or simply to clear their mind. He argues that allowing employees to use Facebook or other SNSs is not necessarily counterproductive. Instead, the Net Generation use it as a form of catharsis and continue on with their employment roles. Finally, speed and innovation are crucial in the lives of this cohort of individuals. For many adolescents, e-mail is far too futile a communication device. Instead instant messaging through mobile phones is far more effective with a much faster response. In reference to innovation, Tapscott remarks that this culture has been raised in a time of invention. Today, children want a new device every few weeks just to keep up to date with the devices and gadgets being released.

Alch (2000) adopts a similar perspective to Tapscott to what he terms the '*echo-boom generation*'. He advocates that the youth of today are much more comfortable with technology than their parents are, which as a result has created a technology-knowledge gap between them. These youths like to control their environment, attain information with little or no effort efficiently and have more time to themselves in less-structured lives. Unlike previous generations, Alch notes that this generation is

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<sup>12</sup> Tapscott advances that the reason for this may be that adolescents feel they have contributed towards the production of music by attending concerts or other events.

media savvy. They utilise the Internet wisely and make better-informed decisions about consumption.

In summary, it would seem that the current generation of youths (Net Generation, Millennial's or Generation Y) are generally more technologically adept than their parents. Perhaps this is because they have grown up in a culture, which is increasingly influenced by technology. As attested by Livingstone (2002), the multiplication and diversification of ICTs in the home is largely taken for granted by this generation. However, for their parents the acquisition and subsequent location and use of ICTs in the family environment involve decisions, which distinguish their children's childhood from their own. Certainly, the notion of the Net Generation (Tapscott, 2009) appears to be consistent with a deterministic view of the effect of technology on society (Mesch and Talmud, 2010). Herring (2007) however, denotes that this view is rather controversial, as it is difficult to assume that ICTs have such an impact on adolescents' lives that it homogenises children into a single group with a unique identity. Certainly concurrent with this viewpoint, it is somewhat difficult to consider all youth subcultures as a homogenous group as individualistic tendencies may come to the fore. Having said this however, the assimilation of new and emerging technologies into societal culture over the decades seems to have changed the very process by which individuals associate with and utilise ICTs. The following section will therefore review the extent by which technology is a part of adolescents' lives and moreover, critically review the ownership and usage of particular ICT devices. Specifically, the factors, which influence the adoption, use and non-use of ICTs will be explored.



## **2.3 Information and Communication Technologies: Key Issues**

The integration of ICTs into the everyday lives of children and adolescents seems to be an essential component of the information age (Mesch and Talmud, 2010). Young children are one of the most important target markets for new and emerging technologies. Even taking account the numerous social differences which may exist in a population, households with children are much more likely to possess a computer or computer games console than those without children (Buckingham, 2006b). Undoubtedly, it is evident from the literature outlined (Kennedy *et al.*, 2007; Prensky, 2001; Tapscott, 1998; 2009) that adolescents' lives are increasingly influenced by ICTs, yet their use of these technologies depends in turn on the social and cultural contexts of their daily lives (Livingstone, 2002). Certainly, the meanings and use of technology within different groups in society are variable (Buckingham, 2006a) and for this reason, it is entirely conceivable that different forces or individual circumstances may have played a role in the purchase, access to or utilisation of ICTs. Accordingly, the following section will therefore begin by reviewing the factors which may lead to the ownership, use or non-use of particular ICT devices from the perspective of the '*digital divide*'.

### **2.3.1 The Digital Divide: Factors Influencing the Adoption, Use & Non-Use of ICTs**

The notion of a 'digital divide' has in recent years become a contentious issue not only in academic discourse, but also in both politics and education (Broos and Roe, 2006). The term itself is often misunderstood as a complex phenomenon, insinuating a multitude of dimensions (Kovačić and Vukmirović, 2008). For example, initially, the

‘digital divide’ referred to the gap between those who had access to ICT devices and those who had not (Norris, 2001; Robertson, Soopramanien and Fildes, 2007a; Robertson, Soopramanien and Fildes, 2007b; Kovačić and Vukmirović, 2008). Later interpretations however make reference to a gap in the ability to use ICTs, a gap in the actual use of ICTs and a gap in the impact of ICTs (Kovačić and Vukmirović, 2008) while others draw reference to the difference in Internet access among different communities (Dragulanescu, 2002). Verdegem and Verhoest (2009) note that the dichotomous portrayal or traditional notion of the term (for example, the divide between ‘haves’ and ‘have nots’) is no longer tenable as these conceptualisations are rather limited and basic in analysis. Verdegem and Verhoest (2009) go on to note that instead of focusing on the traditional socio-demographic parameters of the digital divide, equal attention should also be given to the non-usage of ICTs. This point is also reflected by Selwyn (2003), in which it is noted that academic understanding of who is making less (or even no) use of ICTs remains non-existent. Given the traditional focus on the digital divide and the more recent interpretation of the term, the forthcoming section will therefore evaluate the factors of instigation, which may lead to the adoption, use, or non-use of ICTs.

### ***2.3.1.1 Traditional Perspectives***

Numerous factors have been highlighted in academic dialogue as an influence in ICT adoption. Scholarly discussions particularly in relation to the traditional notion of the digital divide often make reference to the effect which social class, income disparity and parental education have on the adoption of ICT devices. As noted by Martin and Robinson (2007), social class remains one of the most potent factors underpinning the difference in ICT adoption and usage in society. Research has highlighted that individuals with higher incomes are more likely to possess a computer and use

personal computers and the Internet more than those from middle and low income categories (Roberts, 2000; Subrahmanyam, Greenfield and Gross, 2001; De Hann, 2003; Selwyn, 2003; Dwivedi and Lal, 2007; Koivusilta, Litonen and Rimpela, 2007; Robertson, Soopramanien and Fildes, 2007a; Wangberg *et al.*, 2008). With the exception of computer ownership however, Roberts (2000) argues that income and levels of parental education demonstrate subtle differences in household ICT availability for the simple fact that most adolescents' homes contain most media devices. Indeed, it has been suggested that working class children are more likely to own their own television (Masthoff, 2002). Livingstone and Bober (2004) for example found no difference in games console ownership and social class. Similarly, it has been suggested that those in the working classes are more likely to have a games console compared to those in the professional classes (McPake *et al.*, 2005). In either case, there is an abundance of evidence to suggest that income is directly related to the ownership of personal computers. Nevertheless, media devices such as games consoles, television and indeed mobile phones locate little or no difference in possession between the social classes (Roberts, 2000; Kent and Facer, 2004; McPake *et al.*, 2005; Downie and Glazebrook, 2007). Indeed as suggested by Rideout, Foehr and Roberts (2010), in recent times there has been a narrowing of the digital divide and particularly in respect of computer ownership with a vast amount of teenagers regardless of parental education now owning a personal computer.

Regardless of the differences in ICT adoption outlined above, research has shown a disjointed difference in the time spent using ICT devices between the social classes. Patriarca *et al.* (2009) and Devís-Devís *et al.* (2009) for instance, identify that those adolescents whose parental education and income levels are of a low level are more

likely to spend more time watching television in an average week than those in upper education and income levels. Likewise, Rideout, Foehr and Roberts (2010) found that those children whose parental education is lowest are more likely to spend more time using their mobile phone. In respect of both games console and personal computer usage however, the latter study by Rideout, Foehr and Roberts (2010) identify that no difference exists in relation to how much time adolescents spend using these devices irrespective of their parent's education. Correspondingly, Kent and Facer (2004) also find that no difference exists in respect of time spent using a personal computer and socio-economic status. Conversely however, it is also argued that children whose parents obtained a higher standard of education or were in a higher social class bracket spent more time using personal computers and the Internet than those whose parents were not well educated or in the working social classes (Jackson *et al.*, 2008; Notten *et al.*, 2009). Perhaps it could be suggested from the literature outlined that other forces may be a factor in the findings identified. For example, is parental mediation an issue, which may be predisposing these results? This issue shall be explored further in Chapter 2.3.3.2.

Next to the issue of socio-economic status is that of the gender divide. In recent times, research has repeatedly identified a gender gap. More specifically, it has been shown that males use computers and the Internet more than females, have a broader experience of computers, spend more time online and report greater interest in and more positive attitudes to computer related activities (Schumacher and Morahan-Martin, 2001; Kennedy, Wellman and Klement, 2003; Thurlow and McKay, 2003; Losh, 2004; Broos and Roe, 2006; Verdegem and Verhoest, 2009). Wilson, Wallin and Reiser (2003) postulate that the reason for this may be that male values are

embedded in the design of new and emerging technologies, so much so that it becomes associated with masculine identity. What is more, when some females decide to use computers and the Internet for example, they may feel that the available software and web sites do not reflect their needs and interests (ibid).

Nevertheless, over the past decade, research in respect of gender has begun to suggest that the digital divide, particularly in relation to adolescents is beginning to recede (Hüsing and Selhofer, 2002). While this point is widely purported in academic studies (DeBell and Chapman, 2006), other research has been slow to adapt to this conclusion. Van Dijk (2006) for instance suggests that the physical access gap in the gender divide may have disappeared, however within actual computer and Internet usage, gender differences still remain. This suggestion however, is based on research with an adult population. With specific reference to an adolescent population, both Ho and Lee (2001) and DeBell and Chapman (2006) suggest that there is no gender difference in overall personal computer usage. However, in relation to the Internet, Schumacher and Morahan-Martin (2001) conclude from their study of incoming college students, that males do in fact use the Internet more in an average week than females. On other aspects of ICT usage, females have been shown to report greater usage. For example, research has indicated that female adolescents use mobile phones more often than males (Rideout, Foehr and Roberts, 2010). Nonetheless, this seems to be the only exception with research showing that males are more persistent users of both television (Wake, Hesketh and Waters, 2003; Todd and Currie, 2004) and games consoles (McMurray *et al.*, 2000; de Róiste and Dinneen, 2005; Brooks *et al.*, 2006; Downey, Hayes and O'Neill, 2007).

Based on the aforementioned literature, there would appear to be a digital divide in respect of different ICT devices. The evidence available however would seem to suggest that this divide is diminishing, particularly in respect of computer usage. Nevertheless, the evidence to support this suggestion is limited. More specifically, one could not conclude for certain that gender is the reason for such a digital division as other factors such as attitudes may have had a part to play in the usage of ICT devices. These extenuating circumstances will be explored further in Chapter 2.3.1.2.

Besides gender and socio-economic status, perhaps the most numerous and consistently reported socio-demographic parameter of the digital divide has been that of age (Broos and Roe, 2006). As noted by Morris and Venkatesh (2002), our society is fond of labelling different age groups as if to put forward that each group is entirely different from the other. Nevertheless, when it comes to the elderly, research has consistently identified that this group have both the lowest adoption rate and level of ICT use across all age categories (OECD, 2001; Roe and Broos, 2005; Selwyn, 2006; Eurostat, 2009; Olatokun, 2009). In fact, many individuals in the older age bracket are completely excluded from the information society (Broos and Roe, 2006).

Nonetheless, despite an evident age divide, it is interesting to note that both computer and Internet usage in the adolescent years follows a similar pattern to adults (Cleary, Pierce, and Trauth, 2006). That is to say, in the early years children tend to use computers for educational programs and games but not to any great extent. By early adolescence (aged 12 to 14) however, there tends to be a peak in usage. Thereafter, usage tends to drop until they become adults (Becker, 2000). Similarly, Roe and Broos (2005) find that the mean age for users of ICTs is 40.9 years of age. On the contrary,

the mean age for non-users was 56.6, hence mirroring the trend identified in adolescence. Livingstone, Bober and Helsper (2005) posit that the relationship between access to the Internet and age is not linear. They suggest that the oldest and youngest age groups have lower levels of access and use than 12-17 year olds. This they state is not just because access varies. The same age differences exist even when analysing equal access in the home (ibid). To sum up, while the literature would suggest that adolescents are very much indulged in the information society as regards ownership, access and usage of ICTs (Eurostat, 2009; The Nielsen Company, 2009; Rideout, Foehr and Roberts, 2010), there is also evidence to suggest that even among adolescents; individuals may still be excluded from the information society (Facer and Furlong, 2001; Livingstone, Bober and Helsper, 2005). Caution should therefore be exercised when describing the divide which exists, particularly in relation to adolescents.

In summary, some evidence has been presented to support the traditional notion of a digital divide in respect of social class, gender and age. This however is not to say that these are the only divides which exist under the traditional perspectives. Many studies for example have put forward the point that the presence of children in the home tends to increase contact with ICTs (Kennedy, Wellman and Klement, 2003; Wilson, Wallin and Reiser, 2003; Selwyn, 2004b; Buckingham, 2006b; Eurostat, 2009). Hence, it may be suggested that those homes without children are more likely to have less contact with new media technology. The urban/rural divide is also a perspective that has been highlighted in academic discourse (Tookey, Whalley and Howick, 2006; LaRose *et al.*, 2007). Preston, Crawley and Metykova (2007) for instance, outline that in Ireland, the level of broadband adoption falls significantly outside of the larger urban areas.

Among other things, issues such as race (Becker, 2000; Wilson, Wallin and Reiser, 2003; Jackson *et al.*, 2008) and social participation (Sassi, 2005) are also referenced in the literature as means of determining access to and usage of ICTs. Nevertheless, despite the traditional notions put forward and highlighted in the traditional perspectives of the digital divide, it is argued that those who support this concept tend to believe that as soon as everyone has ownership of or access to ICT devices, this problem will therefore be solved (van Dijk and Hacker, 2003). The next section however, will prove this theory to some extent incorrect, and in doing so identify other factors that may inhibit or limit adolescents use of ICTs.

### **2.3.1.2 Circumstances for Non-Use of ICTs**

According to van Dijk (2006), academic discussions on the digital divides observed in society are too often related to the age-old demographics of income, education, age and gender. Broos and Roe (2006) concur with this viewpoint. They state that while socio-demographic factors are clearly important parameters structuring the digital divide, other variables such as psychological barriers to access and use may be equally important as explanations in this phenomenon. Indeed, the presence or absence of ICTs in an individual's life is only a diminutive part of the broader context of why people actually use ICTs (Alampay, 2006). Therefore, while socio-demographic parameters are important in considering the factors involved in the adoption, access to and use of ICTs, there are also psychological or skill related aspects linked to their non-use.

In recent years there have been a number of factors found to influence an individuals non-use of ICTs, some of the most cited of which include a lack of knowledge or skill or simply no interest. The latter of these rationales seems however to be the most



extensively cited in the literature. Helsper (2008) for example when discussing the parameters of ICT adoption refers to the notion of a '*digital choice*'. This refers to individuals who even with characteristics, which would suggest they own and use specific ICTs, may for one reason or another choose not to use them. These choices she states are quite often influenced by social and cultural factors which in turn foster either positive or negative attitudes towards technology. This notion of a digital choice is reflected in a wide body of research. Lenhart *et al.* (2003) for instance, found in a phone survey of 3,553 Americans that more than half (52%) of non-users of the Internet stated that a lack of need or desire was a major reason for why they choose not to go online. In fact, for most individuals surveyed, they were just not interested. Similarly, De Hann (2003) indicates that one of the main reasons for non-possession or use of a PC was because the individual was simply disinterested in the technology. Likewise, Livingstone and Helsper (2008) find that non-interest is cited as a statistically significant reason for why children do not use the Internet and particularly among teenagers.

However, given that non-interest is such a broad characterisation, could it be that other underlying factors may have influenced either the purchase or non-use of technological paraphernalia under this category? Broos and Roe (2006) for example advance that empirical evidence exists to suggest that psychological factors are important elements underlying the digital divide when they are specifically related to gender. That is to say, males have more positive attitudes and less anxiety towards computers (Todman, 2000; Schumacher and Morahan-Martin, 2001) and other technological devices. From an alternative perspective however, the notion of technophobia has also been advanced as an issue, which may instigate the non-use of

ICTs. This notion advocates that the fear and apprehension an individual suffers when considering the implications of using technology, even when it poses no real or immediate threat to them (Selwyn, 2003) results in non-use of ICTs. Taking these factors into mind, it could be suggested that the broader context of adoption, access to and use of ICTs can be more complex and interdependent of other variables in some cases (Haddon, 2004). Indeed, non-interest in itself could be misunderstood as a multi-faceted term. However, in the context of its application here, it is certainly relevant in terms of the digital divide.

A lack of skill or competence in using ICTs is at face value, less multifaceted than the previous matter. Nonetheless, like the issue of non-interest, research has highlighted different levels of IT skills in both boys and girls and differences in skills based on socio-economic status (Livingstone, Bober and Helsper, 2005). Prior to discussing the notion of digital skills, an understanding of the term must first be explored. Accordingly, digital skills may be defined not only as the skill to operate and use computers and network connections, but also as the skill to search, select and process information from an abundance of sources (van Dijk and Hacker, 2003). In extending this definition, van Dijk (2006) notes that the concept of skills access is divided into three types which quite often follow this order: first a computer user must acquire operational skills; second, he/she has to develop and apply informational skills; and finally, strategic skills need to be put in place. That is the capacity to use computer and network sources as a means for particular goals in society.

The majority of the literature which addresses this issue, seems to stem mainly from adults non-use of ICTs (De Hann, 2003; Verdegem and Verhoest, 2009). Nonetheless,

academic discussion has identified this issue with a younger demographic. Interestingly, as highlighted in Chapter 2.2.5.1, a substantive amount of academic discourse has underlined that the current generation of youths are media savvy (Prensky, 2006; Kennedy *et al.*, 2007; Tapscott, 2009; Mesch and Talmud, 2010) and much more technologically adept than their elders. However, other studies have been quick to counter argue this stance. Nielsen (2005) for instance, contends that the common conception that teenagers are more superior web users than adults is somewhat misguided. In their study of web site usability, it was found that teens only completed assigned tasks 55% of the time, whereas adults completed the same tasks 66% of the time. Added to this, Hargittai and Hinnant (2008) attest that in some cases teenagers are more likely to have less patience and poor research skills online. Livingstone and Bober (2004) also suggest that children between the ages of 9-19 often lack the skills which are required to evaluate the material they find online. On the other hand however, it is also identified that many parents lack the skills required to guide and support the Internet use of their children.

Evidentially, it would seem that a lack of skills is not just an issue with adults (De Hann, 2003) but also with adolescents (Livingstone and Bober, 2004; Nielsen, 2005; Hargittai and Hinnant, 2008), though the matter seems to be much more prominent amongst the older population (van Dijk and Hacker, 2003). While good practical skills and subtle competencies may facilitate Internet access for example, the simple lack of such competencies crucially hinders new and inexpert users, hence limiting the richness of their use if not excluding them altogether (Livingstone, Bober and Helsper, 2005). Therefore, having the requisite skills and knowledge to use a technological

device are obvious factors underpinning an individual's experience of and attitudes toward using ICTs (Selwyn, 2003).

In conclusion, both the knowledge and skill required to use ICTs coupled with the interest in actually using technological devices, appears to be a vital component for the engagement with and use of ICTs. In fact, should these factors not be part of an individual's personal attributes then according to the literature presented, the likelihood is the individual will not engage with ICTs. This statement however should be viewed cautiously, given that other variables such as age, gender and social class have all been shown to influence the aforementioned factors. Also, the problem of inadequate digital skills is sometimes viewed only as a temporary problem to be solved following the purchase of a computer or other ICT device (van Dijk and Hacker, 2003). However, an individual must first have an interest in purchasing the device and be able to afford it. Theoretically, various explanations in relation to the digital divide phenomenon have been put forward in the literature. Nevertheless, the approaches proposed, typically rest on various assumptions concerning the role of technology in peoples lifestyles and as a result, arrive at opposing interpretations of digital divide phenomenon (Peter and Valkenburg, 2006). For this reason, the concluding section will therefore attempt to review how the digital divide can be interpreted.

### ***2.3.1.3 Digital Division or Digital Decision***

Given the literature presented in the latter section, one could ponder how the discussion of the digital divide should be evaluated. The approaches offered all have a common understanding of the disparities that exist in the use of ICTs, however they differ in how they see the significance of the phenomena. Thrane (2003) suggests that

a way of structuring the factors that influence adoption is to make a distinction between the '*need to adopt*' and the '*ease of adoption*'. That is, some personal characteristics may be related to the actual need for the ICT device, while others are in fact the necessary conditions for adoption. So in this respect, is the digital divide a digital division (between those who have possession of ICTs and those who have not) or is it a digital decision (those who want to use ICTs and those who do not). Certainly this matter is open to interpretation given the literature presented on the matter.

Undoubtedly, there is confusion in the interpretation of the digital divide. On the one hand, the denial approach for example refutes that fact that a digital divide even exists, whereas the growth and persistence approach considers the divide as just another aspect of the persistent and ever growing social inequalities which already exist in society (Peter and Valkenburg, 2006). Sassi (2005) suggests that the digital divide is not one-dimensional and in this respect could be formulated in a variety of hypotheses. The weak hypothesis she suggests sees segregation as a temporary trend and mainly concerns disparate skills and the ability to use the Internet. These differences she states will remain to an extent given that people naturally differ from each other. The strong hypothesis however, suggests that the emergence and growth of an information society will inevitably create new social cleavages and strengthen old ones.

Irrespective of what approach is adopted, there is no denying that a multitude of factors have to be taken into consideration. Certainly, it may be suggested that a digital divide exists to some extent in respect of the factors outlined. However, to what level are these factors the main instigator in the divide, especially given their interconnect-ability? In reality, attempts to answer the most basic questions of the

digital divide are scarce. The reason for this is because the deeper social, cultural and psychological causes behind the divide have not been addressed (van Dijk, 2006). For now, and for the purpose of this study, the researcher can but acknowledge at a rather descriptive level that they exist and may have had an influence on adolescence adoption of ICT devices. Evidentially, taking the factors outlined into mind, the following section will discuss the level of ownership of specific ICT devices among adolescents with particular reference to Ireland. In addition, research will also be presented detailing specific use of ICTs and time spent using these devices.

### **2.3.2 Ownership and Usage of ICTs**

Given the literature presented earlier within this Chapter, it is certainly conceivable that ICTs are and will continue to be an ever-present characteristic in the daily lives of children and adolescents. Today, youths use computers for studying, playing games and seeking information off the Internet. Added to this, they use mobile phones where and wherever they so wish (Subrahmanyam, Greenfield and Gross, 2001). The mobile phone is for many young people a medium which permits communication without the surveillance of parents, family and teachers (Davie, Panting and Charlton, 2004) and in turn offers differing challenges because of their interactive, flexible and portable capacities which other technologies generally do not offer (Jones, Williams and Fleuriot, 2003). Coupled with the popularity of the mobile phone, the ever-increasing attractiveness of computer gaming as a contemporary leisure activity, together with the increasing use of personal computers, television and games consoles as leisure technologies are evidence of the increasing convergence of new technologies and leisure practice (Bryce and Rutter, 2003a). With this in mind, the following section will therefore review the prominence of personal computers, televisions, games

consoles and mobile phones within adolescents' lives and moreover, review where possible the context of their use.

### **2.3.2.1 Television**

Television may represent one of the most important influences on adolescents' health and behaviour. By time criteria alone, television represents the predominant medium. That is to say, it has been suggested that by the time the average person reaches age 70, he/she will have spent the equivalent of 7-10 years watching television (Strasburger, 1993). Despite academic hype suggesting that new media are increasingly replacing old media, for most children and adolescents, television still remains the most popular ICT device both in terms of time spent with it and use of it (Livingstone, 2002). This section will therefore outline how popular television is in the lives of adolescents and moreover, detail the time spent by adolescents using the device. Where possible, literature relating to Ireland will be discussed.

#### **2.3.2.1.1 Television Ownership**

The level of television ownership demonstrated in the literature has been consistently high for a number of years with various studies indicating that just short of 100% of households in Ireland have a television in the home (Connor, 2003; CSO, 2006a; 2006b). However, it is the extent of ownership, which is now emerging as a key concern for those implementing youth strategy. For instance Foley-Nolan *et al.* (2005) in a study of youth obesity in Ireland indicated that 46% of parents they surveyed denoted that they had three or more televisions in the home. Likewise, Burns *et al.* (2004) in a survey of childhood sedentary behaviour among a sample of 312 Irish children found that 42% of the research participants had four or more televisions in

their place of residence. Similarly, Jordan *et al.* (2006) found that the average number of televisions per American home was four.

With this increased number of televisions in the home, it would seem credible to ask if teens are spending more time watching television as a result. Burns *et al.* (2004) for example suggest that those who have a TV in their bedroom were more likely to have a higher BMI<sup>13</sup>. Moreover, it was highlighted that weekly screen time inactivity was 2.3 hours higher with children who had a TV in their bedroom, though weekly TV viewing itself did not show any significant difference (*ibid*). Similarly, Spurrier *et al.* (2008) found that no relationship existed between the number of televisions in the home and time watching TV. This finding has also been supported in other studies (Yalcin *et al.*, 2002; Marshall *et al.*, 2004).

Given the degree of television ownership shown in the literature, it would certainly be plausible to review the type of channels, which households in Ireland are signing up to. Connor (2003) highlights that at the time of his research in 1997, 100% of his research sample ( $n = 3,315$ ) had the basic standard channels (RTE 1 and RTE 2<sup>14</sup>), 96% had the BBC channels<sup>15</sup>, 30% had Sky Sports<sup>16</sup> and finally 21% had all the cable channels<sup>17</sup>. However, in auditing nationally representative findings publicised at the start of this research, it was found that 75% of the Irish population were subscribed to digital satellite/cable television (CSO, 2007). Furthermore as of 2008, this figure has since increased to 79% of the Irish population (CSO, 2008). Caution however must be

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<sup>13</sup> BMI is weight divided by height squared (weight/height<sup>2</sup>). This gives a relative indication of body mass.

<sup>14</sup> The channels TV3 and TG4 available today were not available at the time of this study.

<sup>15</sup> At the time, these channels would have been available through cable television subscription.

<sup>16</sup> Sky Sports had not expanded to the number of channels, which it has today at this time.

<sup>17</sup> Having possession of all the cable channels would have meant subscription to a digital television package.



exercised in interpreting these results, as it must be noted that no option was left available for those who only had the standard television channels. Keeping this factor in mind, a more recent investigation conducted by RTE<sup>18</sup> in 2010 shows a much lower up take of digital television than that purported by the CSO. This study showed that 18% of households in Ireland only receive the four national channels<sup>19</sup>. A further 22% of households have a cable/satellite analogue set up and finally 47% receive cable/satellite television. The remaining 13% receive channels through alternative methods (McNulty, 2010). The recession of 2009 may have had an impact on these figures with many people possibly opting back to the cheaper analogue set up. Then again, it has been suggested that with recession, people are more inclined to increase their television use, as it is cheaper than eating out (Tapscott, 2009).

Interestingly, given the prominence of digital television, very few studies have acknowledged the possible overall effect which having satellite or digital television may have on people's television viewing patterns. Nevertheless, some studies do deal with this topic. Of particular note is a cross national survey conducted by van der Voort *et al.* (1998) in which media usage from a cohort of children aged 6-17 from Britain ( $n = 1,309$ ) and the Netherlands ( $n = 1,355$ ) was compared. This research found that in Britain, children who have access to satellite or cable television watch considerably more TV than those without. Girls in particular were said to have watched an extra 21 minutes of television per-day when having access to digital television. A similar finding is highlighted by Kang (2002). This study found that those individuals who have digital, cable or satellite television subscriptions were significantly more likely to spend more time watching television per-week than those

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<sup>18</sup> RTE (Radio Telefís na hÉireann) is the national television broadcaster in Ireland.

<sup>19</sup> The four channels are RTE 1, RTE 2, TV3 and TG4.

who were non-subscribers. Nevertheless, the methodology behind this study was questionable and possessed a number of inbuilt limitations. Furthermore, the median age of the sample group was 34 years of age. In contrast to the latter research findings, Henning and Vorderer (2001) in a survey of 428 German University students found that there was no significant difference in television viewing times between those who had cable or satellite television set-up. However as noted, the research demographic was based on a specific sample of University students and may not be representative of the entire population.

#### ***2.3.2.1.2 Time Spent Watching Television***

In contrast to the previous section, the amount of time which adolescents spend watching television is well studied. Specifically relating to Ireland, there have been a number of studies that have examined adolescent's daily use of this medium. This is not surprising, given that watching television is often referred to as a frequent leisure activity among adolescents and not just in Ireland (Fisherkeller, 2002; Connor, 2003; de Róiste and Dinneen, 2005; McLean, Hurd and Brattain Rogers, 2005; O'Connor, 2008; Rideout, Foehr and Roberts, 2010). According to Fahey, Delaney and Gannon (2005), the majority of Irish teens watch between one and three hours of television per-day during the week. However, during the weekend there is an incremental growth with more teens reporting longer periods of time in front of the television. Indeed, it was found that almost one third of both boys and girls in second level schools watch more than four hours of television a day at weekends (ibid). Correspondingly, Todd and Currie (2004) suggest that 19% of Irish teens (aged 15 years old) spend more than four hours per-day watching television during the week. At weekends however, this

percentage rises to 46%. Moreover, it is suggested that males spend more time watching television than females<sup>20</sup>.

The Nielsen Company (2009) suggests that the total amount of time spent per-day viewing television by teens in Ireland is 4 hours and 20 minutes. This would imply that Irish teens watched over 30 hours of television per-week. Furthermore, this figure is at the upper limits of television viewing, and presents Irish teens as being amongst the most sedentary teenagers worldwide. On the contrary however, this finding may be accounting for time using other devices through the medium of television. Taking such factors into consideration, a less time intensive result is found by Lalor and Baird (2006). They suggest that in terms of total time watching television, just short of 25% of children watch greater than 10 hours of television per-week. This finding would suggest that Irish teens are keeping within the recommended guidelines for television viewing as set down by the American Academy for Pediatrics (2001) of two hours television viewing per-day. Conversely, Burns *et al.* (2004) suggest that 79% of Irish boys and 64% of Irish girls may be exceeding this threshold.

### **2.3.2.2 Personal Computers and the Internet**

Since computers became an affordable household appliance in the late 1980s and early 1990s, they have since become an established every day leisure activity among many adolescents who possess them or are interested in or able to use them. Coupled with this increased use in personal computers, the Internet too has evolved in conjunction with developments in computer technology to become an inherent aspect of adolescents' daily lives. Paralleled with this increase in both access and use,

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<sup>20</sup> During the week, 28% of 15-year-old males compared to 23% of 15-year-old females watch greater than 4 hours television per-day. At weekends this figure extends to 50% for males versus 46% for females.

adolescents are now utilising both personal computers and the Internet in a variety of contexts. Therefore, given the various dimensions of personal computer and Internet usage, the upcoming section will provide a descriptive breakdown of the ownership and use of these technologies. Added to this, where possible a break down of the different type of uses which adolescents utilise these devices for will be provided.

#### ***2.3.2.2.1 Personal Computer Ownership***

In the period between 1998 and 2008, ownership of personal computers increased from 19% to 70% of the Irish population (O'Connor, 2005; CSO, 2009; Eurostat, 2009). Specifically relating to the South-East of Ireland, computer ownership as of 2009, stood at 73% (CSO, 2009). This high level of computer ownership is also evident in other research. For example, Ó Briain and Nitting-Fulin (2009) for the National Centre for Technology in Education found that only 3% of the children they surveyed ( $n = 863$ ) did not have access to a PC at home. However, this study fails to indicate the location of the schools in which the surveys were completed. This may be the reason for such a high figure<sup>21</sup>. Nevertheless, this increase in computer ownership as evident from the research outlined has occurred in a time of economic prosperity, unprecedented employment and increased wealth. Furthermore, the popularity of computers has grown significantly in recent years and in many respects, this has been aided by a consistent lowering in the cost of purchase (Eurostat, 2009).

#### ***2.3.2.2.2 Specifics of Personal Computer and Internet Use***

The Central Statistics Office indicates that just over 2.4 million people in Ireland have used a computer in 2008<sup>22</sup> (CSO, 2008). However, no statistical break down by age

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<sup>21</sup> If the schools that were surveyed in this research were in an upper class area, this may in turn affect the outcome of the research results.

<sup>22</sup> Roughly 56% of the Irish population.

category or percentage of use is provided. In contrast, Eurostat (2009) in their report on youth and Europe, highlight that youths aged between 16-24 years were the leading users when considering computer usage. Accounting for the entire cohort of European Union nations, Eurostat established that more than 70% of the 16-24 year old age group used a computer on a daily basis. Furthermore in Ireland 61% use a computer daily, while a further 23% do so at least once per-month<sup>23</sup>.

Certainly given the literature presented, it is clearly evident that computer use is prominent in society. That being said, it is not entirely known what it is adolescents do when using a computer. To date, a number of studies have identified differing practises which youth engage in on personal computers. For example, Roberts *et al.* (1999) established that amongst the greatest reasons for personal computer use was that of playing games (26%), followed by school homework (22%), surfing the Internet (15%), chat rooms (10%) and using e-mail (9%) to name a few. In a subsequent study by Prezza, Pacilli and Dinelli (2004), it was identified in a survey of 331 Italian adolescents, that 67% went online once or twice a day, a further 43% used the computer for video games, followed by 40% for video writing, 20% for creating web pages and finally 13% for documentation.

These studies, while indicative of adolescent computer usage, are however dated. In the period between 1999 and 2010 there have been significant technological advancements in the area of information technologies. Particularly, the unprecedented growth in SNSs, developments in online gaming, allied to considerable advancements in communication technology, has now meant that youths can utilise computers in a

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<sup>23</sup> This statistic refers to the 16-24 year old age group.

multitude of ways. Yet to date, research on this matter in Ireland is lacking. More specifically, Kuntsche, Overpeck and Dallago (2008) identify that Ireland has no valid data on computer use, and for this reason, they were excluded from their European research on television viewing and computer usage.

Ireland does however have some data on Internet use. Ó Briain and Nitting-Fulin (2009) for example, found that the most popular activities for Irish adolescents online were that of playing games (60%), downloading music (51%), using SNSs (48%), doing school homework (43%) and general browsing (38%). These findings are consistent with international conclusions. O'Neill, Grehan and Ólafsson (2011) for instance, identified in their European report of EU Kids Online, that the most popular Internet activities for Irish children aged 13-16 years old were doing school homework, watching video clips, playing games, instant messaging, visiting a Social Network profile and sending e-mail. Correspondingly, a survey by Lenhart, Madden and Hitlin (2005) based in the United States, detailed that the five most popular online activities for American teens was that of sending or reading e-mail, going to websites about movies, TV shows, music groups, or sports stars, playing online games, finding out news about current events or finally to send and receive instant messages. While differences were evident in both male and female Internet use in each of the studies outlined, online communication it would appear is a consistent aspect of all adolescents' use of the Internet. Furthermore, while use of SNSs was not identified in the latter study, in recent years it would seem that this has increasingly become a popular Internet activity (Gefter, 2006; National Centre for Technology in Education, 2008; O' Neill, 2010; O'Neill, Grehan and Ólafsson, 2011).

### ***2.3.2.2.3 Time Spent Using a Personal Computer and the Internet***

Given the dearth of literature available on computer use in Ireland (Kuntsche, Overpeck and Dallago, 2008), the time with which adolescents spent using a computer shall therefore have to be reviewed from an international perspective. In this regard, Ho and Lee (2001) found that on average, adolescent computer users spent 2.5 hours each day using their computer for a number of purposes. Additionally, in comparing these times against gender, no difference was found. An Italian study analysing the use of particular ICT devices unearthed a much lower figure. According to Patriarca *et al.* (2009), adolescents spend on average 1.6 hours per-day using their computer in the home. They also found a number of factors, which predispose greater usage of the Internet. That is, those individuals who are older, with a computer in their bedroom, with a higher number of computers in the home and who watch more TV and play videogames are more likely to use their computer regularly. From an American perspective, Utter *et al.* (2003) indicates that the average time spent solely on computer usage amongst adolescents was more than one-hour per-day, a figure lower again than that of the latter results shown.

In contrast to computer usage, there has been an array of research, which has examined adolescents' intensity of Internet use, some of which was conducted in Ireland. It has been suggested for instance, that on average Irish teens spend between forty minutes to one hour online per Internet session. Specifically, it was found that in the older age group (12-14 years), sessions might last for one hour or more, particularly amongst females (European Commission, 2007). From an international perspective, Schumacher and Morahan-Martin (2001) found in a sample of incoming college students that weekly Internet use stood at 6 hours and 4 minutes per-week

amongst both males and females combined. Furthermore, broken down by gender, it was found that males used the Internet more on a weekly basis compared to females. Interestingly, in the 2011 EU Kids Online report by Livingstone *et al.* (2011), the average time European adolescents (15-16 years old) spent using the Internet per-day was 118 minutes. By comparison Irish adolescents in the same age group spent 80 minutes per-day (O'Neill, Grehan and Ólafsson, 2011). This difference in usage is also reflected in the regularity of usage. Irish teens ranked 21<sup>st</sup> out of 23 countries in terms of the percentage of adolescents who reported using the Internet every day or almost every day. Little difference however was found in male and female Internet usage daily (Livingstone *et al.*, 2011; O'Neill, Grehan and Ólafsson, 2011). In fact, according to O'Neill (2010) gender differences in Internet use are falling across Europe.

### **2.3.2.3 Games Consoles**

Video games have and will continue to evolve as technology becomes more advanced. In the past, the legendary disc known as Pac-Man once brought hours of entertainment to children and adolescents with just four simple joystick commands. Today, these games have been lost into oblivion (Oon, 2004). The rise and popularity of video games as a leisure phenomenon, has become an ever-increasing part of many young people's day-to-day lives (Anderson, Funk and Griffiths, 2004). There was a time when game playing kids were unpopular and depicted as geeks. In recent times however, it would appear that the computer geek stereotype is no longer as disfiguring and the child with the latest game is often seen as the popular one (Oon, 2004). Given the popularity of this medium and its inherent importance within this research, the following section will outline the diffusion of games consoles in Ireland and where



possible reflect on specific video game use. Following this, the time spent using these devices will also be reviewed.

### ***2.3.2.3.1 Games Console Ownership***

Very little information exists on the ownership of games consoles in Ireland. In fact, since the CSO Information and Society report in 2006, very few studies have since been published. In the aforementioned CSO survey, it was highlighted that as of 2005, games console ownership stood at 35% of Irish households. However, this figure has since dropped to 33% in 2006 (CSO, 2006a). This figure is somewhat surprising, given that an earlier study conducted by Amárach Consulting (2004) indicated that games console ownership was at 76% of the adolescent population in Ireland. Additionally in 2007, a study commissioned by the Office for the Minister of Children and Youth Affairs found that three quarters of the children they surveyed ( $n = 292$ ) had a games console in the home (Downey, Hayes and O'Neill, 2007). Moreover, a survey of Irish University students found that of the sample of 378 students they surveyed, just close to 63% owned a games console personally (Alexopoulos *et al.*, 2009). Even from an international perspective, research by Livingstone and Bober (2004) highlight that 82% of households in the United Kingdom have access to a games console.

It would therefore seem that games console ownership in the home is more prominent than reported by the CSO. While their survey was based on a large sample of households in Ireland, their findings are still surprising given the population of youths in Ireland at the time of the surveys<sup>24</sup>. Nonetheless, it could be suggested that the CSO figure while smaller in comparison to the other research cited, might possibly be the

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<sup>24</sup> The age group from 5 – 19 years made up just over 20% of the population in 2006.

result of a definitional difference in their questionnaire. Likewise, sampling methods may have played a role in the difference in results found. In relation to the type of console owned, it would seem that no comparable statistics exist, though it has been suggested that at one stage, Ireland had the second highest per capita ownership of the original Playstation® and furthermore, had a greater penetration rate of Playstation®2's than in the United Kingdom (Kerr, 2003).

In respect of games console use, The Kaiser Family Foundation (2002), outline that the top three genres of games played by children was that of action/combat games, sports and finally adventure. In a more recent survey, Rideout, Foehr and Roberts (2010) found that the most popular games played by an American sample of students aged 8-18 years was that of Guitar Hero/Rock Band, Super Mario, Wii Play/Wii Sports, Grand Theft Auto, Halo and finally Madden NFL. Continuing on the topic of the type of games played, Olson *et al.* (2007) conducted a study of factors correlated with violent video game use on a sample of 1,254 children in the United States. In their results, it was found that just over 48% of their research sample had at least one M-rated<sup>25</sup> title on their 'five most played' list. Boys were more likely to play such games with females reporting a much lower usage. Interestingly, the same survey found that that top two games played by females was that of 'The Sims' and 'Grand Theft Auto'. Given the violent nature of Grand Theft Auto, this is somewhat surprising as girls have been shown to play more relaxed and less serious or violent games (Rideout, Foehr and Roberts, 2010). Within the same research (Olson *et al.*, 2007) it was highlighted that males were more likely than females to play video games by themselves.

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<sup>25</sup> This concerns games designed for a mature audience i.e. individuals over 17 years of age. Sales of this game type are prohibited for children less than 17 years old in the United States of America.

### **2.3.2.3.2 Time Spent Using Games Consoles**

Many studies over the years have consistently highlighted that males use games consoles more in an average week than females (McMurray *et al.*, 2000; Connor, 2003; de Róiste and Dinneen, 2005; Downey, Hayes and O'Neill, 2007) and furthermore underline that boys are more likely to spend more time using a games console. For example, Brooks *et al.* (2006) in a Health Behaviour and School Aged Children survey of England, Ireland, Scotland and Wales, found that across all four countries, a significantly higher proportion of boys reported spending at least two hours a day playing video games than girls. The Nielsen Company (2009) signify in their research of how teens use media, that 75% of males compared to 57% of females had used a games console at least once in the last quarter of 2008. This study further states that the average games console usage per-day for US teens was 25 minutes. In contrast to The Nielsen Company findings, Rideout, Foehr and Roberts (2010) found that average games console usage per-day stands at 36 minutes amongst children aged 8-18 years. For the 15-18 year old age group the time dropped slightly to 31 minutes per-day usage. However, in a similar situation to The Nielsen Company findings, Rideout, Foehr and Roberts (2010) also find that boys spend more time than females playing games consoles. Their findings show that males spend 56 minutes per-day using a games console compared to 14 minutes per-day for females.

### **2.3.2.4 Mobile Phones**

In the latter half of the 1990s, mobile phones were first connected to telephone networks<sup>26</sup> in Ireland. While originally, mobile phones were developed as business tools, they have since evolved into multi-purpose personal communication devices.

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<sup>26</sup> Some of the first mobile phone companies to emerge in Ireland were Eircell and Esat Digifone, which later became Vodafone and O2 Ireland.

Certainly, the mobile phone is for many adolescents a device, which permits communication without surveillance from parents (Davie, Panting and Charlton, 2004). However, in addition to this, these devices actively allow adolescents to access the Internet, visit their Social Networking page and play multi-player games online. Taking these factors into consideration, the forthcoming section will therefore provide a review on the extent of mobile phone ownership in Ireland with particular reference to adolescents. Next, the amount of credit adolescents spend per-week using these devices shall be outlined and following this, adolescents specific use of the device shall be discussed.

#### ***2.3.2.4.1 Mobile Phone Ownership***

In recent years, there has been a dramatic rise in the ownership and use of mobile phones and this has been highlighted both from an Irish and international context. Specifically, de Róiste and Dinneen (2005) outline that at the time of their research, 95% of Irish teens owned a mobile phone. This rose steadily from 87% of teens at age twelve to 100% by the time they reach the age of eighteen years. In addition to this finding, Com Reg (2008) suggests that mobile penetration stood at 116% of the Irish population at the end of 2007. As of 2009 however, this figure stood one per cent higher at 117% (Com Reg, 2009). This survey also finds that 31% of subscriptions in Ireland were bill-paying customers (ibid), although Irish research has suggested that most children, who possess a mobile phone, possess a pay as you go phone (Downey, Hayes and O'Neill, 2007). Indeed, research has suggested that due to the itemised nature of bill pay phones, large numbers of youths instead opt for the pay as you go system for their own privacy (European Internet Coregulation Network, 2005). However, it could also be suggested that parents favoured their children having pre-paid phones as, once phone-credit ran out, they were no longer able to use their phone.

By contrast, should they have a bill phone, the adolescents were free to build up a substantial phone bill (Taylor, 2009).

#### **2.3.2.4.2 Mobile Phone Credit Use**

To date, limited research has examined adolescents mobile phone credit use. Specifically, of those studies that do exist, most focus on a younger demographic than that used in the present study. That being said, the studies to be presented provide a guideline for how much credit is used by children. Relating to 10 and 11 year olds in England, Davie, Panting and Charlton (2004) found that close to half (45%) of the sample surveyed ( $n = 351$ ) in their research spent just ten pounds per-month on mobile phone-credit while just 15% spent fifteen pounds or more. This study is limited in comparability given the mobile market in the United Kingdom, and as stated, the age of the children surveyed. In the case of Ireland, Downey, Hayes and O'Neill (2007) found that Irish children (aged 4-12) could spend between €5 to €10 per-week on credit and more often than not, the money for this credit would come from their parents and usually from their mother. This is a point, which is shared by Davie, Panting and Charlton (2004). They find that 50% of children paid for the credit themselves, whilst for 31%, the parents made the top-up purchase. The remaining 19% shared the cost with their parents (ibid).

The Nutrition and Health Foundation (2005) found that the majority of Irish children spend their weekly pocket money on phone-credit. While the figure they found per-day was small, they suggest that weekly or indeed monthly, this figure could be much higher. Similarly in a further Irish study, Byrne *et al.* (2006) found that one of the main reasons adolescents search for part-time employment is so that they have

disposable income to spend on mobile credit. However, this research was limited in the fact that it was focused on a disadvantaged demographic<sup>27</sup>.

In relation to gender, no difference is reported to exist between phone-credit spent per-week. Kreutzer (2008) for example, conducted a study of 11<sup>th</sup> grade South African children and their use of mobile phones. His analysis found that while there was only a small difference in the level of phone-credit used per-week between both genders; it was females who used the most credit in an average week. Aside from this study however, this issue seems to have received very little attention in academic discourse. Likewise, the effect of which social class may have on credit usage patterns also receives no academic attention.

#### ***2.3.2.4.3 Purpose of Mobile Phone Use***

A number of studies have examined adolescents' primary use of their mobile phone, each of which provides a wide array of findings similar to each other. For instance, in a survey of New Zealand youths, Netsafe (2005) found that the three primary reasons for mobile usage amongst teens was 'to talk and text friends' (56%), 'for safety' (23%), and finally 'to talk and text family' (17%). Likewise, in an Irish study conducted in the same year, de Róiste and Dinneen (2005) highlight that the main functions of mobile use detailed were that of 'to keep in touch' with family and friends, 'chatting', 'arranging to meet up', 'gossip', exchanging 'secrets', 'sharing pictures', 'recording songs' and for males, playing games. As pointed to earlier, the issue of safety arose with 12% of respondents. In a similar fashion, this was highlighted as an important function among the Netsafe sample and in a number of additional studies (Davie, Panting and Charlton, 2004; Campbell, 2005). Furthermore,

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<sup>27</sup> The research was conducted on a sample of working class adolescents.

safety has been cited as one of the main reasons for which parents allow their children to have a mobile phone (Srivastava, 2005). Certainly, it would be plausible to suggest from this, that parental factors may contribute to adolescents possessing a mobile phone.

The use of text messages has been seen as a more recent and growing phenomenon. However, to date very few studies examine how many text messages are sent on average per-day by adolescents. Instead, the majority of research tends to focus on the yearly amount of messages sent rather than the more confining and specific statistics like per-day usage. Faulkner and Culwin (2005) conducted research, which did however query such usage. According to these findings, females send on average more text messages per-day than males (6.3 text per-day versus 4.3). This is a point that is reaffirmed by both Barron and Ling (2007) and Ling (2005).

No research was found concerning part-time employment and number of text messages sent per-day. However, given the greater the level of income at part-time workers disposal (McCoy and Smyth, 2004), perhaps it would be plausible to suggest that they are liable to sending more messages per-day. Furthermore, no research was found concerning social class and the number of text messages sent per-day, though it has been suggested (Rideout, Foehr, and Roberts, 2010) that those whose parents have the least education, do spend more time in an average day using their phone for texting. Given the dearth of literature on this topic, one could not come to the conclusion that there are differences in the number of text messages sent per-day and one's social class background.

### **2.3.3 The Introduction of ICTs into the Family Home**

According to Mesch and Talmud (2010), the introduction of ICTs into the family home can facilitate tensions in the perception of family boundaries. For example, the use of ICTs may expose adolescents to larger amounts of information, covering a wide array of topics. While for the most part this information may facilitate school homework and other beneficial activities, on the other hand, adolescents are also increasingly exposed to negative content, and in this manner, the impact of such exposure may be serious for a number of reasons (ibid). In addition to this, adolescents may become distracted by the presence of ICTs both in family living areas and in the bedroom. This presence may draw adolescents away from more family oriented pursuits or from activities of greater importance such as school homework. Taking into consideration the possible benefits and problems, which emerge as a result of the introduction of ICTs into the home, it is therefore important to reflect on parental mediation and location strategies in the home. In turn it is also important to consider any conflicts that may arise as a result of their introduction. Thus far, this review has detailed the process of assimilation to which ICTs enter the lives of adolescents and the context of their ownership and use. The following section will now focus on how the family home environment is augmenting as a result of the introduction of ICTs.

#### ***2.3.3.1 ICT Location in the Home***

Livingstone (2002) accounts, that the period in time in which the television set was introduced to the family home, transformed the spatial and temporal rhythms of family life. She states, that as each room at that time had a pre-defined activity associated with it, there arose a new problem, which is where to put it. Certainly, the decision to acquire new media means asking questions about where new ICT devices will fit within the current domestic ecology of media objects (Horst, 2010). Indeed as



purported by Holloway and Valentine (2003), the room in which families place televisions, personal computers and other electronic media often shapes whether the device is used individually or collectively as well as how long and frequently the new media device might be used. Added to this, numerous studies have identified a higher intensity of ICT related use with those children who have such devices located in their bedroom and not to mention other physical and psychological effects (Owens *et al.*, 1999; Dennison, Erb and Jenkins, 2002; Gentile and Walsh, 2002; Livingstone, 2002; Van den Bulck, 2004; Mesch and Talmud, 2010; Rideout, Foehr and Roberts, 2010).

Given that in recent years there is growing concern over parents' ability to control and monitor their children's use of media devices (Livingstone, 2002; Horst, 2010; Mesch and Talmud, 2010), many parents are now opting to place more important media devices such as games consoles and personal computers in the public spaces of the family home (Horst, 2010). Nonetheless, there are many more who either through lack of knowledge and disregard for the location of ICT devices are increasingly placing televisions, personal computers and games consoles in the bedroom free from parental monitoring. Television, while not highlighted by Horst (2010) as an important media device, is well discussed in the literature and particularly in relation to televisions located in the bedroom. While it is not surprising that the most popular location for a television in the home was that of the sitting room or living room (Jordan *et al.*, 2006; Amarách Research, 2008), it is when a television is located in the bedroom that concern is raised for children's welfare<sup>28</sup>.

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<sup>28</sup> This will be discussed in the following subsection under the heading of 'The Bedroom Culture'.

In an Irish context, Burns *et al.* (2004) found that 55% of the children (aged 9-11) they surveyed ( $n = 312$ ) have a television located in their bedroom. Foley-Nolan *et al.* (2005) established that one third of the first class children they surveyed have a TV in their bedroom, while Downey, Hayes and O'Neill (2007) found that 40% of the children (aged 4-12) they investigated had a television in their room. Finally, in 2009, the Growing Up in Ireland study highlights that 45% of the cohort of 9-year-olds investigated (*circa* 8,500) had a television in their bedroom (Williams *et al.*, 2009). Unfortunately, the research projects presented each deal with a much younger age group than dealt with in the current research. Specifically, given that research (Van den Bulck, 2004) has suggested a steady increase in TV ownership in the bedroom, as a child grows older, these findings can merely be accepted as guideline figures. To the researcher's knowledge, numerous studies have examined children and their possession of a television in their bedroom (Burns *et al.*, 2004; Foley-Nolan *et al.*, 2005; Downey, Hayes and O'Neill, 2007), however as yet, no solid research exists in Ireland on adolescents and their possession of a television in the bedroom. While Redbranch (2006) do suggest that 70% of secondary school students in Ireland have a television in their bedroom, unfortunately their research refers to no valid methodological tool for which they could substantiate this figure.

In contrast to the issue of television location, there appears to be a lack of literature available on the location of personal computers in the home. As many studies have focused their attention on other aspects of computer usage, they have consequentially failed to look at one of the most basic tenants of computer use. Whilst the location of a television set has been seen as important in academic studies (Roberts *et al.*, 1999; Woodward and Gridina, 2000; Burns *et al.*, 2004), the location of personal computers

has been subject to less attention. Of the studies which do highlight the topic, Roe (2000) suggest that boys are the most likely to have a PC in their bedroom. This finding is supported by Stahl and Fritz (2002), in which it was established that 36% of their research sample reported having a computer in the same location. Conversely, in a more recent study by Jansz, Avis and Vosmeer (2010), it was found that the most common location for a personal computer is that of the living room. O'Neill, Grehan and Ólafsson (2011) also identify the living room as the most popular location for adolescents to use the Internet. Interestingly in the survey on adolescent's use of the Internet focusing specifically on Ireland, the three next most popular locations were in school, at a friend's house and finally a relative's home. This would appear to suggest that even without immediate access, children and adolescents could easily gain access to the Internet. Following these locations, this research found that nearly 50% of boys and girls accessed the Internet regularly from their bedroom therefore identifying this location as an important space for personal computer use (ibid).

According to Kerr (2008), a less private computer location was more likely in households where parents had significant prior experience with using the Internet and more children in the home. Likewise, those who had not accrued this experience were less likely to locate their personal computer in a public space. In this regard, it is purported by Lenhart, Madden and Hitlin (2005), that parents are using a variety of methods to protect their children from potential dangers online. For example, almost three quarters of those surveyed in this study, do so from a computer located in an open family area such as the living room or den. This they state, allows family members to casually observe each other's Internet use and better monitor and regulate the computer habits of the household. Conversely however, they go on to state, that of

those who have a Web connection, a quarter state that this connection is in the bedroom (ibid).

At present, there would appear to be a dearth of literature, particularly in Ireland, which alludes to the location of ICT devices in the family home. In the context of the literature presented however, it would appear that at a young age, children are gaining access to both television and personal computers from their own bedrooms. Likewise, if access is restricted at home, it would appear easy to gain access elsewhere<sup>29</sup>. This may be the result of a parental decision or could even be linked with social class. van der Voort *et al.* (1998) for example suggests that children in the working classes are significantly more likely to have a television in their bedroom than those in the middle or professional classes. Similarly, Pasquier *et al.* (1998) suggest that with the exception of one country in their study, parents in the higher social class bracket were more reluctant to allow a child to have a television in their bedroom.

Given that televisions and personal computers are increasingly being placed in both young children's and adolescents bedrooms, Livingstone (2007, p.930) raises the question: "does having personal access to an ICT device affect the amount of time spent with it?" She elaborates on this point by comparing in her results the time spent with ICTs, by children who have access to these devices in their bedrooms. Her results suggest that time spent with ICT media devices per-day increases should the device be located in the bedroom. Given the context of this finding, more should certainly be done in encouraging or educating parents on the potential risks of such a policy in the home. In elaborating on the risks associated with both televisions and personal

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<sup>29</sup> As shown in the O'Neill, Grehan and Ólafsson (2011) research, it would appear that children and adolescents often revert to a friend or relatives house to access the Internet. In this case, they may not be as restricted in what websites they visit online.

computers located in the bedroom, the following section will now discuss the issue of the bedroom culture.

### ***2.3.3.1.1 The Bedroom Culture***

Bovill and Livingstone (2001) suggest that in the latter half of the Twentieth Century, growing affluence, changing patterns of family interaction, reduction of family size, the emergence of youth culture and the consumer power of youth, have all amalgamated to make children's bedrooms important sites for leisure activities. Added to this, it is said that over half of European children today are reported to have a bedroom to themselves (ibid). In line with these changes, children have developed leisure routines, which increasingly involve spending time in their own domestic space (for example, the bedroom) interacting with technology (Bryce and Rutter, 2003b). For instance, in recent times the arrival of affordable and portable ICT devices has solidified the importance of the bedroom as a space where adolescents may use new technologies and assume individual control over their own media world (Horst, 2010). It is because of this increased importance of the bedroom and the lack of parental monitoring which is associated with it, that make this domain important in terms of the effect which it may have on adolescents well-being.

It has been argued for instance, that many social activities which once took place in public spaces are now taking place in the home (Haddon, 2004). One reason for this is that many parents fear for their children's safety in outdoor public spaces (Livingstone, 2002). In addition to this, it is proposed that because of the lack of leisure alternatives, youths now feel they have very little opportunity to occupy their leisure time elsewhere and instead resort to the bedroom (Bovill and Livingstone, 2001). For many teens, the bedroom is a safe haven, a place to themselves free from

chores or annoyances. Evidentially, given the increasing reliance and use of technology, these private domains are day-by-day becoming much more technologically fitted (Steele and Brown, 1995). In this manner, the bedroom is more than a social context for media usage. It is a place for individualisation and social construction of the self. For many, the media may in fact influence the arrangement and construction of an adolescent's bedroom. That is to say, many teens may replicate their bedroom settings with that of images they observed on television. Indeed, according to Bovill and Livingstone (2001) the bedroom is where media and individual identity intersect. As a result, this leisure domain raises questions for both family life and media use.

Certainly in relation to the former of the questions raised, it could be suggested that the competition for ICT resources may result in parents caving into children's demands for ICTs in their bedroom. For example, houses particularly with a number of household members who want to watch different programmes, access computers, or make phone calls at the same time (Haddon, 2004). In this respect however, granting children access to such devices in their bedrooms, may in turn mean that parents will have more privacy as well as choice when engaging in their own technology driven leisure practises (Bovill and Livingstone, 2001). Having said this however, parents do not always give into the demands of their children, even if it supports their own privacy and comfort. Some recognise the positives of such a strategy, but many still take into account the negative aspects (Haddon, 2004). However, it would seem that in particular, those from the working classes are the more likely to have a media rich bedroom (Livingstone, 2002). In addition to this, females are said to spend more time in the bedroom per-day than that of males (Horst, 2010). This, it has been suggested,

may be because parents feel more concerned about girls than boys hanging around in public spaces (Bovill and Livingstone, 2001).

As outlined earlier, one of the most widely noted consequences of having ICTs in the bedroom relates to that of time spent using the devices. Numerous studies have suggested that children and adolescents will spend more time using ICT devices should they have them located in their bedroom (Owens *et al.*, 1999; Dennison, Erb and Jenkins, 2002; Gentile and Walsh, 2002; Livingstone, 2002; Van den Bulck, 2004; Mesch and Talmud, 2010; Rideout, Foehr and Roberts, 2010). However, given that the majority of teens in Europe indicate that they spend at least half of their waking time<sup>30</sup> at home in their bedrooms (Bovill and Livingstone, 2001), this certainly comes as no surprise.

Nonetheless, spending so much time isolated from both family and general social life will inherently have consequences (Nie and Hillygus, 2002). These consequences however must be interpreted cautiously. For example, Bovill and Livingstone (2001) in their study of bedroom culture found that young people, who say they spend most of their free time alone, spend a greater proportion of the time in the bedroom. Conversely, those who spend more time with their family spend less time in the bedroom. Bovill and Livingstone (2001) note that while this may support the notion that the technology driven bedroom may support social isolation, there are difficulties in drawing casual conclusions from these inferences. That is to say, there are many factors which may predispose a child not to spend time with their family or vice versa. Certainly, given the lack of social interaction associated with the bedroom culture, one

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<sup>30</sup> This means time awake during the day.

could assume that a child may be affected in many ways. For now however, the research is unclear. Many researchers have alluded to the issue (Bovill and Livingstone, 2001; Livingstone, 2002; Horst, 2010), however very few have addressed the issue conclusively.

Nevertheless, it would seem evident from the literature available, that there are a number of concerns from parents regarding the bedroom culture (Livingstone, 2002). Having said this, it must also be noted that many parents have no problems with it as in many instances, the children are pre-occupied in their bedrooms with friends and peers (Mayhew *et al.*, 2004) not causing any disturbances. In either case however, it must be questioned whether the viewpoints regarding the bedroom culture have any credibility. Whatever the case may be, caution must certainly be exercised in determining any effect but in any case, it must be acknowledged at the same time. The following section will now, having taken into account the issues relating to ICT location and the bedroom culture review the literature on the parental mediation of ICT use.

### **2.3.3.2 Parental Mediation of ICT Devices**

Since scholars have begun looking at ICT use, they have investigated the ways in which potential negative media usage may be reduced. One of the most important means of doing this was to analyse how families both implement or fail to implement ICT mediation strategies (Nikken and Jansz, 2004; Whitefield and Schwartz, 2008; Mesch and Talmud, 2010). For many teens, surveillance by parents has increased to some degree. This could be a result of children spending more and more of their leisure time in the home or at other supervised locations (Haddon, 2004). However, as teens have in many respects, become more accomplished users of ICTs, they have



made surveillance from parents much more problematic. Parents seem to be engulfed in a constant battle with their children as they seek to balance the educational and social advantages of media usage whilst also factoring into account the negative effects that some content might have on children's attitudes, behaviour, or safety (Livingstone and Helsper, 2008). Thus, investigating the factors currently highlighted in academic studies relating to parental mediation of ICT use is inherently essential.

There have been a number of broad studies internationally on the subject of parental mediation, though in Ireland an absence of research exists on the topic. Gentile and Walsh (2002) for example, conducted a study on five hundred and twenty seven parents and their family media habits in the home. The results of this survey suggested that 58% of parents place restrictions on their children's use of television and in particular how much television may be watched, while 74% indicated that they have rules about when television may be watched. In contrast to this finding, Rideout, Foehr and Roberts (2010) found that parents are much more likely to set rules for their children about what they can watch as opposed to how much time they can watch television. They found that 26% of 15-18 year olds were restricted on programmes or shows they could watch, whereas just 16% detailed that they had time related rules. This study also suggested that children who were older had less rules imposed on their usage, although this finding has been replicated in other literature (Jordan *et al.*, 2006). Evidentially, the latter study by Jordan *et al.* (2006) suggests that the four main rules which are imposed on children's television usage, are that of content restriction, behaviour contingency, time and restricted access. The most common practice relating to time was not to allow viewing after a certain time at night. Interestingly, the most

common response to restricting access was not to allow a television in the bedroom. This is despite the fact that 63% of the children surveyed had one (ibid).

In relation to Ireland, O'Neill, Grehan and Ólafsson (2011) found that nearly 90% of Irish teenagers they surveyed aged between 15-16 years old indicated that their parents actively mediated their Internet use. The most popular restriction employed related to the personal information which teenagers may give out online. This was nearly twice the percentage of the next most important restriction (downloading music or films). By contrast to the O'Neill, Grehan and Ólafsson (2011) study, Ó Briain and Nitting-Fulin (2009) while studying a cohort of Irish children aged between 9-16 years, found that of the teenagers surveyed in their research, some 72% stated that their parents never placed filters on their computers to block specific Internet sites. Perhaps this could be as a result of a parental lack of media expertise? According to Livingstone and Bober (2003) for example, parents are much more hesitant when it comes to computers and the Internet. They often lack the practical experience of using these devices and more often than not their children are more experienced in using these media applications (Mesch and Talmud, 2010). Thus, it is certainly plausible to suggest that parents who grew up in a time of limited media exposure are restricted in their understanding of these technological advancements (Tapscott, 2009). However, as our technology advances, it may be worth educating those who are technologically inept in protecting their children from the potential dangers of the online world.

Research has also highlighted that parents are more likely to worry about girls and young children than they are boys (Livingstone and Haddon, 2009a). Perhaps parents felt they had to protect their daughters from the dangers of online paedophiles, or

perhaps they felt their sons were at less risk of such happenings? Having said this however, in an earlier study by Livingstone and Helsper (2008), their research findings found that there were no significant differences between the regulation of sons and daughters and their use of the Internet. Given the contrasting nature of the findings, this matter would seem open to interpretation. In respect of socio-economic status and parental mediation, it has been indicated that those in the upper classes are more likely to mediate their children's television viewing and Internet use (Nathanson, 2001; Livingstone, 2007; Livingstone and Helsper, 2008). This may be because those in the upper classes may have a greater familiarity with ICTs. Contrary to this argument however, it has been suggested that parents both of working class status and those with little education are more likely to impose restrictive mediation on their children (Warren, 2005).

Interestingly, it would seem from the academic studies available that there is a discrepancy between parents (Gentile and Walsh, 2002; Jordan *et al.*, 2006) and children's accounts (Rideout, Foehr and Roberts, 2010) of the overall mediation placed on ICT use (Livingstone and Bober, 2006). This is a point that has been highlighted by Livingstone (2007) in which she extenuates that three quarters of parents, but less than half of children she surveyed say they have rules for when children can watch television<sup>31</sup>. Livingstone goes on to note that since some parents claim to regulate media use while their children claim otherwise, it would seem that either parents are over claiming their level of mediation, or the rules themselves are in fact not working. Indeed, it could be that children under claim, and are less independent than they would like to be (ibid).

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<sup>31</sup> In this research, both the parents and the children of the parents were part of the same research sample.

For the most part, the studies outlined above have referred interchangeably to parental mediation of different ICT devices. While each of the studies presented are discussed in the context of the device they relate to, it must be recognised that each of the devices mentioned bring with it individual parameters of use and as such, differences in mediation. For instance, parental mediation of television may be more common given that a parent may be in the room whilst the television is being viewed. However, in the context of computer use this may not be case. From this perspective, it has been suggested that parents may be attempting a range of mediation strategies, which derive from television use but may not be relevant to personal computer usage for example (Livingstone and Helsper, 2008).

To conclude, in regulating children's media use, parents face several challenges. These include both the proliferation of media goods in the home and indeed the increasing complexity of ICT devices (Livingstone and Helsper, 2008). To date, research in the area of parental mediation is somewhat lacking. As we progress further into the 21<sup>st</sup> century, research particularly looking at mediation strategies relating to personal computer and Internet use is needed. Thus far, it has been acknowledged in academic studies that parental mediation strategies are being implemented, but given the context of the literature which has been presented, it would certainly be conceivable to suggest that there is in fact an imbalance in both the parents and children's perspective on the matter.

The issue of the bedroom culture coupled with the current lack of parental mediation of ICT devices brings with it an increasing cause for concern and especially for those implementing youth policies. Furthermore, these practices bring with them a

heightened risk of conflict within the home especially given that as adolescents grow older, they become less satisfied with their parents authority over their lives and as a result are more willing to disagree with them (Mesch and Talmud, 2010). With this in mind, the following section will briefly explore this topic.

### **2.3.3.3 Family Conflict and ICTs**

Adolescence is a time where families need to adjust their relationships in order to facilitate the developing adolescent (Collins and Russel, 1991). With the expansion of ICTs in recent years, there has been growing concern that the rise and use of such technologies may escalate family conflict (Lenhart *et al.*, 2001). Specifically, the domains of disagreement over authority and autonomy are of particular concern (Mesch and Talmud, 2010). For instance, in an early study conducted by Smentana and Asquith (1994), it was found that adolescents respected legitimate authority over moral and harmful issues. However, personal issues such as phone calls and watching television were less subject to parental jurisdiction. Without a doubt, children and parents expectations of each other change during adolescence. It is these gaps in expectations that may cause family conflict (Mesch and Talmud, 2010).

In looking at the issue of ICTs and parent-adolescent conflict, Mesch and Talmud (2010) identify four aspects of ICT use, which may give rise to family tension. First, adolescents have increasingly become experts in the area of ICTs. In recent times they have begun to exercise control over both television and computer time and ICT location. In a small survey of US families, Kiesler *et al.* (2000) found that adolescents were more likely to help people in the family with ICT related issues than their parents. In essence, they have become proficient users of ICTs and when parents require assistance, they often call on their children for direction. Over time according

to Mesch and Talmud (2010), the constant call for help has resulted in what they termed ‘*cyber chores*’<sup>32</sup>. Indeed as stated by Mesch and Talmud (2010, p. 32):

“Through time it appears that parents, instead of increasing their skills and extending their power to control technology, have come to struggle with the situation.”

As a result, the digital divide between parents and adolescents’ skills in using ICTs has increasingly become a source for conflict in the family.

The second issue identified by Mesch and Talmud (2010) relates to parental mediation strategies. As noted earlier (2.3.3.2), there seems to be a disparity between parental implementation of ICT mediation strategy and adolescents adoption of these policies in the home (Livingstone and Bober, 2006; Livingstone, 2007). Studies both in the past (Fuligni, 1998) and more recently (Mesch, 2006), have identified that adolescents demand more autonomy and will openly dispute restrictions placed on ICT use. While they may respect parental decisions in respect of moral and harmful issues, they will openly dispute matters relating to personal concerns (Smentana and Asquith, 1994). Having said this, it has been consistently highlighted that there is often a blurring of the boundaries in respect of parental mediation and adolescents use of ICTs and in this respect communication and enforcement of rules appears to be inconsistent.

Under the third issue identified, Mesch and Talmud (2010) outline that parents expect their children to improve school performance particularly as a result of using personal computers. On the contrary however, teens tend not to use such devices solely for school purposes and instead use the devices for other social reasons. While parents are aware that ICTs may serve as a tool for the development of Information Technology and other relevant skills, which may be applicable in the future (Lenhart *et al.*, 2001;

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<sup>32</sup> This refers to helping out in the home in ICT related activities.

Livingstone, 2002; Livingstone and Bober, 2004; Horst, 2010), they are also keenly aware that such use may lead to other problems (Subrahmanyam *et al.*, 2000). In this respect parents may for example perceive consistent personal computer, games console or Internet use as a violation of their expectations and in turn become a source of conflict (Mesch and Talmud, 2010).

The final source of family tension which Mesch and Talmud (2010) allude to, relates to parental concerns of adolescent self-regulation. As already detailed, many parents believe that ICTs can help their children do better at school and other related tasks. However, most teens will not use ICTs solely for this purpose (Tapscott, 1998; 2009). As outlined in a recent Irish study of adolescent Internet use (Ó Briain and Nitting-Fulin, 2009), the top three purposes of use were that of playing games, downloading music and using SNSs. Following these three activities, homework was the next identified activity, hence concurring with Tapscott's suggestion. Because teens are using the Internet for such purposes when they are supposed to be doing homework, parents may become annoyed. In fact, parents who do become aggravated over such issues may be more inclined to restrict the time in which teens use the Internet prior to school work or indeed housework being completed (Horst, 2010).

In addition to the issues outlined, Mesch and Talmud (2010) also allude to the issue of ICT location within the home as a source of conflict. As indicated earlier, many parents are now opting to place important media devices in public spaces within the family home (Horst, 2010). As a result, they may be a source of conflict for many reasons. For example, if a child does not have access to a television in their bedroom, they may argue with their parents in respect of which programmes to watch (Haddon,

2004). Likewise, given that most households may only have one personal computer in their possession, there may be competition between parents and their children for its use. In addition to this, the location of a PC within the home has implications for an adolescent. That is to say, should the device be located in a public space, the adolescent will increasingly be under the watchful eye of their parents which may again result in family conflict (Mesch and Talmud, 2010).

To sum up, research has indicated that increased use of ICTs will lead to less family involvement (Bovill and Livingstone, 2001) which in turn may lead to higher levels of family conflict (Dubas and Gerris, 2002). It would seem from the literature outlined, that this source of tension may increase in the coming years particularly as more and more teens may have televisions and personal computers located in their bedroom. However, the digital divide between old and young may in future years diminish, especially given that when the current generation of youths become parents, they will have grown up surrounded by media and technology. Moreover, this generation will understand the means and use of technology and may be more proficient in both educating and protecting their children from the dangers and benefits of its use. For now however, we can but acknowledge that future youth and parenting policies will have to address the issues outlined, especially given that there may be knock on effects for family conflict in the home.

#### **2.3.4 The Displacement Hypothesis**

The notion of the displacement hypothesis is simple. Once an individual spends so much time using an ICT device or devices, therefore surely they could have spent that time elsewhere engaged in another activity (Shim, 2007), which perhaps would have been more beneficial to their health. As outlined by Mokhtari, Reichard and Gardner



(2009), the displacement hypothesis is based on the premise that the Internet and other ICT related activities has created a shift in the time allocated to different leisure interests in a normal persons day. The origin of this notion can be linked back to the development and distribution of television. Once children had gained access to this medium, it seemed to impose high demands on children's free time (Mesch and Talmud, 2010). With this however, it has been suggested ICT related activities reduce an adolescents well-being in that it displaces time spent with family and friends (Valkenburg and Peter, 2007a) and indeed time spent engaged in sport and physical activity (Hager, 2006). The use of disposable time is important because it shapes the amount of time, which an individual spends using ICTs or engaged in other activities (Haddon, 2004). Therefore, with this in mind, the following sub-section will discuss the notion of the displacement hypothesis with particular reference to the displacement of time spent with peers and family.

#### ***2.3.4.1 The Social Displacement versus Stimulation and Efficiency Hypothesis***

In recent years the Internet has rapidly emerged as a daily communication outlet for many teenagers. However, consistent use of this medium has resulted in two diametrically opposing views concerning its possible consequences (Valkenburg and Peter, 2007a). On the one hand, some authors under the realm of the '*social displacement hypothesis*' believe that constant usage of the Internet or time spent using ICTs may hinder adolescents well-being as it displaces time spent face-to-face with family and friends (Kraut *et al.*, 1998; Lenhart *et al.*, 2001; Lee and Kuo, 2002; Nie and Hillygus, 2002; Mannell, Zuzanek and Aronson, 2005; Mesch, 2006). The '*stimulation*' and '*efficiency hypothesis*' on the other hand counter argue this position. Under the stimulation hypothesis for instance, it is proposed that online

communication and use of the Internet will enhance the quality of adolescents' existing friendships and thus, their well-being (Valkenburg and Peter, 2007a). Similarly, the efficiency hypothesis contends that the Internet may be used as an avenue for engaging in social interaction with known others and co-ordinating social activities (Nie and Hillygus, 2002). Proponents of this hypothesis claim that Internet use may in fact lead to the creation of a new social circle (Kraut *et al.*, 2002).

As evident from the theories proposed, the displacement which takes place may result in both positive and negative implications (Mesch, 2003) for a user's psychological well-being (Bessière *et al.*, 2006). Specifically, in relation to the former hypothesis outlined, Kraut *et al.* (1998) argues that by using the Internet, individuals are replacing poorer quality social relationships for better ones. Under this study which was the first longitudinal study of its kind to measure any such effect of using the Internet, a sample of 208 individuals were introduced to the Internet for the very first time. After a year, it was found that those who used the Internet for longer periods of time were at an increased risk of spending less time with family members, had less offline social contact and as a result often became lonely and depressed. In a similar longitudinal study, Weiser (2001) also signified a negative effect of spending prolonged time online. In his results, it was found that those who spent longer periods of time using the Internet for personal purposes had a significant negative effect on their loneliness, depression and life satisfaction.

Loneliness, depression and life satisfaction however are not the only matters, which have been alluded to under the social displacement hypothesis. Mesch (2006) for instance suggests that specific use of the Internet may lead to increased risk of family

conflict and a decrease in family time. Specifically, adolescents who use the Internet for social purposes such as playing online games, communicating with friends and participation in online discussion groups were positively associated with family conflicts. Mesch (2001) also suggests in an earlier study that adolescents who are socially isolated are more likely to be higher Internet users than those who are not. Likewise, Sanders *et al.* (2000) found that higher Internet usage resulted in poorer relationships with family and friends.

Adherents of this hypothesis assume that adolescents, rather than maintaining contact with existing friends, peers and family, instead seem to spend vast periods of time on the Internet forming online relationships with strangers or other unknown people (Valkenburg and Peter, 2007a). Hence, the theoretical argument here is that time spent alone using the Internet or indeed time spent engaged in other isolated ICT related activities, is not time spent engaged in other social activities which in turn may lead to a number of social effects (Partridge, 2005) as outlined. Since online contacts for example may be seen as superficial weak-tie relationships which in many cases lack any form of affection, the Internet is therefore believed to reduce the quality of adolescents existing friendships and family ties and therefore their overall well-being and life satisfaction (Valkenburg and Peter, 2007a).

Contrary to the social displacement hypothesis argument, both the stimulation and efficiency hypothesis adopt an entirely different perspective on the matter. Under these theories, the Internet may enhance the quality of adolescents existing friendships and thus their overall well-being (Valkenburg and Peter, 2007a). Zhao (2006) for example indicates that use of the Internet may in fact increase contact with friends.

That is, the findings from this research suggest that those who use the Internet for interpersonal contact are likely to have more social connections than those who use it for solitary web activities. This would seem entirely credible as it has already been highlighted that use of SNSs, is a common Internet activity for many adolescents and particularly in Ireland (Ó Briain and Nitting-Fulin, 2009). Furthermore, it has widely been suggested in academic discourse that much of the time which adolescents spend alone on computers is actually used to maintain existing relationships with friends (Wellman *et al.*, 2001; Gross, 2004; Valkenburg and Peter, 2007b). Supporters of this hypothesis go as far as to suggest that users of the Internet actually spend more time socialising with friends and family compared to non-users (Robinson *et al.*, 2000).

Certainly, the Internet may be seen as a medium, which fosters relationships in partial communities, providing companionship, social support and a sense of belonging (Mesch, 2001). Accordingly, if adolescents use the Internet primarily to maintain contacts with their existing cohort of friends, the prerequisite for a displacement effect will not be fulfilled. That is, if existing relations with friends are upheld through the Internet, it is consequentially implausible to suggest that the Internet reduces the quality of friendships offline and thereby reduces adolescents' well-being (Valkenburg and Peter, 2007b).

Given the views presented, it would certainly be plausible to suggest that the effect to which the Internet or indeed any isolated ICT related activity might have on adolescents' well-being lies on a continuum. On the one hand, the social displacement hypothesis presents a negative effect on adolescents overall well-being, whereas on the other, both the efficiency and stimulation hypothesis portray a more positive

outcome. However, in providing a balanced perspective one must also consider the neutral perspective on this matter and more importantly, one must reflect on the methodological differences to which each of the proposed theories came to their conclusion.

In respect of the latter, Zhao (2006) contends that a number of factors may have played a role in contributing to the contradictory findings in respect of the theories proposed. Firstly, he suggests that use of alternative measurements may have contributed to differing results. For example, according to Shklovski, Kraut and Raine (2004) longitudinal analysis provides more comprehensive evidence of the causal effects of the Internet than do cross-sectional studies. Likewise, Nie, Hillygus and Ebring (2002) contend that many studies employ various measures for time spent using the Internet. While some actually recorded the actual time spent online, others queried mean usage while some simply employed a user and non-user dichotomy. In addition to this, Zhao (2006) suggests that a further reason for the contradicting findings may be because of the acknowledgement of different subtypes of Internet users or the failure to acknowledge different users. Zhao suggests that the assumption that Internet use is a single category is crucial to the validity of aggregate findings on Internet usage.

To sum up, empirical studies concerning the social outcomes of Internet use have to date resulted in inconsistent findings and opposing theories. As alluded to earlier, it would seem that many of the results found in academic studies seem to lie at either side of a continuum while others have found no evidence to support such claims (Gross, 2004). Despite opposing methodological criteria, it would seem that prolonged

use of the Internet is having some effect on the family and social life of an adolescent. However, the extent of this effect is inconclusive. For now, one can conclude that the social impact of the Internet and other technologies are multiple. Thus the effect, which ICTs may impose on the social life of adolescents, depends in turn on the manner in which they are used and indeed the existing social ties and personal circumstances of the adolescent. More research is certainly required in this area.

## ***2.4 Social Network Sites: Adolescents' Lives Online***

Since their introduction in the late 1990s, SNSs have become an important part of daily life for millions of teenagers and adults around the world (Livingstone, Ólafsson and Staksrud, 2011). As an Internet activity they have advanced from an online pursuit carried out in people's spare time to an integral part of life which many people today cannot imagine living without (Gefter, 2006). Presently, hundreds of SNSs actively engage users from different cultures, religions and nationalities and in the process generate new online friendships using the Internet as a successful medium. The growth of broadband globally, together with the reduced cost of personal computers has meant that more and more people worldwide have increased access to the Internet. This increased access as such, has facilitated the catalytic growth in SNSs and the changing trend in Internet use. In previous years, people would go online to find out information about particular topics or send information to each other via e-mail. However, with the advent of SNSs and instant messaging, the Internet has now evolved into an important medium for worldwide social interaction and in the process has vastly augmented the ability of individuals to meet, interact, and keep in contact with others with whom they have something in common, regardless of demographic circumstances and geographic limitations (Hinduja and Patchin, 2008). Furthermore, it has enabled social interactions to go beyond the traditional venues of one's community and has now

formed new online societies based on common interests (Snyder, Carpenter and Slauson, 2006).

#### **2.4.1 What are Social Network Sites & Why are they Important?**

Social Network Sites by definition, are online environments which enable people to create a self-descriptive profile of themselves which they can then link to other people they know creating a network of connections (Donath and Boyd, 2004). Boyd and Ellison (2008, p. 211) refer to SNSs as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system”.

These sites are important in a social research context for a number of reasons. Subrahmanyam *et al.* (2008) for example, note that because of the potential to interact with known others as well as meet and befriend strangers, it is important to study the nature of online SNSs in order to gain an understanding of how such online communication relates to the development of young adolescents. These sites are also an important mode of identity creation. They allow users to create a virtual second life, which either mirrors their actual life or enables them to create a fictitious life, which they may then use as a network to connect to other people, or other networks of people (Gorge, 2007). In many ways SNSs create environments which enable people to hide their undesired physical features, and as such, allow individuals to re-create their biography and personality. In other words, this disembodied and anonymous online environment makes it possible for people to reinvent themselves through the production of new identities (Zhao, Grasmuck and Martin, 2008).

In addition to identity issues, Thelwall (2009) alludes to the public messages, which are exchanged on SNSs. He comments that these messages are unusual in that they are public either to the member's friends or to the world. This he states makes them an important object of study and also provides the opportunity to investigate informal interpersonal communication on a larger scale. More importantly, a researcher can compile a comprehensive amount of social interactions taking place among a selected group of people on any mode of computer-mediated communication (Paolillo, 1999).

From a safety perspective, researchers have shown concern for teenagers and their safety using SNSs. When using SNSs, people are quite often not aware or warned that what they might post on their site may possibly be accessed by anyone in the world (Hobson, 2008). Students and in particular teenagers have a very casual attitude and an apparent lack of regard for the personal information which they release online (Furnell, 2008). In the coming years youths will face a real and relatively unacknowledged threat in their day-to-day lives. This threat must be studied further and parents must be educated on the real risks and benefits of SNSs.

At present there is an absence of literature addressing the aforementioned issues. Despite a number of studies evaluating Internet usage activities, very few academics have as yet focused on online behaviours and specific online activities. More specifically, categorisations of online activities are in general relatively broad, which in turn makes it increasingly difficult to understand who does what online, why, and how this influences individuals lives and particularly adolescents (Hargittai, 2007). Indeed, given that research has already suggested one of the most predominant uses of



the Internet is for interpersonal communication (Gross, 2004, Lenhart, Madden and Hitlin, 2005), this makes the current research more important.

Taking such factors into account, the following section will begin by reviewing the history and emergence of SNSs. Following this, the precise context of Social Network use shall be reviewed. More specifically the Literature Review will draw attention to adolescents' interest and motives for registering with SNSs, appraise teenagers day-to-day use of SNSs, review the context of language use in these online domains, examine image portrayal online and finally analyse adolescents risk behaviours when using these web sites.

#### **2.4.2 History of Social Network Sites**

The key components of SNSs as we know them today arose as a result of relatively unsuccessful experiments in the late 1990s (Thelwall and Marvin, 2009). The initial function of these early SNSs was to serve those isolated in the community as well as facilitate online dating. What is more, further sites were developed to strengthen social ties within different sections of society. SixDegrees.com<sup>33</sup>, one of the first examples of such sites was established in 1997 as a community based Social Network Site specifically developed to help people communicate with one another (Boyd and Ellison, 2008; Thelwall and Marvin, 2009). The site combined such features as profiles, friends and messaging services (Harrison and Thomas, 2009). However, while SixDegrees.com attracted millions of users, it failed to become a sustainable business due to the lack of Internet users at the time. In addition to this, early adopters often complained that there was very little to do after accepting a friend request (Boyd

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<sup>33</sup> This Social Network Site is widely credited with being the first functional Social Network Site in existence (Harrison and Thomas, 2009).

and Ellison, 2008). Nevertheless, the site was consequentially sold in 2000 for \$125m (Stroud, 2007) and still remains as a functional Social Network Site today although much lower in Internet usage rankings.

Following the turn of the millennium, SNSs became much more practical and attractive to their user bases. Coupled with the reduced cost of personal computers and reduced cost of Internet access, more and more individuals began to register with SNSs for various reasons. With the emergence of sites such as Friendster<sup>34</sup>, MySpace and Facebook, SNSs started to achieve more widespread appeal beyond their previous niche user base (Harrison and Thomas, 2009). Friendster in particular is noted as a brief major phenomenon from which the SNSs of 2011 learned many lessons. This site was primarily a dating site focused on introducing people to strangers with similar interests (Boyd and Ellison, 2008). Specifically, the site came to prominence by attracting early movers in SNSs, some of which included stern music followers, pioneering bloggers and amongst others, gay men (Boyd, 2004; Harrison and Thomas, 2009). Over time however, Friendster faltered largely due to the collapse of protocols between social groups; the emergence of users providing false information in order to attract friends; the loss of privacy and consequently trust between users and the site and finally, the introduction of fees (Harrison and Thomas, 2009). Additionally, Friendster's servers and databases were ill equipped to handle the growth of the site, which often resulted in regular failure (Boyd and Ellison, 2008).

Following the collapse of Friendster, a new wave of SNSs began to emerge in the early years of the millennium each of which capitalised on the experiences and flaws

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<sup>34</sup> Friendster was established in 2002. This was the first global Social Network Site of its kind.

of previous SNSs including Friendster. From 2003 onwards, a new wave of services and features began to emerge on these online domains. Evidentially, the success of these new capacities confirmed that Social Network features could be useful in a wider context other than pure socialising (Thelwall and Marvin, 2009). Facebook for example was launched in early 2004 as a networking forum for Harvard University students (Stroud, 2007). Over time, the site has evolved to offer a blend of interactive and static features (Walther *et al.*, 2008) as well as compatible applications which function as add-ons to the site (Harrison and Thomas, 2009). Moreover, perhaps learning from the problems of Friendster, Facebook differentiated itself from other SNSs by allowing users the option of fully disclosing their profiles to uninvited participants (Harrison and Thomas, 2009). As of 2010, Facebook had over 400 million users (Facebook, 2010) and was the second most visited website daily around the world (Alexa, 2010a).

To sum up, since the turn of the millennium, new SNSs have consistently been released, each of which arrived with a new twist or genre focused on a new or selective user base (Thelwall and Marvin, 2009). As outlined, many of these sites have capitalised on the opportunities presented to them, while many more have failed on the most basic challenges. According to Boyd and Ellison (2008), the rise and fall of SNSs indicates a change in the organisation of online communities. That is to say, while many websites available online today focus on common areas of interest; SNSs instead focus on the people and not the interests. The introduction of new SNSs features and capacities has brought with it a new organisational framework for online communities, and coupled with this, a new vibrant research context (*ibid*).

### **2.4.2.1 Social Network Sites in Ireland: The Emergence of Bebo**

In early 2005, the Social Network Site 'Bebo'<sup>35</sup> burst onto the scene in Ireland. Through the most expansive year of its growth in 2006, the Bebo craze yielded some six thousand users daily registering with the site in Ireland (Tighe, 2006). By late 2007, the site had grown to over one million users, the majority of whom were teenagers (Downes, 2007). In the context of the demographic situation in Ireland at the time, this represented the majority of the Irish adolescent population. For example, the CSO (2006c) reveal that 906,604 people aged between ten to twenty four made up the total Irish population in 2006. This represented 21 per cent of the total Irish population at the time.

In early 2010, teens in Ireland became less infatuated with Bebo. Having said this however, the website still continued to be an important part of daily teen social life and at the time of this research<sup>36</sup>, it was ranked as the 6<sup>th</sup> most visited site (Alexa, 2009) in Ireland. By the summer of 2010<sup>37</sup> however, the site had fallen to 26<sup>th</sup> and Facebook sub-sequentially became the most popular site and ranked as the 2<sup>nd</sup> most popular site in Ireland (Alexa, 2010b). In spite of this, it is still not known what age demographic user base is associated with the use of Facebook in Ireland. For example, it could be that Bebo remained popular with adolescents, but both adults and adolescents had signed up to a Facebook account, hence making it more popular. For example, Tapscott (2009) suggests that many teens sign up to numerous SNSs. Perhaps, this may have facilitated the increase in Facebook's popularity in Ireland.

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<sup>35</sup> Bebo is a SNSs built with the premise of allowing friends to stay in touch with each other in a number of ways. The site allows users to post information about themselves on a profile page, post photos in a picture gallery and even allows friends or individuals to comment on these photos. In addition, individuals may post blogs relating to any topic, send messages to one another and individualise their home Bebo page.

<sup>36</sup> March to April 2009.

<sup>37</sup> July 2<sup>nd</sup> 2010.

Currently, there is an absence of academic literature which explicitly outlines the percentage user base of Irish teenagers who use specific SNSs despite as detailed the unique situation, which presents itself in Ireland. In one of a limited number of reports available in Ireland at the time of this research, it is outlined that Bebo is by some distance the most popular Social Network website for Irish adolescents (National Centre for Technology in Education, 2008). Unfortunately, while the National Centre for Technology in Education report uses a viable sample base ( $n = 447$ ), it fails to outline the percentage teen membership of this site and indeed various other SNSs. In addition to this, the report was published in 2008 and it would seem from the statistics emerging that much has changed since mid 2010 with Facebook now surfacing as a more popular site amongst the Irish population (Alexa, 2010b)<sup>38</sup>. Nevertheless, Bebo was at the initiation and mid-point of this research, the most popular Social Network Site among Irish teens. Furthermore, despite being overtaken as the most prevalent Social Network Site, the characteristics, which make up both the Bebo and Facebook Social Network Site, are similar and comparable<sup>39</sup>. Therefore, despite the increasing popularity of Facebook, research on the Social Network Site Bebo is still entirely relevant and thus an important research topic, hence justifying the selection of the Social Network Site Bebo for this research.

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<sup>38</sup> It would appear that from 2008 to 2010, adolescents moved in droves to the Facebook Social Network Site. This could have happened for a number of reasons. Perhaps, the Bebo interface may have been seen as outdated and not as user friendly as the Facebook set-up. Additionally, adolescents may have perceived the Facebook site as a more adult orientated Social Network and therefore more attractable. Finally, privacy concerns appeared to be handled more appropriated on the Facebook network.

<sup>39</sup> This issue will be addressed in 2.4.3.

### **2.4.3 Social Network Sites: The Fascination and Impassiveness of these Virtual Worlds**

The dynamics of Social Network use are in many cases complex and may in certain circumstances replicate the notion of the 'digital divide' (2.3.1). Notwithstanding the fact that such factors are innately important in the adoption and use of SNSs, it must first be acknowledged at a general level, the difference in typology between SNSs. Thelwall and Marvin (2009, p.25) for instance highlight that there are three different forms of SNSs which can be identified. The first is labelled a socialising Social Network Site. These sites are primarily designed for recreational and social communication between members. Examples of such sites include Facebook, MySpace and Bebo. The second, networking SNSs, is designed for non-social interpersonal communication. Friend connections are used for finding new contacts. LinkedIn<sup>40</sup> is a perfect example of such a site. Finally the third, social navigation SNSs, have Social Network features but are primarily used to find information concerning a particular topic. On Digg.com for example, members may choose to read the news stories posted or recommended by their friends.

While these classifications are fluid and concern the main intentions of such sites, Thelwall and Marvin (2009) are swift to point out that some sites may under this classification overlap. For instance, Thelwall and Marvin (2009) note that while LiveJournal can be categorised as a Social Navigation Social Network Site, it also possesses features related to Socialising SNSs. Likewise, Twitter.com although categorised as a Socialising Social Network Site, is very different in its uses compared to the likes of Facebook, MySpace and Bebo in that its primary use is micro-blogging.

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<sup>40</sup> LinkedIn is a Social Network Site primarily used by professionals for networking purposes. The connections established are usually used for business reasons.

Taking into consideration the differences outlined, researchers should be careful when generalising usage of one site when comparing it with another (Hargittai, 2007). While SNSs share many commonalities, they also have distinct differences. For this reason, Hargittai (2007) notes that whether at site design level or the particular commonalities, which comprise their user base, certain subtle differences may attract different populations and foster different community cultures.

At present, research that specifically focuses on the adoption (Tufekci, 2008a) and use of SNSs are slowly emerging. Moreover, the current research, which is available, focuses primarily on MySpace (Boyd, 2008a; Caverlee and Webb, 2008; Manago *et al.*, 2008) and Facebook (Lewis *et al.*, 2008; Walther *et al.*, 2008; Pempek, Yermolayeva and Calvert, 2009). While MySpace and Facebook are the most widely referenced SNSs in academic discourse, their basic components are very much the same as Bebo. Moreover, all three sites tend to have the same user base. Therefore, having taken into consideration the factors outlined by Hargittai (2007) and Thelwall and Marvin (2009), it is entirely possible to relate literature discussing these websites back to the use of the Social Network Site Bebo. Having contemplated the abovementioned issues, the following section will examine the factors which may influence or deter an adolescent from registering with a Social Network Site.

#### **2.4.3.1 Social Network Site Membership: Factors Influencing Adoption**

The level of interest associated with specific SNSs varies depending on a number of factors including the nationality, age, social class, gender and culture of the individual (Subrahmanyam *et al.*, 2008; Tapscott, 2009; Lenhart *et al.*, 2010; Vasalou, Joinson and Courvoisier, 2010). For instance, while Facebook is popular in countries such as

the United States, Norway and the United Kingdom, other SNSs like Mixi.com<sup>41</sup> are unique only to Japan while Nimble.ie<sup>42</sup> is unique to Ireland. Similarly, Cyworld<sup>43</sup> is estimated to host over 50% of the South Korean population (Kim and Yun, 2007) where as Orkut hosts over 8 million Indian profiles which amounts to just over 20% of all its users (Orkut, 2010).

Lenhart *et al.* (2010)<sup>44</sup> when discussing teens and their uptake of SNSs asserts that ever since the emergence of SNSs, older teens have been the most likely to report using such sites. He backs up this statement by noting that while four in five (82%) teens aged between 14-17 years denote that they use SNSs, just over half of 12-13 year olds state otherwise. This he argues, may be as a result of age restrictions on certain SNSs or it could also be as a result of parental mediation. Despite the reasoned evidence towards age disparities and Social Network use, Lenhart *et al.* (2010) notes that social class and gender differences are not as clear-cut. For instance, Lenhart *et al.* (2010) highlights that in 2006 there were no social class differences among teens and their use of SNSs. As of 2010, this has increasingly become a factor with more than four in every five teens from less well-off households now using SNSs compared to 70% from affluent families. Similarly, in 2006 females were more likely to report using SNSs. However, in 2010 both genders were represented equally in their use of

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<sup>41</sup> Mixi is a popular Japanese Social Network Site. In 2010, Mixi was ranked as the 9<sup>th</sup> most used site in Japan (Alexa, 2010c).

<sup>42</sup> Nimble is a small Irish based Social Network Site. In 2010 the site was ranked as the 12,648<sup>th</sup> most used site daily in Ireland (Alexa, 2010b).

<sup>43</sup> This is a South Korean Social Network service, which was ranked as the 9<sup>th</sup> most visited site in South Korea in 2010. Facebook does remain popular here however and was at the time ranked as 5<sup>th</sup> just four spaces above Cyworld.

<sup>44</sup> Data obtained for this research was gathered through telephone interviews with a sample of 800 teens aged 12-17 years old living in the continental United States. Data referencing earlier reports under the realm of 'Teens and Social Media' may be found at: <http://pewInternet.org/data-tools/download-data/data-sets.aspx>.



these sites. The National Centre for Technology in Education (2008) has replicated this finding on an Irish sample of adolescents.

Aside from demographics, there are also a number of other reasons, which influence people's interest in and use of SNSs. Of particular note is the yearning to investigate and gossip about human relationships (Tufekci, 2008a). According to Dunbar (2004) approximately two thirds of daily conversation time is devoted to topics, which may be branded under this general label. Without gossip he states, there would be no society. Humans innately crave gossip of any form, which is why it is core to human social relationships and society itself. It is perhaps for this reason why we crave information about celebrities, news about our peers and indeed as Dunbar (2004) suggests, tittle-tattle to do with our nearest and dearest. It is because of this evocation, that Donath (2007) insinuates that SNSs facilitate this innate craving for gossip. Donath (2007) contends that the dramas of high school friendships, blind date ordeals and mundane job irritations, which were once hot gossip to an immediate circle of friends, are now published for worldwide consumption. This prompted Donath (2007) to label SNSs 'Social Supernets'. That is to say, while in the past we had to obtain gossip in person, SNSs now transmit this information through the medium of the World Wide Web.

According to Dunbar (1996) gossip is an inherent part of 'social grooming'. While gossip may seemingly be non-functional and be seen by many as a daily part of life, Dunbar (1996) instead contends that gossip and general chitchat are the human version of social grooming in primates. Dunbar argues that such behaviours are essentially an activity used to forge bonds, relationships and alliances. Spurred by the credibility of

Dunbar's theory, Tufekci (2008a) decided to test the hypothesis that 'social grooming' may be an important component of SNSs membership. In an analysis of 713 University students, Tufekci (2008a) found that those individuals who were unhappy with gossiping about people or deterred by other people looking into their lives online, were more likely not to register with SNSs. Conversely, those who came under the realm of the 'social grooming' theory craved SNSs and often expressed their desire to find out information about people they currently keep in contact with offline or those from the past.

Given people's innate tendency to gossip and search for information about friends and peers, it comes as no surprise that surveillance is an important motive for joining SNSs. According to Tufekci (2008b), people of all ages in society have and will continue to be interested in what other people are doing, wearing, fighting with or dating. Today much of that information is now available at a click of a mouse and perhaps it is because of this that so many individuals in the Net Generation are registering with SNSs. Lampe, Ellison and Steinfield (2006) for example, make a distinction between those users who use SNSs for 'social searching' (locating information about offline contacts) and 'social browsing' (using SNSs to develop new connections and Friendships). In a survey of 2,525 incoming undergraduate students in Michigan State University, it was found that students' primary use of the Social Network Site (Facebook) was to facilitate their search for information about people whom they had met offline. The use of Facebook for 'social browsing' on the other hand was insignificant.

A similar study conducted by Joinson (2008) found related findings. His research conclusions suggest that one of the primary reasons for using Facebook was specifically to learn about old friends. In particular, Joinson suggests that when people denote that they have registered with SNSs to ‘keep in touch’ with old friends, this response generally comprised of two elements. The first as noted, is a surveillance function. In this manner the site was used among other things to see what old friends were up to, how they look, where they work and how they behave. The second suggests that Facebook served as a tool for self-presentation. Directly associated with this use, Joinson notes that SNSs can serve as a means of social capital building to which individuals may build, invest and maintain ties with distant friends and contacts. For example, in a research project conducted subsequent to the aforementioned, Ellison, Steinfield and Lampe (2007) sought to establish whether SNSs play a role in the formation and maintenance of social capital<sup>45</sup>. This research was one of the first such studies looking at differences in social capital formation among college students. Their findings suggested that the higher the intensity of Facebook use, the stronger an association with bridging social capital<sup>46</sup>. In this respect Ellison, Steinfield and Lampe (2007) contend that SNSs may be important tools for allowing individuals to bridge new social relationships for whatever manner of use.

In support of the latter research, a study conducted by Pempek, Yermolayeva and Calvert (2009), sought to find out what initially enticed the college students to register with SNSs. The main reasons detailed were the ‘ability to reconnect with people’ (22%) followed the by ‘ability to learn new information’ (17%). Certainly it would

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<sup>45</sup> Nahapiet and Ghoshal (1998, p.243) define social capital as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit”.

<sup>46</sup> Putnam (2000) describes bridging social capital as ‘weak ties’, which are loose connections to individuals who may provide information or alternative perspectives but not emotional support.

seem from these responses that meeting new friends and learning information about them is a top priority for many. This is reaffirmed by the fact that some 14% of respondents detailed 'networking ability' as the main reason for signing up with the Facebook Social Network Site. In an earlier study conducted by Subrahmanyam *et al.* (2008) on a sample of 151 Psychology University students aged 18-29, it was found that 'to stay in touch with friends I don't see often' represented over 80% of responses from the research sample. The next most cited reasons in order of preference were because 'all my friends have accounts', 'to fill up free time/not be bored', 'to stay in touch with relatives/family', 'to make plans with friends I see often' and finally 'to meet new people and to make new friends'.

Perhaps one of the most frequently cited factors influencing people's decision not to connect with SNSs is that of privacy (Fogel and Nehmad, 2009). While for many, a motivation for making their Social Network profile less private is to meet new people (Joinson, 2008), for others, this may be a deterrent as they do not want people knowing too much information about them. According to Tufekci (2008b), registration with SNSs often requires an individual to divulge a number of details concerning their private life. While privacy settings are commonplace on most SNSs, many others distinguish themselves by not providing such features. Tufekci (2008b) argues that this makes logical sense since often the premise of using such sites is to be seen. In this respect, Tufekci (2008a) queried his research sample ( $n = 713$ ) in relation to how privacy concerns<sup>47</sup> impact their decision to join a Social Network Site. For non-users privacy was mentioned as a concern, interestingly though, most did not see online SNSs as dangerous. In fact, some individuals believed that being stalked in real life

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<sup>47</sup> Privacy concern related to how concerned people are about their own privacy online.

was much more of a reason for trepidation than having someone stalk you online. Similarly, in line with previously reported statistics by Tufekci (2008b), logistic regressions indicated that higher online privacy concerns somewhat lowered the odds that a student would use SNSs.

Interestingly, similar results have been outlined in other studies. In a study of Facebook use on a large sample (circa 7,000) of undergraduate student profiles, it was found that those who had a Facebook page had greater concerns about a stranger knowing where they lived than those who did not have a Social Network page (Acquisti and Gross, 2006). Contrary to this finding however, it was noted that there was no significant difference in the levels of concern for privacy threats between Facebook members and non-members. Therefore according to Acquisti and Gross (2006), it is difficult to conclude whether the higher the privacy concern, the less likely it is an individual will join a Social Network Site. It may be they state that privacy concerns could be correlated with other factors such as gender<sup>48</sup> and individual status. For instance, even the undergraduate students who reported the highest levels of concern still joined Facebook. In a similar study, Fogel and Nehmad (2009) sought about evaluating risk taking, trust and privacy concerns among a sample of 205 final year college students both with and without a Social Network page. With a more reliable measure of privacy concern than that of Acquisti and Gross (2006), it was found that there was no significant difference in privacy concerns between users and non-users of SNSs. However, those who had SNSs reported significantly higher levels of risk than those without. Similar to Acquisti and Gross (2006), females were

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<sup>48</sup> In respect of gender, Acquisti and Gross (2006) note that female respondents report a statistically higher level of privacy concern than males.

more likely than males to display concern for the information which they portrayed online and in both surveys displayed a significantly higher level of privacy concern.

In light of the latter studies however, it is interesting to note that research conducted by Shin (2010) found that privacy, security and trust on SNSs were some of the main motives for why people choose to use specific SNSs. Certainly it would seem from this research that such factors are important in some respect to Social Network users. For instance, an important reason why so many people left the Social Network Site Friendster was down to the fact that many users were coy on disrupting others by sending spam messages. Having considered the evidence to the latter, one could suggest that there is at some level a concern for privacy online<sup>49</sup>. However, even those most concerned may still register with a Social Network Site if they trust the security systems in place. Thus it would seem that privacy is a motive for non-registration. Nevertheless, given the correct set-up and security features, people may still be enticed to use SNSs.

Despite initial privacy concerns, many individuals register with SNSs simply due to their sheer popularity and use among their friends (Boyd, 2008a), while others may join due to the number of e-mail invitations received (Skeels and Grudin, 2009). Despite this, many individuals simply choose not to use such sites merely because they are not interested or may not have a reliable Internet connection at home, while others object to using SNSs, seeing them as being ‘stupid’ (Boyd, 2008a). Boyd (2008a) suggests that there are two types of non-participants: disenfranchised teens

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<sup>49</sup> For instance, even those who are most connected (i.e. greatest number of friends) on SNSs have been shown to protect their privacy more than those less connected (Carverlee and Webb, 2008). This may be because those who are well connected show less regard for making new friendships. On the other hand, those with fewer friends need to have their profile public to attract visitors to their Social Network page.

and conscientious objectors. The former of these non-users relates to those without Internet access, those whose parents ban use of such sites and those who are restricted in where they can access the Internet. The latter on the other hand tend to be teens that are politically minded and disagree with corporate monopolies. These may also be teens who respect their parents moral or safety concerns, or be marginalised teens who failed to see what SNSs offer them. Regardless of these objections, it is interesting to note that Boyd (2008a) found that many of those who deny using SNSs still had profiles to which they logged into regularly. Thus it would seem that this argument is consistent with the issue of privacy.

In conclusion, though some exceptions exist, the bulk of the research which is available, suggests that SNSs tend to support pre-existing social relations (Boyd and Ellison, 2008) and act as a forum for self-presentation (Joinson, 2008; Walther *et al.* 2008), interpersonal communication and formation and maintenance of social capital (Ellison, Steinfield and Lampe, 2007; Valenzuela, Park and Lee, 2008; Richardson and Hessey, 2009). To a lesser degree, further research has also indicated that group norms (Baker and White, 2010) and self-esteem development (Valkenburg, Peter and Schouten, 2006; Ellison, Steinfield and Lampe, 2007) factors may also play a role in the consistent use of SNSs. While much has been made of Social Network Site privacy related issues, it would seem that people are still registering with these sites despite their initial concerns. Perhaps, the desire to connect with and communicate with people through the use of SNSs may fulfil an innate human desire to form social relationships (Dunbar, 1996). People want to be known in society whether it is through face-to-face contact or use of SNSs. While this in part may instigate people to ignore

any moral panics<sup>50</sup> related to such use, it is because of this desire to form social relationships that SNSs have outlived what was thought by many as a fad and continue to influence our lives into the future (Donath, 2007).

#### **2.4.4 Day-to-Day Operation of Social Network Sites**

There is no doubt that SNSs have become a fundamental part of adolescents' lives. Globally, the vast majority of teens and college students today use SNSs (Bicen and Cavus, 2010; Park, 2010), some of the most popular of which include the likes of Facebook, MySpace, Orkut, Mixi, Cyworld, Hi5 and Twitter (Alexa, 2010a; Bicen and Cavus, 2010; Lenhart *et al.*, 2010). Research which had surfaced in recent years examining Social Network Site usage, varies immensely. However, these studies are still at an early stage. The following section will therefore examine the daily patterns of Social Network use and where possible, review how such use may impact on adolescents' lives.

##### **2.4.4.1 Social Network Site Privacy Settings**

Academic studies over the past few years have consistently indicated that members of SNSs often leave their Social Network settings as public (Acquisti and Gross, 2006; Ellison, Steinfield and Lampe, 2007; Carverlee and Webb, 2008; Hinduja and Patchin, 2008; Zhao, Grasmuck and Martin, 2008; Fogel and Nehmad, 2009). Irish research in particular has suggested that as much as three quarters of adolescents in Ireland may be leaving their Social Network profiles open for anyone to view (National Centre for Technology in Education, 2008). In addition to this, it has also been found that boys

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<sup>50</sup> According to O'Sullivan *et al.* (1994, p186), moral panics "are those processes whereby members of society and culture become 'morally sensitised' to the challenges and menaces posed to 'their' accepted values and ways of life, by the activities of groups defined as deviant". In its most explicit form, they contend that a moral panic can be divided into three stages: (1) The occurrence of a significant event which attracts widespread media coverage; (2) In the wake of the initial event, media coverage impact on the wider social implications and issues that such an event is defined as raising; (3) Social control is exercised in response to the 'problem'.



were more likely than girls to leave their page as public whilst younger teens were more likely to have a private profile compared to older adolescents (Caverlee and Webb, 2008; Lewis, Kaufman and Christakis, 2008; National Centre for Technology in Education, 2008; Fogel and Nehmad, 2009; Livingstone, Ólafsson and Staksrud, 2011). That being said, recent research emanating from Europe analysing Irish adolescents use of SNSs has found that the majority set their profile as private open to access only to their friends (O'Neill, Grehan and Ólafsson, 2011). This appears to be a deviation from the norm and may perhaps be explained by new measures<sup>51</sup> in place to educate adolescents on the safe use of SNSs. Nevertheless, this finding is important and may perhaps indicate a shift towards safer Social Network Site usage.

Notwithstanding the latter research (O'Neill, Grehan and Ólafsson, 2011), some explanations have been put forward in an attempt to explain why teens might choose to leave their profiles as public. Ellison, Lampe and Steinfield (2009) for example suggest that at an interpersonal level, the identity information, which may be retrieved from public profiles, facilitates social interaction between members and thus enables connections between individuals, which may not have otherwise taken place. They go on to suggest, that disclosing such personal information publicly allows individuals to quickly identify areas in common with other users. In this manner, people may be able to initiate interaction by having topics of conversation to discuss. Such a practice they state, may have a positive effect on society as it may encourage disparate individuals to connect, communicate and control their own social patterns. What is more, they conclude that with the introduction of GPS enabled mobile phones such as the iPhone,

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<sup>51</sup> Certain SNSs may for example draw the attention of their members to safety features available on their sites.

adding proximity information to an individual Social Network Site may provide the user with additional connection opportunities that may have otherwise been avoided.

While having your profile as public may suit certain individual circumstances, for others privacy is much more desirable for numerous reasons. Lewis, Kaufman and Christakis (2008) for instance, suggest that there are four characteristics that determine whether a student will set their profile settings to private. These are: those students whose friends have a private profile; those who are most active on their Social Network Site; females and finally those who prefer music which is very popular. The first two of these factors are somewhat interlinked. For instance Lewis, Kaufman and Christakis (2008) state that the more a person browses online, the more they become aware of the prevalence of private profiles and hence switch their own settings. Secondly, more active users may have more intimate profiles and accordingly more to hide. Finally, those who spent most time browsing other people's profiles may become more sensitive to the accessibility of their own profile and as a result switch their settings. Of course other factors may have played a role in such behaviours. Safety for example is part of the wider personal incentive mechanism hypothesis which Lewis, Kaufmann and Christakis (2008) contend. As previously outlined, safety is an important factor for many people switching their profile to private (Fogel and Nehmad, 2009). People may fear what information other users may gather from their sites and any repercussions which may develop as a result.

#### ***2.4.4.2 Popular Uses of Social Network Sites***

Many studies have examined how individuals utilise SNSs. Not-surprisingly however, many of the uses detailed link in with what has already been suggested within this Chapter. Pempek, Yermolayeva and Calvert (2009) for instance sought to review why

college students use SNSs and more specifically, the types of activities associated with such use. Through the use of a time diary and questionnaire surveys, undergraduate college students ( $n = 92$ ) were queried on various aspects of their Facebook use. The results found that communicating with friends was the most popular use of the site. Following this, looking at photos and entertainment factors were the next most detailed uses. Interestingly however, when analysing the most popular activities which students performed on the SNSs, Pempek, Yermolayeva and Calvert (2009) found that looking at and reading other people's profiles was the most cited use (70%). Posting comments on other people's walls only amounted to 25% of responses for activities, which were performed often on the site. Likewise, sending private messages amounted to only 7% of responses under this category. On the other hand however, looking at photos (59%) and reading posts on others walls (32%) were cited as much more popular activities.

According to the National Centre for Technology in Education (2008), Irish teens most commonly cited reason for using SNSs was for the purpose of posting comments to one another. Following this, teens next favoured the photo album feature for the intention of looking at or posting comments on photos (National Centre for Technology in Education, 2008). Lenhart *et al.* (2010) found related conclusions. In their results, it is outlined that posting comments either to a photo, page or wall remains the most popular use of SNSs since 2006. While looking at photos was not detailed as an activity in their survey, it is implicit from the latter finding that such an activity is inherent in their use of the site.

Student and adolescents' responses to questions about their recurrent activities on SNSs would seem to suggest that they are using SNSs to interconnect with others (Subrahmanyam *et al.*, 2008). The posting of comments to one another and in particular the surveillance of photos posted online and surveillance of other people's comments, would seem to keep in line with adolescents' motives for registering with SNSs. The use of such features may facilitate adolescents' need for social contact and in particular, their craving for gossip about human relationships. Specifically, through monitoring photos posted online, teens may be able to keep up to date with how their peers are living and may in some respects replicate their lifestyles. Perhaps through the use of such features, social norms may be established.

#### **2.4.4.3 Time Spent Using Social Network Sites**

For many teens, spending time on SNSs appears to be an intrinsic part of daily activities (Pempek, Yermolayeva and Calvert, 2009). To date however, limited attention has been given to adolescents' daily usage patterns of SNSs (Thelwall and Marvin, 2009). In Ireland, research has shown (National Centre for Technology in Education, 2008) that 37% of teens access their Social Network Site daily while a further 35% do so three to four times per-week. What is more, no difference was found between male and female frequency of use, though males were more likely to engage in shorter sessions than females both during the week and the weekend<sup>52</sup>. In a similar survey of 18 to 29 year olds, Subrahmanyam *et al.* (2008) found that 57% of those surveyed accessed their Social Network Site daily while a further 23% did so two to three times per-week. This may be down to the fact that this research used a cohort of University students who may be accessing the Internet daily for numerous

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<sup>52</sup> 62% of males spent less than one hour a day using SNSs during the week compared to 49% of females. Likewise at the weekend, 52% of males spent less than one hour using the sites compared to 45% of females. Females were more likely to spend between 1-2 hours online on SNSs than males.

reasons. Even so, Facebook acknowledge that as much as 50% of its user base actively log onto Facebook every day<sup>53</sup> (Facebook, 2010).

Additional research on SNSs has sought to establish the length of time, which has passed since Social Network members last logged into their Social Network page. With this information, researchers could establish a reasonable estimate for when Social Network members last logged onto their page and in particular what time of day they accessed their page<sup>54</sup>. Pempek, Yermolayeva and Calvert (2009) for instance found that the majority of University students they surveyed accessed their pages between 9pm and 12am. Likewise, Golder, Wilkinson and Huberman (2007) found that University students were most likely to access their Social Network page just before midnight (except on Friday and Saturday) and were least active on Saturday suggesting that SNSs have not replaced common social activities such as going out at the weekend. In a quest for similar information, Hinduja and Patchin (2008) found a wide variation in the frequency with which youths logged onto their MySpace profiles. For example, while it was found that 39% of teens logged into their Social Network page within the previous three days, the actual average number of days for which youths accessed their page appeared skewed due to the number of teens who created a MySpace profile but rarely or never returned to the site. The study also found that 30% of users had not logged into their site in over a month while 5% had not done so in a year. This finding they state calls into question the proposed 100 million users claimed to have been registered with the site at the time of the research (ibid).

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<sup>53</sup> No similar statistic has been outlined by Bebo.

<sup>54</sup> This is particularly relevant in respect of Bebo as each page outlines how long has passed since they last logged onto their page.

Earlier within this Chapter (2.3.2.2.3), it was highlighted that teens may be spending between one and two and a half hours per-day using the Internet. In respect of Social Network Site usage however, these figures must be interpreted with caution given that research has highlighted that the total amount of time spent using the Internet is not directly correlated with the likelihood of Social Network Site usage (Tufekci, 2008a). Nevertheless, research which has specifically analysed the daily time spent using SNSs suggests that teens and young students may be spending anywhere between 10 minutes to 1 hour and 23 minutes per-day using SNSs (Ellison, Steinfield and Lampe, 2007; Lampe, Ellison and Steinfield, 2008; Fogel and Nehmad, 2009; Pempek, Yermolayeva and Calvert, 2009). Using a diary like measure, Pempek, Yermolayeva and Calvert (2009) found that the amount of time which students reported using Facebook varied immensely. However, having accounted for any outliers, the mean time found for weekdays was 27.93 minutes per-day compared to 28.44 minutes during the weekend. Likewise, Ellison, Steinfield and Lampe (2007) came to a similar conclusion reporting as they did that college students spend between 10 to 30 minutes per-day using Facebook<sup>55</sup>. Unsurprisingly, it was self-report measures which accumulated the highest levels of Social Network usage per-day with both Fogel and Nehmad (2009) and Lampe, Ellison and Steinfield (2008) finding that students spent an average of one hour or more per-day using SNSs. Certainly one could conclude that a methodological disparity may have contributed towards the time differentials shown (Coxon, 1999). Alternatively, cultural, age and gender factors may have also made a difference.

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<sup>55</sup> Students were asked to detail on a likert type scale question how much time on average they spend per-day using SNSs.

Nonetheless, how often an individual may log on to and use their Social Network Site varies depending on a number of confounding factors. For instance, individuals with different user typologies may utilise SNSs in various ways and for various reasons (Brandtzaeg, 2010). In recent years numerous academics have outlined their own user typologies of SNSs. Brandtzaeg and Heim (2011) for example sought to establish Social Network Site user typologies from a sample of 5,233 Norwegian adolescents. Using an online questionnaire, participants were queried on their usage of four popular SNSs. Through the use of both cluster and qualitative analysis, Brandtzaeg and Heim (2010) established five user types from their data. *Sporadics* (19%) are those users who visit their Social Network page intermittently to check their status. These users rarely involve themselves in Social Network Site activities. *Lurkers* (27%) accounted for the greatest percentage of any user type. These individuals primarily engage with SNSs for the purpose of passing time. They utilise many of the Social Network Site features but only for a limited period of time. *Socialisers* (25%) use SNSs solely for the purpose of online socialisation and communicating with others. This user type is comprised mainly of teenage girls. *Debaters* (11%) are highly involved in blogging and are often caught up in discussions, reading and writing contributions in general. Finally, *Actives* (18%) engage in a multitude of activities on SNSs. Moreover, they often involve themselves in user-generated content.

While the above breakdowns are helpful in many respects, it must be acknowledged that they are broad and based on the researchers interpretation of the user groups. Moreover, Brandtzaeg and Heim (2011) have broken down their user groups based on the sample groups use of SNSs, while other studies have outlined groups based on

how often individuals log on to the Internet for example or indeed their preference for different activities online (Heim *et al.*, 2007; OFCOM, 2008).

#### **2.4.4.4 'Friending': The Nature of Adolescent Relationships Online**

One of the key facets of SNSs is friendship (Thelwall and Marvin, 2009; Boyd, 2010). According to Boyd (2006a), SNSs are constructed in a manner which require members to indicate relationships or friendships with other participants. Many critics however often point to the hollowness of friendships online (Richardson and Hessey, 2009). Boyd (2004) for instance provides an example of such fallacy by quoting a response used in everyday conversation by adolescents to describe one's friend: "she's not my friend, she's my Friendster" (p.2). Richardson and Hessey (2009) also allude to such an example by quoting a PhD student as saying "they're not my real friends, they're my Facebook friends" (p.29). In this manner of speaking, Boyd (2004) denotes that relationships made on SNSs are binary. That is, individuals are either friends or just Social Network friends. As Boyd (2004) indicates, this often means that individuals are listed as friends even if the user does not know the person. For instance, for many Social Network users, having an abundance of friends is sending a signal of social status (Donath and Boyd, 2004; Boyd, 2010). However, in many cases new friendships evolve from friends of friends, or as noted by Walther *et al.* (2008), people may add an individual as a friend immediately after meeting them offline simply for the purpose of learning new information about them. Thus the actual relationship which an individual may have with a friend on a Social Network Site, is often not meaningful.

In such cases, the meaning of friendship may vary (Thelwall and Marvin, 2009). Boyd (2006a) for instance suggests there are numerous reasons why members of SNSs may



accept an individual as a friend on a Social Network Site, many of which may be related back to why individuals initially register with SNSs. Some of the main responses noted in Boyd's (2006a) study are as follows: 1) having lots of friends makes you look popular; 2) your list of friends reveals who you are; 3) their profile looks cool so being friends makes you look cool; 4) collecting friends lets you see more people; 5) it's the only way to see a private profile. As noted by Boyd (2006a), these comments offer technical affordances, which affect people's incentive to connect with other people. People may choose for example, to add a friend on a Social Network Site based on what they want to make visible. In addition, the creation of friendships online may serve only to fulfil a surveillance (Boyd, 2006a) or popularity function (Donath and Boyd, 2004; Hinduja and Patchin, 2008).

This form of online friendship has since been termed '*friending*'. According to Thelwall (2008a), the term friending is used to signify Social Network friendship connections. The number of Social Network connections a person may have varies immensely (Thelwall and Marvin, 2009). According to Mesch and Talmud (2010), there is evidence to suggest that the average number of friends an individual may have on a Social Network Site is 120 with women tending to have more friends than men. The range of friends found however tends to be large and some people have been found to have networks numbering more than 500 people. Hinduja and Patchin (2008) provide an example of this. The average number of friends found on their survey of 9,282 MySpace profiles signified an average friend count of 64.7. However the range of friends varied from none to 1,081. In a similar study of 6,000 adolescent MySpace profiles, Pfeil, Arjan and Zaphiris (2008) found that the median number of ties a

teenager possessed is 60. In addition, girls were shown to have more social ties than boys.

Hinduja and Patchin (2008) suggest that having a large number of friends and a large number of people commenting on an individual's wall portrays an element of social success. Particularly in relation to the latter, Boyd (2006b) notes that for those who are seeking attention, writing comments and being seen to write comments on other peoples pages is often important. She notes that it is essential to be connected to your friends, your idols and people you respect. As such, she notes that comments can be seen as a form of '*cultural currency*'. That is, while the dynamics of leaving comments and having the most friends may not seem important to an adult, to young adolescents, they may be essential. Boyd notes that this is significant because such actions and status are rooted in the ways in which adolescents jockey for social position and indeed deal with popularity. It is because of such actions that SNSs can be indicative of the rules of social life for many teens.

Having a large network of friends may also be helpful in the formation and maintenance of social capital (Ellison, Steinfield and Lampe, 2007; Pfeil, Arjan and Zaphiris, 2008). To date, much research has illustrated that social capital can have a profound impact on adolescents' well-being. In recent decades however, there have been strong suggestions of a decline in social capital and an increase in individualism (Putnam, 2000). Since SNSs provide a space where young people can share information, form new relationships and cultivate existing relationships (Tomai *et al.* 2010), researchers have begun to study their worth from a social capital perspective. Up to now, there has been a dearth of literature, which specifically examines the effect

which Social Network use may have on social capital formation (Tomai *et al.*, 2010). Prior to elaborating on this limited material, it is first important to elaborate on the meaning of social capital (Steinfeld, Ellison and Lampe, 2008). Presently, many conceptions of social capital exist (Putnam, 2000). For the purpose of this Literature Review however, the focus of discussion will be related to social capital at an individual level. This is primarily due to its decisive use within academic studies on the matter.

Under social capital theory, two broad types of social capital have been identified at an individual level. These are bonding and bridging social capital (Putnam, 2000). As alluded to earlier, bonding social capital describes close relationships in which emotional support is frequently exchanged (Pfeil, Arjan and Zaphiris, 2008). This is often found between tightly knit families with emotionally close relationships (Steinfeld, Ellison and Lampe, 2008). Conversely, bridging social capital refers to weak tie relationships. These may be friends of friends, past colleagues, or other acquaintances. These relationships are important as they may allow an individual to garner information concerning important aspects of their personal lives and may even provide new information related to job opportunities (Ellison, Lampe and Steinfeld, 2009).

As alluded to earlier, one of the first such studies examining social capital formation on SNSs, was conducted by Ellison, Steinfeld and Lampe (2007). A total sample of 286 Michigan State University (MSU) undergraduate students participated in this survey. Information was collected in respect of respondents' time spent using Facebook and whether Facebook was used to meet new people or to establish online

connections with pre-existing relationships. In addition to this, participants were subjected to questions relating to subjective well-being, self-esteem, satisfaction with life at MSU and finally measures of social capital. Results of this research found that certain types of Facebook usage can help maintain bridging social capital. Ellison, Steinfield and Lampe (2007) suggest that perhaps the characteristics of the Facebook Social Network Site may serve to lower the barriers of communication or participation so that students who are normally shy might instead initiate communication due to Facebook's affordances. Bonding social capital was predicated by high self-esteem, satisfaction with University life, and intensive Social Network usage. Nonetheless, the regression analysis conducted only found a weak variance in the bonding model. Ellison and colleagues suggest a possible reasoning for this may be that while SNSs encourage the formation of weak tie relationships, they do not necessarily create the close kinds of relationships associated with bonding social capital. An explanation for the relationship found, may be that SNSs are an easy way to maintain pre-existing close relationships.

In an extension of the latter research, Steinfield, Ellison and Lampe (2008) conducted a longitudinal study a year later to measure the effects of Social Network Site usage on psychological well-being and bridging social capital. The sample in this research consisted of 92 students from the original survey and a further 477 undergraduate students in a new random sample from MSU. In an expansion of the previous study however, 18 in-depth interviews were conducted with Facebook users. The results of this research suggest that intensity of Facebook usage in one year, strongly predicted social capital outcomes in the second, even when considering factors such as self-esteem and satisfaction with life. What is more, the aforementioned psychological

variables were strongly associated with social capital outcomes. Steinfield, Ellison and Lampe (2008) also conclude that self-esteem moderated the relationship between Facebook usage intensity and bridging social capital. That is to say, it was found that lower self-esteem users gained more from Facebook use intensity in terms of bridging social capital than those of the latter.

In a more recent survey of high school students ( $n = 264$ , mean age = 16.11), Tomai *et al.* (2010) sought to establish if belonging to a high school online community would indicate higher levels of both offline bridging and bonding social capital than that of a control group who were not utilising online SNSs. The results of this survey found that those who were members of the online high school community had significantly higher levels of bonding social capital than those who were not. What is more, the most intensive users of the site displayed a significantly higher level of bridging social capital hence, conforming to the results found by Ellison, Steinfield and Lampe (2007).

To conclude, Tomai *et al.* (2010) suggest that rather than use SNSs to substitute face-to-face communication, adolescents utilise these sites to deepen existing relations and keep weak ties alive. What is more, building a large network of friends allows users many affordances in respect of surveillance and image portrayal capacities. One must be careful however in interpreting the nature of the relationship formed online. While many students display large heterogeneous networks, the extent to which they actually communicate with their list of friends may be rather small (Mesch and Talmud, 2010). Nonetheless, research has shown that for those particularly with low self-esteem, SNSs can facilitate the formation and maintenance of social capital and particularly

bridging social capital (Ellison, Steinfield and Lampe, 2007). What is more, as we move further into the 21<sup>st</sup> century, SNSs have and will continue to play a role in adolescents quest for social status amongst their friends.

#### **2.4.5 Language Use on Social Network Sites**

In recent years, early forms of computer-mediated communication (CMC) have been investigated and in particular the use of short messaging services (SMS) on mobile phones. These studies have illustrated that new forms of non-standard English are emerging (Thelwall, 2009) which today are actively being utilised and transformed on SNSs. The public messages or comments exchanged on SNSs are a new type of text-based communication (Thelwall, 2009), which has evolved from the early days of CMC and SMS. While much is known about CMC and short-messaging service communication styles, very few studies have investigated language use on SNSs and in particular the content of communication online (Thelwall, 2008b; Thelwall and Marvin, 2009).

One of the first large-scale studies of language use on SNSs, was conducted by Thelwall (2009). This research sought to broadly examine the characteristics of comments posted on SNSs. In conducting this research, Thelwall (2009) utilised a form of web crawler<sup>56</sup>, which downloaded comments automatically from a large sample of MySpace profiles (circa 30,000 profiles). The final set of comments used for analysis consisted of 6,589 postings all of which were filtered for spam and viral messages. Following a thematic and linguistic analysis of the data, Thelwall identified

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<sup>56</sup> The basic premise of a web crawler is that it visits profile pages based on a randomly generated list of ID numbers. Upon visiting a selected page, the crawler uses regular expressions to collect the data requested for a given user and then continues until all ID's selected have been completed.

that comments posted on SNSs were generally for friendship maintenance<sup>57</sup>. The remainder of the comments exchanged related to non-trivial information, arranging meetings or in some cases romantic gestures. Most comments were typically short with 95 per cent containing less than 57 words. Unsurprisingly, the language used contained a combination of standard spelling, apparently accidental mistakes, slang, sentence fragments, typographic slang<sup>58</sup> (e.g. lol, omg, hugz) and interjections. In fact, the vast majority of comments (97%) contained at least one non-standard language feature.

Thelwall's (2009) findings in relation to language use are in many ways not surprising. As outlined by Thelwall and Marvin (2009), there are many varieties of CMC and SMS language, even for English, which are in use today. For instance, Randall (2002) contends that Internet communication combines writing with speaking to an unprecedented degree. He suggests that writing styles online tend to come very close to everyday speech. That is, punctuation and grammar, as well as other prescriptions of formal writing tend to get lost in the frenzy of typing. What is more, capitalisation tends to be non-existent and slang and abbreviations flourish. More specifically, according to Merchant (2001), abbreviations are particularly common in any form of online correspondence and many users who are proficient users of chat rooms or indeed in recent years SNSs, tend to use them. Thelwall and Marvin (2009) highlight some of the features, which commonly appear in CMC and comments, posted on SNSs. These include:

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<sup>57</sup> Derived from Thurlow (2003), this refers to comments, which dealt with 'friendship work' such as apologies, words of support and thanks.

<sup>58</sup> This is defined as informal methods of spelling words.

- Acronyms such as lol (laugh out loud), bfn (bye for now) and omg (oh my god);
- Abbreviations, for example @ (at);
- Phonetic spelling such as luv (love), ngt (night), goin (going) and wit (with);
- Letter and number homophones such as cul8r (see you later) and h8 (hate);
- Repeated letters for emphasis. For instance hiyaaa and hellllllo;
- Pictograms such as :-) and :-S;
- Injections such as mwahhh, awhhh, haha or hehe.

Although other variations of the above exist, the extent to which they are used varies according to context (Thelwall and Marvin, 2009). However, given the creative use of such features and adjustments in text language outlined, it comes as no surprise that teenagers appear to be playing a key role in linguistic innovation associated with new and emerging forms of communication technology (Merchant, 2002).

In recent years, there has been growing concern for the means in which teenagers actively utilise these new methods of communication. In one report in the United States, it was found that many teens (60%) did not feel that sending or posting comments online was constituted as a form of writing. More worryingly, in the same report, some 50% of teens denoted that they actively used informal writing styles instead of proper capitalisation and punctuation in their school assignments. What is more, 38% said they had used text shortcuts such as lol (laugh out loud), while a further 25% outlined that they used emoticons such as ☺ (Lenhart *et al.*, 2008). In a similar study of text message usage and school literacy, Plester, Wood and Bell (2008) found that children (aged 11-12) who used their mobile phones to send three or more



text messages per-day had significantly lower scores in verbal reasoning than those children who sent none. However, in stage two of the research, positive correlations between spelling ability and performance on a translation exercise were also found. Furthermore, good writing attainment was associated with children's use of textisms, though the direction of the relationship was unclear. Certainly, while many fear the impact which new and emerging forms of language use may have on children and adolescent's development, very little linguistic research has as yet addressed this issue (Paolillo, 1999). Therefore, while it is conceivable to hypothesise that new linguistic forms may have an impact on the evolution of language; as yet no concrete evidence supports this claim.

A further aspect of online communication that was identified in Thelwall's (2009) research was that of communication themes. As already noted, the majority of comments themed in Thelwall's research were of a friendship maintenance nature. Evidentially, similar findings were uncovered in an earlier study (Thurlow, 2003) of SMS among a sample of University undergraduate students ( $n = 159$ ). Thelwall (2009) derived his thematic analysis breakdown based on the themes constructed in this research. Thurlow's (2003) study analysed 544 text messages, which students had either sent or received in the previous week. Each text message was then themed respectively according to the themes derived by Thurlow. The results of the research found that some 23% of overall text messages sent were of a friendship maintenance nature. A further 17% were salutary<sup>59</sup>, while 15% were for practical arrangement<sup>60</sup> purposes and an additional 14% for informational-practical<sup>61</sup> reasons.

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<sup>59</sup> Salutary comments were greeting based comments often little more than 'hello how are you?'

<sup>60</sup> Implicit from the title, practical arrangement comments are those where an individual is trying to arrange a meeting or for something to be done.

<sup>61</sup> Informational-practical refers to exchanges or requests for personal favours.

Interestingly, the above research made no reference to the use of swear words in any of the narratives studied. According to Thelwall and Marvin (2009), the use of swear words is a common characteristic of many adolescents daily CMC language. Focusing specifically on this fact, Thelwall (2008c) sought to uncover the extent to which such language was used in comments posted on the Social Network Site MySpace. In total, 9,376 MySpace profiles from both the United States and the United Kingdom were analysed. Results of this study indicated that most MySpace profiles of 16 year-olds and 15% of middle-aged individuals contain strong swearing. Moreover, this was the case for both males and females. Of particular note, Thelwall (2008c) notes that there was no significant gender difference in the use of strong swearing between male and female teenagers in the UK. Based on these conclusions, Thelwall contends that an immediate and practical implication of this research is that swearing among youth is a normal rather than a deviant behaviour. In fact, it would seem from this study that swearing is an integral part of everyday conversation and given the inherent cultural characteristics of the Irish people (Hughes, 2007); it would not be surprising to find a similar result amongst Irish teens.

Concurrent with the previous topic, Pfeil, Arjan and Zaphiris (2008) utilised a linguistic analysis software program (LIWC, 2006)<sup>62</sup> in order to establish how both adults and adolescents utilised words to describe themselves on the Social Network Site MySpace. As part of their analysis, they conducted a content analysis of around 6,000 MySpace profiles, which they located through the use of a web crawler. In utilising the LIWC program, it was found that teenagers were significantly more likely

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<sup>62</sup> Details concerning the application of this program will be discussed in the Methodology Chapter (3.8.2.1).

than adults to use words related to self-references<sup>63</sup>, negative emotions<sup>64</sup> and cognitive thinking<sup>65</sup>. Additional analysis solely on the adolescent's scores also revealed that teenage girls use more self-references, negative emotions and social words<sup>66</sup> than boys. According to Pfeil, Arjan and Zaphiris (2008), these findings imply that teenagers tend not only to write in an informal manner, but also are more likely to focus on themselves and their emotions when representing themselves. This it could be suggested, may be because teenagers perhaps see SNSs as a means of building an identity online and representing themselves in a manner befitting the image they wish to portray (Dowdall, 2006; Boyd, 2008a).

To conclude, both popular wisdom and professional scholarship in a multitude of academic disciplines make a diversity of predictions concerning how ICTs and in particular the Internet will shape our language and our lives (Paolillo, 1999). At present CMC provides many adolescents with an opportunity for social affinity and control over when and with whom they choose to interact. However, the long-term influence, which such communication may have on adolescents' language capabilities, remains largely in the hands of parents and educators and their linguistic role models (Baron, 2005). Whether such mediators reject or accept the use of such language is yet to be known. Hitherto, popular electronic communication is often ignored or actively discouraged in many school systems. Yet the skills involved in the use of such language are becoming increasingly important in several aspects of higher education and the world of work (Merchant, 2002). Thus, more research in this area is most

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<sup>63</sup> People who use a high rate of self-references tend to be more insecure, nervous and possibly depressed. On the other hand they also tend to be more honest (LIWC, 2009).

<sup>64</sup> Negative emotion words (e.g. sad, kill, afraid) are according to LIWC (2009) is weakly linked to people's ratings of anxiety.

<sup>65</sup> Cognitive words reflect how much people think about a particular topic (LIWC, 2009).

<sup>66</sup> Social words reflect the manner in which reference is made to other people. People who use more of these words tend to be more outgoing and socially connected with others (LIWC, 2009).

certainly required and particularly in relation to language use on SNSs (Thelwall, 2009).

#### **2.4.6 Image Portrayal Online**

According to Boyd and Ellison (2008), SNSs constitute an important research context for scholars investigating identity creation online. Through the use of such sites, individuals may define their own identities through the profile information, pictures and comments posted on their Social Network page. Concern however, has been expressed for the manner in which teens are portraying themselves on SNSs. For instance, Donath (2007) highlights, that many young teens create overly revealing Social Network pages in which they appear in provocative photographs or recount illegal leisure pursuits. However, it is often through such actions which identity signals may be sent out to others connected to their network (Donath and Boyd, 2004; Donath, 2007). Boyd (2008a) for instance, notes that SNSs can be seen as a form of digital body in which teenagers can write themselves into being. Through Social Network profiles she states, teens may express salient aspects of their identity for others to view and interpret. That said however, Boyd notes that adolescents' principal audience consists of peers primarily known from offline social interaction. As such, teens are inclined to present a side of themselves which is likely to be well received by their peers (Boyd, 2008a).

Nevertheless, this is not always the case. An important characteristic of SNSs is that individuals can if they so wish, create an identity, which may or may not reflect their true self. For example, Donath and Boyd (2004) suggest that creating an identity on a Social Network Site comes at no cost. If one ruins the online reputation linked to a screen name, they can simply create another. In general however, this tends not to

happen on socialising SNSs. That is, should an individual prevaricate on a socialising Social Network Site, presumably real friends would see this and make some form of comment concerning the individual's hyperbole (Donath and Boyd, 2004; Zhao, Grasmuck and Martin, 2008). Similarly, the individual may be embarrassed as a result of exaggerating accomplishments (Donath and Boyd, 2004). Still, this does not mean that the presentation of identity in these online environments is reliable. For instance, Donath and Boyd (2004) suggest that the culture of SNSs vary, and in this manner some people do not care that an individual has fabricated their Social Network profile. On Facebook, Bebo and MySpace for example, people may not mind what personal details an individual portrays. On the contrary, sites such as LinkedIn are very much business orientated and as such, claiming a higher position or qualification than actually held is generally frowned upon (*ibid*).

The advent of the Internet has undoubtedly changed the traditional conditions of identity production (Zhao, Grasmuck and Martin, 2008). Today, people spend a considerable amount of time personalising their Social Network pages in order to form and manage the impressions which they put out to their network of friends and in no small part, inflating and even manipulating others perceptions of oneself has come to be expected. At present, a significant proportion of users particularly on socialising SNSs, are prone to a small amount of exaggeration (Ellison, Heino and Gibbs, 2006). Indeed, as noted by Zhao, Grasmuck and Martin (2008), the advent of SNSs has in no small way, allowed individuals to reinvent themselves in this online environment. As such, many studies have examined the manner in which individuals represent themselves online, analysing such things as the type of profile information which individuals post on SNSs and in particular the profile photo which they display

(Lenhart and Madden, 2007; Lewis *et al.*, 2008; Zhao, Grasmuck and Martin, 2008; Pempek, Yermolayeva and Calvert, 2009; Nosko, Wood and Molema, 2010).

Zhao, Grasmuck and Martin (2008) for example conducted a content analysis of 63 Facebook profiles in order to classify various means of identity formation. Analysis of these profiles identified three different modes of identity construction. The first concerned the use of visual mediums. This involved the use of photos uploaded to a Facebook profile. The pictures shown were generally of the profile owner and in most cases (over 90%), other users were allowed to view their profile photos. Having said this, a third of those surveyed blocked general members of the public from viewing their photo albums. For the most part however, users were generally tolerant in allowing the public to see a wide range of photos depicting the Social Network user in a variety of contexts. Through the use of photos, Zhao and colleagues suggest that individuals are projecting themselves as the social actor. They suggest that the user is saying “watch me and know me by my friends” (p. 1825). In this context they suggest that users are generating their desired impressions especially in terms of the depth and extent of their social ties.

The second cluster of data utilised as a means of identity construction consists of enumerative cultural self-descriptions or simply a list of cultural preferences, which the Social Network user believes defines them. Information presented in this domain primarily relates to personal interests, hobbies, and favourite TV shows, movies or favourite quotes. In terms of image portrayal, this form of impression management is certainly a more elaborated option. The final means of identity construction is entirely narrative. This explicit means of forming an image is formulated through the self-

description section<sup>67</sup> in the Facebook website. Statements or individual claims are most notable in this section. Individuals often make light-hearted claims about their personal lives and in general introduce themselves to their viewers. According to Zhao and colleagues, Facebook users appear to prefer the more explicit means of identity construction (photos and network of friends). This may in part be due to the fact that a picture paints a thousand words. That is to say, displaying rather than describing oneself can be a more effective manner of image portrayal. Having said this however, over half of users detailed enumerative statements about themselves, while between 8-35% provided a self-descriptive profile.

In a similar survey to Zhao, Grasmuck and Martin (2008), Pempek, Yermolayeva and Calvert (2009) also analysed the type of profile information, which a selection of undergraduate ( $n = 92$ ) students posted on their Social Network page. Of particular interest to Pempek and her colleagues were potential markers, which could be used to express the users identity. In order to establish these markers, students were queried in relation to the type of information which they posted on their Social Network pages. It was concluded from this analysis that the main means of identity creation were established through postings related to media preference. For example, favourite books, music and movies. To supplement this, students often described themselves in a sentence or two using any kind of information they desired. Additionally, students sometimes posted funny facts, clever statements or provided links to pictures or websites they were fond of. Coupled with this textual information, the majority of students surveyed indicated that posting photos was an important aspect of expressing their identity. In general, the number of photos posted varied immensely. Females

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<sup>67</sup> Most socialising SNSs provide a self-description section on their websites.

were however found to post a greater amount of photos than males. Likewise, females were more inclined to un-tag<sup>68</sup> a photo where they were present. The main reason cited for this action was displeasure with their appearance, hence signifying that appearance is an important aspect of identity and self-presentation.

Undoubtedly, it would seem that the posting of photos in particular is standard practice for many individuals and in particular teenagers (Lenhart and Madden, 2007). According to Lenhart and Madden (2007), some 79% of teen Social Network profiles include a photo of themselves while a further 66% include photos of their friends. While it is commonplace for Social Network Site users to post images on their Social Network profile (Nosko, Wood and Molema, 2010), in many cases, these can include photos of a sexually provocative nature (Peluchette and Karl, 2010) or depictions of purple leisure<sup>69</sup> activities (Moreno *et al.*, 2010). As a result, concern has been raised for adolescents' welfare on SNSs (Wilson *et al.*, 2010). According to Peluchette and Karl (2010), as much as 25% of photos posted on University student's profiles have been found to be of a provocative nature. Interestingly, in this particular research it was found that males were more likely than females to report posting an image which was sexually appealing. This is despite the fact that other research has identified females as being the more likely to post images of themselves (Lenhart and Madden, 2007). Perhaps the former research may have been limited in the fact that it was a self-report measure and the researcher never saw the respondents' profiles. Moreover, a clear age disparity exists between both research demographics.

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<sup>68</sup> On Facebook an individual can tag someone in the picture so that anyone who views that picture may see who the person is and what their name is. However, if the individual in the photo does not want to be tagged, they may un-tag themselves from the picture and no one else will be able to re-tag it.

<sup>69</sup> This refers to deviant leisure activities such as underage smoking, drinking or taking drugs. It also relates to delinquent activities (Shinew and Parry, 2005).



In relation to purple leisure behaviours, the results found are more apparent. For example, in a survey of 400 Social Network Site profiles, males were found to be significantly more likely to display such purple leisure behaviours online (Moreno *et al.*, 2010). Likewise in a similar survey of University students and their SNSs, it was found that depictions of illicit drug use and alcohol consumption were universal (Morgan, Snelson and Elison-Powers, 2010). Both males and females actively posted images of smoking Marijuana, drinking alcohol, being drunk and posing with alcohol. However, analogous to the Moreno *et al.* (2010) study, males were also the more likely to post such images. Such depictions appear to suggest that adolescents and young adults are accepting of such behaviours. In fact, the status attached to such image portrayal may outweigh the potential negative effects. Nonetheless, to other individuals, such image portrayal may be seen as unconventional. Given the drinking culture among adolescents in Ireland, it would certainly come as no surprise if such image portrayal were evident in Irish adolescent profiles.

Certainly, it would seem from the aforementioned research that such aspects of Social Network profiles solidify the image, which an individual wishes to portray to their network of friends. Moreover, such features are equally apparent if not more pronounced amongst the adolescent population (Lenhart and Madden, 2007). In addition to such factors however, other research has examined the extent to which one's network of friends can affect the manner in which observers gain an impression of the profile owner. For instance, Walther *et al.* (2008) sought to examine what one's associates say about wall postings posted on an individuals Social Network page. Furthermore, this research wished to establish whether the physical attractiveness of those individuals who posted comments on a person's Social Network page affected

the perceived credibility and attractiveness of the profile owner. The results of this study concluded that the attractiveness of an individual's network of friends on a Social Network Site directly affects their own. Thus, individuals who viewed attractive friends' photos associated with an individual's page rated the profile owners significantly more attractive. It was also found that negatively composed wall postings concerning moral behaviours increased male Social Network owner's physical attractiveness, though for females they were viewed as less attractive. Certainly it could be suggested from such findings that for females, it is more important to control the image they portray to their peers. It could also be inferred that it bodes well to have good-looking friends. As noted by Walther *et al.* (2008, p. 44), "one gains no advantage from looking better than one's friends".

Undoubtedly, there are great variations in the manner in which individuals wish to portray themselves on SNSs (Zhao, Grasmuck and Martin, 2008). In fact, Social Network profiles with no means of identity construction portray just as much about the character of the individual who portrays endless details about their personal lives. This degree of controllability means that the user can organise and strategically manufacture the image they wish to portray to their audience (Walther *et al.*, 2008). Specifically, the display of adult-orientated behaviours seems to reinforce adolescents' status among their peers. However, while such behaviours are ever-present during adolescence, publically revealing them could have long-term consequences particularly with prospective employers or law enforcement officials conducting background checks (Hinduja and Patchin, 2008). Nevertheless, the means in which people present themselves online and in particular through the images displayed on online profiles, reflects how important technology is becoming in the development of

youth identity (Pempek, Yermolayeva and Calvert, 2009). Regardless of the risks associated with such image portrayal, teenagers have and will continue to utilise SNSs as a means of identity construction. Furthermore, the manner in which they construct their profile will often reflect the social norms and day-to-day behaviours of their peers. Teens will however have to exercise caution in how they portray their image so as to become accepted amongst their social partners. Therefore, accepting an individual who is not well liked in their social group or displaying an image, which is not socially acceptable, may be at the risk of their own image demise.

#### **2.4.7 Risk Behaviours on Social Network Sites**

The use of SNSs provides a number of potential benefits for adolescents many of which have been outlined in the previous sections. Despite these benefits, the immediate growth and popularity of SNSs has led to unpopular headlines in various media outlets (Hinduja and Patchin, 2008). Most of the media attention surrounding SNSs has focused mainly on the type of information which youths make available online (Lenhart and Madden, 2007) and how the posting of such information may leave teens susceptible to cyber bullying (Mesch, 2009), sexual solicitation, cyber stalkers (Rosen, Cheever and Carrier, 2008) and even identity theft (Donath and Boyd, 2004; Nosko, Wood and Molema, 2010). As already outlined, many teens have little or no regard for the type of information they post on SNSs. The vast majority actively outline where they live, where they go to school, post pictures of themselves and of their family and friends and even in some cases provide their e-mail address or phone number (Nosko, Wood and Molema, 2010). Research has even shown that many teens will accept a friend request from someone unknown (National Centre for Technology in Education, 2008).

Given that many adolescents who use SNSs forget that what they post online, may be accessed by people all over the world (Hobson, 2008), it comes as no surprise that concern has been raised in relation to such uses. More importantly, due to the inherent nature of SNSs, general security, access controls and privacy are weak by design. This is primarily due to the fact that, the easier it is for people to join and find points of contact with other users, the higher the utility of the network to the users themselves (Shin, 2010). In addition to this, SNSs actively record all interactions which take place on their site, and retain them for personal use in social data mining (Dwyer, Hiltz and Passerini, 2007). As a consequence, many policy makers, educators and parents are calling for systems to be put in place to educate and protect teenagers from the potential dangers which surround these online environments (Hinduja and Patchin, 2008; OFCOM, 2008).

In a response to this publicised apprehension, OFCOM (2008) compiled a comprehensive report, which sought to investigate both adolescent and adult concerns about privacy and safety on SNSs. The report found that privacy and safety concerns did not emerge as ‘top of mind’ for most users. More worryingly, upon investigating such issues more systematically, several areas of potentially risky behaviour were identified. Firstly, it was established that over 40% of young teens leave their Social Network page open to the public. This figure however has been shown to be much higher in other research (National Centre for Technology in Education, 2008). Secondly, the research established that many teens willingly provided sensitive information in the form of personal information, photographs and other content. Having said this however, it is the belief of many teens that SNSs are designed for sharing details and communicating with others. Therefore, many users did not see this

as a problem. Thirdly, many teenagers' contacted people they did not know and in some cases even added them as a friend. In an Irish study (National Centre for Technology in Education, 2008) of Social Network usage, as much as three quarters of children had added someone whom they had not met as a friend. According to the OFCOM report, the Social Network users recognised that such actions could result in strangers accessing their Social Network page. However, most users it would seem were not concerned about this and many found it amusing rather than alarming particularly in respect of inappropriate or unpleasant comments which may be posted on their Social Network page. In respect to meeting people they did not know, the research suggested that some people were more likely than others to do this. However, many teens felt that once such actions were conducted in a public place, they had mitigated any risks.

The final area of concern highlighted by the OFCOM (2008) report relates to the posting of personal photographs on SNSs. This area in particular has drawn a lot of attention in the media. To date, this research (OFCOM, 2008) and indeed other studies in the area (Donath, 2007; Peluchette and Karl, 2010) have found that many teenage girls are posting pictures of themselves in a sexually provocative manner. As a result, the reputation of these girls appears to be damaged in the process (OFCOM, 2008). Having said this however, the stigma attached to such image portrayal seems to be a method of attracting male attention for which these young girls seem to desire. Furthermore, such attention may bode well for self-esteem purposes (Walther *et al.*, 2008). For example, the OFCOM report quotes one 15-year-old girl as saying, "I am single and it is nice to get the attention of men. Some of the photos I post are a bit

racy, but really they aren't meant to be that serious and are a bit of a giggle" (p.54). The attention this young girl is referring to certainly seems plausible.

Paul Revoir for example in his article which featured in The Daily Mail in April 2008, exhibits a selection of Bebo profiles in which young teenage girls display themselves in a sexually provocative manner (Revoir, 2008). As shown in Figure 2.4.1 (page 138), the girls outline their real name, where they live and in some situations, their place of study. Certainly, this information alone would be more than enough for anyone to trace them. In addition to this, it is highlighted that their profile pages have each received 33,000 and 11,000 views respectively; hence confirming the attention factor to which the young girl quoted in the OFCOM report was referring to. Alarming, in the first of the profiles displayed, the girl claims that an old man attempted to abduct and rape both her and her friend at a fairground. Despite this, the young girl actively posts many photos of a sexually explicit nature and easily makes it known to individuals where she lives. She even draws attention to the fact that she is very gullible.

Certainly, such risky behaviours could be further confounded by a lack of parental knowledge or parental mediation in respect of SNSs. For example, according to research by Rosen, Cheever and Carrier (2008), many parents are unaware of their children's Social Network activities. Furthermore, more than one-third of parents had not seen their child's Social Network page, while just one-third of parents placing limitations on Social Network use. Though parents were unsure about their children's activities on SNSs, most were in fact concerned about the impact of those activities. Having said this however, nearly all teens that participated in the research reacted

appropriately to solicitation online by blocking the offender from their site or reporting the incident to an adult. Nevertheless, teens still actively posted personal information, which could easily be used by a stalker to locate them.

**Figure 2.4.1 Image Portrayal on Bebo Profiles<sup>70</sup>**

**Profile 1 (Left):**  
 Name: [Redacted]  
 Gender: Female  
 Last Active: 7 hours  
 Share the Luv ❤️  
 Hometown: [Redacted]  
 Profile Views: 33,000

**Profile 2 (Right):**  
 Name: [Redacted]  
 Gender: Female  
 Last Active: 3 hours  
 Hometown: [Redacted]  
 Profile Views: 11,000  
 Do My Quiz ❤️

**Text for Profile 1:**  
 ■ AT 16, this would-be model displays dozens of photos of herself in her underwear on her web page. In nothing but a waistcoat and briefs, she poses provocatively on a bed and standing on a window-sill. Perhaps unsurprisingly, her page has been viewed more than 33,000 times, and attracted a series of comments - many sexually explicit. But more worryingly, in a blog written when she was 14, she claims she and her friends 'nearly got raped and abducted by sum old man' at a fairground. The blonde teenager, who describes herself as 'very gullible' has given her full name and details of her home town, her college and her studies - more than enough for anyone to trace her.

**Text for Profile 2:**  
 ■ POSING with a friend, this 15-year-old girl grabs at her breasts as she mimics a pose from a pornographic model's repertoire. Alongside pictures of Disney princesses and teen pin-up Shayne Ward, she has posted a quiz which asks such blatantly explicit questions such as 'Would you rather do me or date me?' Next to a picture of her 17-year-old boyfriend, she has written: 'The one i love, this is 4 ma baybee boi i love im sooo much an he reli dnt no how much i love im.' The teenager - whose page has been viewed by more than 11,000 people - lists her date of birth, home town and the name of her school, which would make her an easy victim for anyone who wanted to find her.

According to the OFCOM (2008) report, there are many reasons why users of SNSs are not doing more to protect themselves from the many online dangers which exist.

Some of the more important rationales are outlined below:

1. Social Network users did not perceive a risk from using SNSs and more often than not, believed the benefits outweigh the risks;
2. Many users had a lack of awareness of the dangers online;

<sup>70</sup> Extracted from article by Paul Revoir in The Daily Mail on the 2<sup>nd</sup> of April 2008 (Revoir, 2008).

3. There seemed to be an implicit assumption that the Social Network Site they use had taken care of any privacy and safety issues;
4. Many young users felt they were untouchable and that the potential dangers of using SNSs will never impact on them;
5. Many users particularly on Facebook believed that changing and altering the privacy settings on their account was too complicated;
6. Finally, the need for social interaction outweighed the need to be safety conscious.

It could be recommended from these points that parents could do more to adjust the common perceptions of their children especially as research has suggested that an authoritative style of parenting is more likely to result in children having such negligible attitudes to Social Network Site use (Rosen, Cheever and Carrier, 2008). Prior to this however, parents themselves need to be educated on the dangers and benefits of Social Network use (Livingstone and Helsper, 2008; Rosen, Cheever and Carrier, 2008; Mesch, 2009; Mesch and Talmud, 2010) and become more knowledgeable in the area of ICTs. In turn, they may be able to educate their children on the dangers and benefits of Social Network Site usage. Additionally, they may recognise the benefits of locating any devices utilised for accessing SNSs in a public space. It is widely publicised for example, that positioning a PC in a public space allows parents to monitor their children's online activities more closely (Horst, 2010; Mesch and Talmud, 2010). Moreover, it would seem that such a strategy would be accepted by teens especially given that over 70% indicated in the Rosen, Cheever and Carrier (2008) survey, that they would not mind their parents viewing their Social



Network page. Parents however should also be wary of those children who may be accessing their Social Network page through the medium of a mobile phone.

Having considered the above research, it would seem that certain concerns on Social Network usage are justified. Much has already been publicised in relation to dangerous behaviours online and this is reflected in the studies shown. While research has highlighted that teens have acted appropriately when faced with a dangerous situation (Rosen, Cheever and Carrier, 2008), it was because of their inconsequential actions which led to them being faced with the situation in the first place. Hitherto, Government policy in Ireland has not addressed this issue within the wider context of Irish society. In the coming years, policy will be needed to address the aforementioned concerns. This policy may need to come in the form of educational measures for both parents and children. However, other subsidiary policies may also require attention.

## **2.5 Summary**

This Chapter has placed in context both within both Irish and International context, the wider issues surrounding both ICT and Social Network Site usage among adolescents. It would appear that perspectives offered serve to suggest that the use of ICTs and SNSs provide a valuable social and leisure pursuit for adolescents. The issues identified in the Literature Review are particularly important from a policy context. According to De Haan and Livingstone (2009) for example, emerging technologies provide opportunities for adolescents to communicate personal textual and visual information in publically accessible online domains. In turn, such usage not only promotes sociability, self-confidence and identity formation, but may also increase the likelihood of children being exposed to a variety of risks, which may result in harm to their physical and psychological well-being. Therefore, the literature review put

forward is extremely relevant in terms of policy formation in Ireland and may act as a guideline for policy implementation. To conclude, the culminations of the perspectives outlined provide a framework for which the research methodology to follow is predicated. Furthermore, the viewpoints offered allow for a comprehensive discussion of the results to follow. The following Chapter will now outline and discuss the finer points of the methodology employed.

*Chapter Three*

~

*Methodology*

## **3 Methodology**

### ***3.1 Introduction***

This Chapter outlines the field research methods and instruments utilised to achieve the aim and objectives of this research. For the purpose of clarity, the fieldwork is separated into two separate sections, Phase One and Phase Two. Both of these phases represent two different timelines for which the research was conducted and are markedly different in their approach. The specifics of each phase shall be outlined accordingly, detailing the methods used, sampling and limitations to the research. In addition to this outline, the methods of analysis for each phase shall also be discussed. Before examining the research methodology, the research questions and hypotheses shall first be outlined.

### ***3.2 Research Question***

One of the first issues an investigator has to establish is the focus and direction of his or her research. This implies first and foremost, the identification of the research question (Sarantakos, 2005). In preparing the research question, the researcher must take into consideration the literature related to the topic with a view to justifying the selection of the research questions proposed. Thus, prior to outlining the research questions for this study, a brief background of the literature, which provided the grounding for the research questions proposed, will first be outlined.

In recent years, there has been an increase in discussion surrounding the influence of demographics on people's adoption of and use of technology. This research has come to numerous conclusions, many of which have been contested academically, primarily

due to the various factors that influence adoption. Despite this, the traditional notion of demographic influences, for example, social class and gender, have always been present (Martin and Robinson, 2007; Rideout, Foehr and Roberts, 2010). In Ireland however, few academic studies have explored the relationship between social class and gender and adolescents' access to and use of ICTs. Indeed, there has been a dearth of research in general, which has reviewed Irish adolescents access to ICT paraphernalia.

In a similar vein, research examining adolescent's registration with SNSs is largely non-existent. Of those studies which do exist, the vast majority are dated (de Róiste and Dinneen, 2005; Redbranch, 2006; National Centre for Technology in Education, 2008; Alexopoulos *et al.*, 2009). Coupled with this, few studies have contextualised how adolescents use ICTs and SNSs in general (Kuntsche, Overpeck and Dallago, 2008; Hardey, 2009; Pempek, Yermolayeva and Clavert, 2009; Thelwall and Marvin, 2009; Ito *et al.*, 2010; Mesch and Talmud, 2010). In recent years, there has been a marked increase in the number of adolescents who are registering with and using SNSs (National Centre for Technology in Education, 2008). What is known however about why children are registering with or what they are doing on such sites remains largely unknown (Hardey, 2009; Pempek, Yermolayeva and Clavert, 2009; Mesch and Talmud, 2010). Furthermore, many researchers have shown concern for teenagers and their safety using SNSs (Hobson, 2008). This is largely because teenagers in particular appear to have a very casual attitude for the personal information, which they release online (Furnell, 2008). In addition to this however, research has shown that parents are failing to implement mediation strategies or monitor their children's use of SNSs and

ICTs in general (Nikken and Jansz, 2004; Whitefield and Schwartz, 2008; Mesch and Talmud, 2010).

Based on this information, the researcher sought about formulating the research questions for this study. Each question seeks to expand on the research objectives outlined in the Introduction Chapter. These questions are outlined in the following section. Each question holds equal significance.

### **3.2.1 Research Questions**

- What proportion of Irish adolescents, have access to ICTs and are registered with SNSs, and in particular Bebo?
- How do Irish adolescents utilise ICTs and the Social Network Site Bebo?
- What is the appeal of SNSs in general to Irish adolescents?
- Are Irish adolescents engaging in potentially dangerous activities on Bebo and other SNSs?
- Can the socio-demographic circumstances of an Irish adolescent influence his/her access to or use of ICTs and SNSs?
- To what extent do Irish parents monitor or mediate adolescent's use of ICTs and SNSs?

Having outlined the research questions above, the researcher then sought about formulating research hypothesis. These hypotheses are derived from the research questions outlined and from relevant literature on the topics. The hypotheses proposed are outlined in the following section.

### **3.3 Research Hypotheses**

Investigators place signposts in their research as a means to carry the reader through a plan for study. The first signpost is the research question. From these broad and general statements the researcher should narrow the focus of their study to specific predications (hypothesis) to be tested or analysed (Creswell, 2003). “The hypothesis is a proposition that is advanced for testing or appraising a generalisation regarding the real or social world” (Burton, 2000, p. 386). It is a tentative explanation of the research problem, a possible end result for the research, or an educated guess about the research outcome (Sarantakos, 1993).

Although hypotheses are widely used, their role in social research in particular has been criticised. Sarantakos (2005) notes that it is argued by many academics that hypotheses make no positive contribution to the research process. They bias the research design, restrict its scope, limit its approach and hence, predetermine the outcome of the research. He further notes that when hypotheses precede the Literature Review, they reflect previous ‘knowledge’ of what they are supposed to study, and this may affect the researcher’s perception of, and more importantly, action within the research project. By contrast, Palys (1997) suggests that hypotheses provide a link between theory and data, imply a test, and invoke a statement of intent. A theory he states specifies relationships among constructs in the abstract; the hypothesis applies the theory to a concrete situation bringing the theory into contact with the real world so that its viability can be assessed. He further states that since hypotheses represent a testable set of affairs, the deductive tradition affirms that one can proceed to gather relevant evidence to establish the truth or falsity of the proposition. This tradition asserts that the true nature of reality may reveal itself unambiguously through

empirical inquiry: that is he notes, we can create or observe a situation in which the truth or falsity of a hypothesis can be assessed (ibid). Despite the positives and negatives of hypotheses use, Sarantakos (1993, p.123) reflects without bias on its inclusion in research. He states:

“...many investigators employ hypothesis in their research implicitly or explicitly. It is generally believed that hypotheses offer a guide only, and tend to constantly remind the researchers of their topic, their aim, and their limits, and help in this way to rationalise the research process by concentrating on the important aspects of the research topic by avoiding peripheral and less significant issues.”

Nonetheless, generating hypotheses for mixed methods research and in particular qualitative studies draws its own concerns. An essential feature of a hypothesis is that it be testable. That is, the study must be designed in such a way that the hypotheses can be either supported or refuted (Thomas, Nelson and Silverman, 2005). However, formulating hypotheses for both quantitative and qualitative enquiry requires the researcher to forecast the research outcome. Specifically, in quantitative research, a hypothesis has a particular meaning; it is the re-formalisation of a research question based on grounded theory and/or literature to form a precise declarative statement, which includes a prediction of the outcome such that it can be tested statistically (Lewin, 2005). Furthermore, quantitative investigators use hypotheses to shape and specifically focus their study (Creswell, 2003).

On the other hand, in qualitative research, the focus of the research will not specifically be on testing in the same sort of manner (Remenyi and Money, 2004). Qualitative researchers seek to use first hand familiarity with different settings to induce hypotheses (Silverman, 2004). Furthermore, they are more prone to using hypothesis for inductive hypothesis-generating research rather than hypothesis testing (Glaser and Strauss, 1967). In this way however, qualitative research is often helpful as a source for hypotheses that can subsequently be tested using a quantitative research



strategy (Bryman, 2004). Mindful of this varied approach to hypothesis generation and of the mixed methods approach used in this research, the investigator sought to formulate hypotheses which as Black (1999) noted, should find a balance between too great a specificity and vague generality which should not encompass too many variables at once.

### **3.3.1 Hypotheses**

As noted, the hypotheses for this study are derived from the research questions outlined in 3.2.1 of this Chapter. These questions were predicated on the lack of academic studies, which existed in the literature on various points of interest related to the aim and objectives of this research. Having taken into consideration the current status of literature related to the research questions, a combination of both null and research hypothesis is proposed. These hypotheses are presented below:

- H<sub>1a</sub>:** There will be an association between social class and personal computer ownership;
- H<sub>1b</sub>:** There will be an association between social class and television ownership;
- H<sub>2</sub>:** There will be an association between the adolescent's purpose of Internet use and use of SNSs;
- H<sub>3a</sub>:** There will be no association between social class and parental mediation of personal computer use;
- H<sub>3b</sub>:** There will be no association between gender and parental mediation of personal computer use;
- H<sub>4a</sub>:** There will be no association between gender and whether or not a Social Network personal page is left as public or private;

- H<sub>4b</sub>:** There will be no association between social class and whether or not a Social Network personal page is left as public or private;
- H<sub>5</sub>:** There will be no statistical difference in the number of comments received per-day between males and females;
- H<sub>6</sub>:** There will be no statistical difference in the use of psychological linguistic dimensions between males and females;
- H<sub>7a</sub>:** There will be a statistical difference in the number of photos posted on Bebo between males and females;
- H<sub>7b</sub>:** There will be a statistical difference in the number of self-portrait photos posted on Bebo between males and females;
- H<sub>8</sub>:** There will be no significant difference in the amount of time which males and females use Bebo weekly.

Each of the aforementioned hypotheses will be discussed in the Presentation and Discussion of Results Chapter to which they relate.

### **3.4 *Research Approach***

As many aspects of this research were never tested in previous research approaches, this study faced a number of challenges in gathering the required information that formed the base of the research. As such, it was imperative that the methodologies used in both phases were both adequate and appropriate for the current research protocol. Furthermore, the methodology employed, particularly in relation to Phase Two of the study, was never carried out previously in the Republic of Ireland. Moreover, research that was carried out with similar aspects to this study, were primarily based in the United States and focused on an entirely different research

demographic. However, other aspects of the study, specifically in relation to Phase One, could use preceding research to aid in developing the research procedure.

In conducting an audit of previous and related research, a number of methodologies were deemed suitable for use. Within Phase One, the researcher specially designed a questionnaire utilising a number of tested methods for specific sections within the survey. Additional questions were then adopted from related research and adapted for the current research protocol. Supplementing the questionnaire was the use of a seven-day logbook<sup>71</sup>. The logbook was adapted from a previous and related survey conducted by Burns *et al.* (2004).

Phase Two involved the design of a new research protocol. Previous research conducted on SNSs have tended to use conventional methods (for example a questionnaire or digital program survey). Research using an ethnographic base however, remains largely unused (Murthy, 2008). This survey set about digitally ethnographically reviewing adolescents day-to-day use of the Social Network Site Bebo and in doing so, actively observed adolescents' online use of the site, the image that they portrayed online, how they communicated with friends and the public information they portrayed. Supplementing this ethnographic survey, the researcher also utilised a small questionnaire in order to gather specific details from the research sample before commencing the ethnographic research. In addition, a series of informal focus group interviews with all the research participants were conducted following the ethnographic study. The full implementation and design of each of these approaches shall be outlined later on within this Chapter.

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<sup>71</sup> Logbooks are often described as diaries or journals. For the purpose of this research, they will be referred by either term interchangeably.

### 3.4.1 Triangulation

Within both phases of the research, a total of four methodological tools were used. This use of such a variety of methodologies is known as '*triangulation*'. This refers to the practice of employing several research tools within the same research design in order to view a particular point in research from more than one perspective, and hence enrich knowledge and/or test validity (Sarantakos, 2005). This method of research assumes that the use of various sources of information will help both to confirm and to improve the clarity, or precision of the research findings (Ritchie and Lewis, 2003). Flick (2006) notes that triangulation allows the researcher:

- To be thorough in addressing all aspects of a particular topic and to increase the amount of research data;
- To enrich the nature of the data gathered and to achieve a high degree of validity and credibility;
- To allow comparisons with other research and to overcome the deficiencies of single method studies.

According to Denzin (1989), triangulation is a plan of action, which will raise sociologists above the personal biases that stem from single research methodologies. He notes that by combining various research methods in the same study, observers can, in effect, overcome the deficiencies that flow from single research methods. Moreover, triangulation is believed to offer solutions to a variety of research questions and may take several forms (Dyson and Brown, 2006). Of the many forms of triangulation, which exist, this study has focused on using '*Method Triangulation*'. Method triangulation is the most widely understood and applied approach (Seale,

2004). This combines several research methods in the same study, which can be of different methodological affiliation or of the same methodological affiliation (Sarantakos, 2005; Dyson and Brown, 2006).

The use of triangulation provided the researcher with a great deal of flexibility in how the research was conducted, whilst also allowing for a comprehensive data set to be generated. Essentially, the research protocol put forward was designed both to encompass the overall aim of the research project and to facilitate valid and accurate statistical analysis on various points of interest within the study.

### **3.4.2 Methodologies Contemplated & Theoretical Approach**

Prior to selecting the methodologies which were chosen for the current study, a number of alternative approaches were reviewed and given due regard. Upon reflecting on the positive and negative aspects of each methodology, the approaches as outlined above (3.4) and discussed in 3.6 and 3.7 were deemed suitable for use. With Triangulation at the heart of the research design, a number of methodological techniques were considered. However, these methodologies were deemed inappropriate given the data the researcher required, the time frame in which to retrieve the information (Bechhofer and Paterson, 2000), the demographics of the research sample, the resources which the researcher had at his disposal (Denscombe, 2003), the location in which to implement the research and their limitations as a whole. These methods shall be outlined relating to the phase in which the researcher deliberated on their use. Beforehand however, a brief reflection on the use of qualitative and quantitative research methods shall be outlined. More specifically, the motivation for a mixed methods approach and the theoretical direction of this research as a result shall be briefly discussed.

### **3.4.2.1 Qualitative, Quantitative & Mixed Methods Research**

The terms qualitative and quantitative research are widely used and well understood within the realms of social research as signposts to the kind of assumptions being used by researchers and the nature of the research being undertaken (Denscombe, 2003).

According to Denzin and Lincoln (2008, p. 14):

“Qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry. Such researchers emphasise that value-laden nature of inquiry. They seek answers to questions that stress *how* social experience is created and given meaning. In contrast, quantitative studies emphasise the measurement and analysis of causal relationships between variables, not processes. Proponents of such studies claim that their work is done from within a value-free framework.”

Described broadly as the structured and unstructured approach to inquiry, Kumar (2005) notes that within the structured approach (quantitative inquiry) everything that forms the research process (objectives, design, sample, and the questions that you plan to ask respondents) are all predetermined. By contrast however, the unstructured approach (qualitative inquiry) allows flexibility in all these aspects of the process. The true distinction however, between qualitative and quantitative research relates to the treatment of data, rather than the research methods (Sandelowski, 2000; Denscombe, 2003). In quantitative research, statistical methods are utilised to show relationships between variables, whereas qualitative research primarily relies on observation and written description (McEwan and McEwan, 2003). However, in many cases, qualitative data is converted into quantitative statistics. For example, some researchers gather data by means of interviews and observations, techniques commonly associated with qualitative methods. However, they code the data in a manner that allows them to be statistically analysed. They are, in effect, quantifying qualitative data (Strauss and Corbin, 1998).

Quite a strong distinction is often made between quantitative and qualitative research. Not only does the appropriate data have different characteristics, but they also require different techniques for their analysis (Walliman, 2005). Though the research process for both approaches is broadly the same, the two methods are differentiated in terms of the methods of data collection, the procedures adopted for data processing and analysis, and the style of communication of the findings (Kumar, 2005). Sarantakos (2005) contends that quantitative and qualitative research models rest on different assumptions about the world and therefore use different approaches to social reality. Table 3.4.1 illustrates the perceived differences between both qualitative and quantitative approaches and more specifically provides a more detailed contrast of the two types of research (Sarantakos, 2005, p.47).

**Table 3.4.1 Perceived differences between Quantitative and Qualitative Methodology**

<i>Feature</i>	<i>Quantitative Methodology</i>	<i>Qualitative Methodology</i>
<i>Nature of Reality</i>	Objective; simple; single; tangible sense impressions	Subjective; problematic; holistic; a social construct
<i>Causes and effects</i>	Nomological thinking; cause-effect linkages	Non-deterministic; mutual shaping; no cause-effect linkages
<i>The role of values</i>	Value neutral; value free inquiry	Normativism; value-bound inquiry
<i>Natural and social sciences</i>	Deductive; model of natural sciences; nonnomothetic; based on strict rules	Inductive; rejection of the natural sciences model; ideographic; no strict rules; interpretations
<i>Methods</i>	Quantitative, mathematical; extensive use of statistics	Qualitative, with less emphasis on statistics; verbal and qualitative analysis
<i>Researchers role</i>	Passive; distant from the subject; dualism	Active; equal; both parties are interactive and inseparable
<i>Generalisations</i>	Inductive generalisations; nomothetic statements	Analytic or conceptual generalisations; time-and-context specific

*Adapted from Sarantakos (2005, p.47)*

On reviewing the opposing differences between both approaches, it would seem logical that a mixed methods approach could help overcome the shortcomings of either method. Mixed methods studies are utilised not to replace either qualitative or quantitative approaches, but rather to draw from the strengths and minimise the weaknesses of both in single research studies and across studies (Burke-Johnson and Onwuegbuzie, 2004). Researchers have contended that a link of both approaches is often necessary and useful for pragmatic reasons (Creswell, 2003). Henn, Weinstein and Foard (2006), note that the logic of multi-strategy research is to overcome the deficiencies, which arise from a dependence on one particular method. Methods, they state are combined not only to gain their individual strengths, but also to compensate for the limitations and faults of single method studies. Denscombe (2003, p. 132) states that:

“The possibility of employing more than one method stems from the fact that the various methods contain their own set of assumptions about the nature of the social world and the kind of data that can be produced to increase knowledge about the world. Theoretical debate about the relative merits of their underlying premises has failed to establish any single method as the universally accepted ‘best’ for all situations...This means that for those engaged in practical research...none of the possible methods for data collection can be regarded as perfect and none can be regarded as rubbish.”

The multi-strategy research approach therefore enables researchers to investigate a particular area from a variety of perspectives, focusing on different issues, collecting various types of data, analysing this data using different techniques, and interpreting the results from a variety of different perspectives. In this manner, it could be argued that no stone will be left unturned – all possible dimensions of the research will be examined, and all possible meanings extracted from the data (Henn, Weinstein and Foard, 2006).

In the current trend towards evidence-based practice and the systematic review of social science studies, research, which combines both qualitative and quantitative



methods, warrants particular attention (Brannen, 2005). There is no rule that states only one method must be used in an investigation or states that using more than one method can have substantial advantages, even though it will inevitably add to the time investment required (Robson, 2002). One important benefit of multiple methods is in the reduction of inappropriate uncertainty. By this it is meant that using a single method and finding a clear result may delude investigators into believing that they have found the right answer. However, using additional methods may point to differing answers, which removes uncertainty (ibid). Greene, Kreider and Mayer (2005) contend that over time a set of purposes have evolved for mixed methods inquiry each of which provides credence for its use:

- Mixed methods provide stronger validity or credibility and less known bias;
- Allows a researcher to understand more comprehensively, full portraits of our social world through the use of multiple perspectives and lenses;
- Provides more insightful understanding with new ideas, fresh perspectives, creative concepts and meanings, as when findings diverge and thus require reconciliation via further analysis, reframing or some other shift in perspective;
- And finally, this approach allows for greater understanding with greater value consciousness and with greater diversity of values, stances and positions through the inclusion of different methods which themselves advance different values.

While a vast amount of research supports the use of a multiple-method approach, Sarantakos (2005) astutely notes that the main problem with mixed methodologies is whether qualitative and quantitative methodologies are two incompatible strategies or

whether they can be employed together to address the same research question. In addressing this query, Sarantakos first refers to diversity and incompatibility. He notes that numerous academics have held one common positive position to the relationship between qualitative and quantitative research, that is, not only are they different approaches but also incompatible paradigms. For example, Sale, Lohfeld and Brazil (2002) highlight the quantitative paradigm as positivistic in nature. The ontological position is that there is only one truth, an objective reality that exists independent of human perception. Epistemologically however, the investigator and investigated are independent entities. Conversely, the qualitative paradigm is based on interpretivism and constructivism. At an ontological level, there are multiple realities and multiple truths based on one's construction of reality (ibid). Epistemologically speaking, there is no access to reality independent of our minds and no external referent by which to compare our truth (Smith, 1983).

In a similar manner, Burke-Johnson and Onwuegbuzie (2004) allude to the two sets of purists which are inherent within the above outlined research circles. The quantitative purists believe that social observations should be treated as entities in much the same way that physical scientists treat physical phenomenon. They assert that the observer is separate from the entities that are subject to observation and moreover that social science inquiry should be objective. Contrary to this, qualitative purists reject what they call positivism. They argue that multiple-constructed realities are extensive, that time and context-free generalisations are neither desirable nor possible, that research is value bound, that it is impossible to differentiate entirely causes and effects, that logic flows from specific to general and that the knower and the known may never be separated (ibid). To conclude, Tashakkori and Tedlie (2003) converge on the position

of 'paradigm incompatibility'. In reference to this, they assert that the controversy between quantitative and qualitative research is so fundamental that it is inherently impossible to combine them without violating philosophical principles.

Sarantakos (2005) next refers to what he terms 'diversity but compatibility'. By this he alludes to the point that other researchers have contended that they foresee no problems in integrating the two approaches. Sarantakos points to the fact that this cohort of academics, acknowledge the differences between the methodologies but also recognises their comparability, which they accept and value, and are content that such a practice is possible, for example, in paradigm triangulation. In adopting such an approach however, it would form the basis for embracing an alternative paradigm. Morgan (2007, p. 73) strongly advocates that this paradigm be pragmatism. He states:

“The great strength of this pragmatic approach to social science research methodology is its emphasis on the connection between epistemological concerns about the nature of the knowledge that we produce and technical concerns about the methods that we use to generate that knowledge. This moves beyond technical questions about mixing or combining methods and puts us in a position to argue for a properly *integrated methodology* for the social sciences.”

Quantitative and qualitative research methods are two diametrically opposed research approaches. They differ not only in the nature of the data they seek and the subsequent methods of data analysis, but also in their philosophical rationale (Walliman, 2005). The theoretical underpinnings of quantitative methodology are those of positivism, as guided by realist and objectivist ontology and an empiricist epistemology. Conversely, qualitative methodology is diverse and pluralistic. This is due to the fact that it contains elements from many different schools of thought (Sarantakos, 2005). Mixed method research however according to Burke-Johnson and Onwuegbuzie (2004) instead uses a method and philosophy that attempts to fit together the insights provided by qualitative and quantitative research into a workable solution. Along these

lines, they advocate consideration of the pragmatic method as a way for researchers to deliberate on the traditional dualisms that have been debated by the purists. The bottom line being, according to Burke-Johnson and Onwuebuozie (2004), is that research approaches should be mixed in ways that offer the best opportunities for answering important research questions and the best paradigm for doing this is pragmatism. On a practical level, some researchers have begun to emphasise the importance of appreciating that qualitative and quantitative research methods can and should be seen as part of the social researchers tool-kit (Snape and Spencer, 2003) and with this acceptance, researchers are actively encouraging greater acceptance of pragmatism in choosing the appropriate method for addressing specific questions rather than concentrating on its underlying philosophical debates (Seale, 1999).

Among the first academics to associate mixed methods research with pragmatism were Rossman and Wilson (1985). They highlight that while purists affiliate with exclusive epistemological and ontological assumptions, the pragmatist believes that regardless of what circumstance arises; both qualitative and quantitative approaches may be combined in a study. Seale *et al.* (2004, p. 4) allude to the point that pragmatists have been at considerable odds with conventional theoretical and procedural perspectives. They note that from the start, “pragmatists point of departure has been that the social world – whatever its levels or dimensions – is a matter of practice”. Culture they state ‘is not just ‘there’, so to speak, to be documented for the power of their influence on individuals thoughts, feelings and identities. Instead, “while there is no question that they figure significantly as categories of everyday life, they enter into our lives as practical anchors for ordering them in some way or other”. The same goes for our inner thoughts and our ostensibly deepest feelings. For pragmatists, these are not so

much foundational to experience as they are used – quite effectively at times – to assemble a sense of our everyday lives as grounded, say, in our deepest feelings.

Pragmatism is not devoted to any one system of philosophy or reality. It is instead focused on the ‘what’ and ‘how’ of the research problem (Creswell, 2003). With the research question and aims and objectives as ‘central’, data collection and analysis methods are chosen as those which are most likely to provide the insights into the research question with no philosophical loyalty to any alternative paradigm (Burke-Johnson and Onwuegbuzie, 2004; Mackenzie and Knipe, 2006). Tashakkori and Teddlie (1998, p. 22-30) posits a number of points concerning pragmatism and mixed methods research:

- Pragmatism supports the use of both qualitative and quantitative research methods in the same research study and within multistage research programmes;
- Pragmatists consider the research question to be more important than either the method they use or the paradigm which underlines the method;
- Pragmatism rejects the forced choice between post positivism and constructivism with regard to logical epistemology and so on;
- Pragmatism avoids the metaphysical concepts which have caused much endless discussion and debate;
- Pragmatism presents a very practical and applied research philosophy.

On a final note, they state that researchers should study what is of interest and value to them, study it in different ways which they deem appropriate, and utilise the results in

ways which can bring about positive consequences within their individual value system (ibid). Howe (1988), a strong advocator of pragmatism notes that the argument against its use is most likely going to be based on the grounds that the pragmatic criterion of ‘what works’ is fatally flawed. However, Howe (1988) notes that this attempt to dispense with pragmatism is far too facile, chiefly because pragmatists aren’t about to let distinction between ‘what works’ and the ‘true nature’ of things get off the ground. Howe concludes that certain academics will be insecure by compatibilism insofar as it blurs methodological lines. That is he claims, compatibilism does not permit researchers to isolate themselves within methodological paradigms that are impervious to the challenges and contributions of alternative perspectives. To this end, they suggest that researchers should bring a collaborative rather than paradigm clique attitude to research.

Commensurate with the outlined literature and the research approach selected for this investigation, the researcher advocates the pragmatic paradigm. It is of the researcher’s opinion in conformity with Burke-Johnson and Onwuegbuzie (2004) that differences in epistemological beliefs should not prevent a qualitative researcher from utilising data collection methods more typically associated with quantitative research and vice versa. Additionally, the pragmatist places the research problem as central and intelligently applies all approaches to understanding the problem (Creswell, 2003). As a pragmatist, the researcher believes in searching for workable solutions through the practice of research to help answer questions that we value and to provide workable improvements in our world (Onwuegbuzie and Burke-Johnson, 2006). In further contesting to Onwuegbuzie and Burke-Johnson beliefs, the researcher also contends that pragmatism is eclectic. That is to say, the researcher believes in the inclusion of

quantitative and qualitative research techniques so as to select the most appropriate combination of assumptions, methods and designs that best fit one's research question of interest.

### **3.4.2.2 Methodologies Contemplated**

#### **3.4.2.2.1 Phase One**

Phase One of the research specifically focused on adolescents' access to, ownership and use of various ICTs. As stated implicitly within this goal, adolescents were the key demographic audience. Therefore, whichever methodological tool was selected, must consider the intellect and attention span of this audience. Focus groups were one of the initially considered methodologies. This form of research as discussed later in 3.7.5.2, has a number of positives for its inclusion within the research. In particular, because of the simplistic nature of its application and the time in which it takes to complete, it was a viable selection. Conversely however, the research sought to quantify accurately the amount of time adolescents spent involved in various activities. Therefore, while focus group interviews would have provided a relative indication into the time teens spent engaged in activities, it would fail to provide any meaningful statistical measurement.

The second form of research initially considered was an Internet survey of the questionnaire, which was designed<sup>72</sup>. As a method of research, Walliman (2005) attests to the point that a web-based survey can potentially reach a greater number of participants, the cost and time involved in completing the research is significantly reduced, and analysis of the data, which is inherently in electronic format, is made

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<sup>72</sup> Survey Monkey was considered as a means of implementing this questionnaire.

easy. However, as he is quick to counter argue, the lack of control the researcher has over the quality of responses can lead to questions of reliability and validity of data (ibid). Additionally, should a student have a query regarding a question in the survey, the absence of the researcher may limit the quality of the responses.

#### **3.4.2.2 Phase Two**

Phase Two of the research sought to review the daily Social Network patterns of adolescents on the Social Network Site Bebo. Specifically, the researcher required data pertaining to Bebo Social Network usage patterns, online portrayal, online communication and the personal information that youths posted online. In considering an approach to review such information, a number of protocols were taken into consideration. The use of a Web Crawler was one of the first considerations. The basic premise of a web crawler is that it visits profile pages based on a randomly generated list of ID numbers created using the RAND function on Microsoft Excel or a similar function on another program. Upon visiting a selected page, the crawler uses regular expressions to collect the data requested for a given user and then continues until all ID's selected have been completed (Pfeil, Arjan and Zaphiris, 2008). Such an approach to Social Network analysis has been used by various academics (Ellison, Steinfield and Lampe, 2007; Caverlee and Webb, 2008; Lewis *et al.*, 2008; Pfeil, Arjan and Zaphiris, 2008; Thelwall, 2008a). While this approach reduces the time which the researcher would require to gather large amount of information from selected pages and compile the data accordingly with little or no input from the investigator, the method fails in providing a comprehensive text based data analysis. Additionally, the researcher sought about reviewing patterns of usage and to this end, the web crawler would be inadequate in retrieving such information. Moreover, the



cost and process of finding a viable web crawler would have exceeded the financial resources allowed to the researcher.

The use of a logbook/diary (Manago *et al.*, 2008; Zhao, Grasmuck and Martin, 2008; Richardson and Hessey, 2009), questionnaire (Subrahmanyam *et al.*, 2008; Fogel and Nehmad, 2009) and interview/focus group interview (Faulkner and Culwin, 2005; Pempek, Yermolayeva and Calvert, 2009) formed the bulk of the various methods utilised by other academics researching SNSs. Using such approaches provides a wide array of information pertaining to Social Network use and in combination with one another, a robust and balanced perspective. In the current survey, a small questionnaire and small focus group interview was utilised. However the basis for their use was to facilitate the main ethnographic survey. Information retrieved from the questionnaire in particular, provided valuable data relevant to the research goals; nevertheless, using either a questionnaire or focus group interview to substantiate the main research question would be inappropriate given the data which the researcher sought to retrieve. While a logbook would have its inherent benefits and provide statistical data specific to daily activity, it is limited in other data it could provide.

### **3.5 Ethical Clearance**

Before embarking on this project, Waterford Institute of Technology Academic Council required that the proposed research be approved for ethical clearance. In doing so the researcher was obliged to take into consideration a number of ethical issues. Specifically, the researcher was advised to take account of guiding principles for research and indeed best practice in the field. In this context, the researcher took note of numerous best practice guidelines set down by various academics in the field and by those specialising in research methods (Denscombe, 1998; Black, 1999;

Bryman, 2004; Sarantakos, 2005; Hammersley and Atkinson, 2007; Lobe *et al.*, 2008). Of particular note were the guidelines from the *EU Kids Online Best Practice Research Guide* by Lobe *et al.* (2008) and that of Sarantakos (2005). Starting with the latter, Sarantakos (2005) outlines a series of guiding principles for researchers to ensure that their research is ethically sound. For example:

- Provide adequate information as to the content of the questions to be asked, the degree of sensitivity or possible consequences of the questioning;
- Provide concern for the welfare of the respondents by paying particular attention to their mental and physical health, safety and personal embarrassment as a result of participating in the research;
- Provide free and informed consent;
- Recognise peoples' right to privacy especially in relation to issues of a sensitive nature;
- Respect respondents' right to anonymity;
- Confidentiality should be upheld at all times.

Amongst other things, Sarantakos (2005) emphasises the value of best practice and advocates that researcher's should in so far as where possible, responsibly adhere to ethical principles such as those outlined and indeed those dealing with an adolescent sample base. Sarantakos (2005) notes that an important element of following such principles, is ensuring no harm come to those being surveyed, be it in a physical, mental or legal form. Therefore, whatever methodology is employed must first ensure that at no stage, those being surveyed will be harmed from the research. The latter document by Lobe *et al.* (2008) expands on the notion of best practice in research and

specifically from the perspective of analysing children and their use of technologies. A number of points made in this document are particularly relevant, given the context of the present research and indeed the methodology employed. Of particular note, the researcher took heed of best practice guidelines relating to:

- Ethical issues involved in researching children;
- When is it best to use focus groups, in-depth interviews and observations;
- What is the best way to interview children and phrase questions in a survey to children;
- What is the best way to ask children sensitive questions;
- What is the best way to ask questions about parental mediation;
- How should researchers act if a respondent is potentially at risk;
- What a researcher needs to know about researching children online.

The principles set out in these documents helped to overcome the constraints connected to the methodologies proposed for this research. Many of these constraints and how they were overcome are outlined in the latter half of this chapter. Having taken the issues outlined by the aforementioned academics and indeed other academics in the field into consideration and the strict contingencies set down by Waterford Institute of Technology, Phase One of the research was consequentially granted ethical clearance in January 2007. Furthermore, the proposed Phase Two methodology was granted ethical clearance in May 2008. This paved the way to conduct the remainder of the research project.

## **3.6 Phase One**

### **3.6.1 Instrument Design**

In order to conduct a thorough overview of adolescents' access to, ownership and use of ICTs, a comprehensive detailed questionnaire was developed and administered. Supplementing this questionnaire was a seven-day logbook. In designing both the questionnaire and seven-day logbook a number of other research protocols were reviewed and adapted. Three versions of the questionnaire and logbook were piloted between January and March 2007. These pilot studies were conducted in three different schools in counties Carlow and Kilkenny, which then had no further connection with the research. In total, six class groups were involved in the piloting of the logbook and questionnaire, all of which came from both 3<sup>rd</sup> year and 4<sup>th</sup> year class groups. A total of 137 questionnaires and 27 logbooks were returned from the initial pilot studies. Following an analysis of comments made by students, teachers and lectures on the questionnaire and logbook, several modifications were made to produce the final documents. Both the final questionnaire and seven-day logbook were distributed and collected within the month of April 2007.

The questionnaire implemented for this study had three distinct sections:

Section A: This section aimed to provide general information pertaining to the individual's life and background. As such, information relating to social class, nationality, age, gender, work and method of travel to school were gathered. These questions were critical to the study and

allowed the researcher to conduct a number of cross-tabulations against other topics.

Section B: In essence, this was the largest and most important section of the questionnaire encompassing some twenty-nine questions. The questions asked, query the influence of ICTs in adolescents' lives. These questions were sub-divided into personal computers, SNSs, game consoles, television and mobile phone usage.

Section C: The premise of this section was to quantify time at daily ICT and Social Network Site related activities. In all, this segment would gather a lot of information and was sub-sequentially sub-divided for administration purposes. Hence, it was broken down into weekday and weekend activities.

Inherent within the above sections was the use of the FAS (Family Affluence Scale). This scale was used to gauge socio-economic status among adolescents. Developed by Currie *et al.* (1997) and subsequently adjusted through the years (Currie *et al.*, 2000; Currie *et al.*, 2008), this socio-economic indicator was developed specifically as a result of previous research indicating that over 20% of 11-15 year olds were unable to provide a substantive response on fathers occupation. As a result, a socio-economic test was designed that looked at different measures of wealth<sup>73</sup> within an adolescent's life that would relay their affluence. In analysing the reliability of the FAS scale as a

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<sup>73</sup> Respondents were asked to detail how many cars, vans, trucks or other vehicles their family owned. They were then asked to detail if they had a bedroom to themselves, if they had went on a family holiday in the past 12 months and how many personal computers were in their home. The answers provided are then coded and ranked based on the answers provided. It was from these scores that social class was gauged.

measure of socio-economic wealth, Boyce *et al.* (2006) concluded that this tool is a valid indicator of family affluence that could be easily completed by youth.

In addition to the FAS scale, a number of other tested methodologies were used. Of particular note was the use of the Marshall *et al.* (2002) recall questionnaire. This questionnaire, originally conceived as the Self-Administered Physical Activity Checklist (SAPAC) designed by Sallis *et al.* (1996), was consequentially adapted to include time spent at sedentary activities which included time spent at ICTs. While no objective measures are available to assess the reliability and validity of this sedentary measure, a number of previous studies have used it, including an Irish study by Woods *et al.* (2004).

While standardised questionnaires were used in the design of the questionnaire, it must be noted that other sections of the questionnaire were developed on the basis of reviewing previous methodologies of a similar nature. Therefore, a number of questions were adapted from various studies (Woods *et al.*, 2004; de Róiste and Dinneen, 2005). In combining such a wide variety of questions, there was potential for gathering quite a large variety of information. In fact, over 400 variables containing relevant data would be gathered on each questionnaire entered into the database. The researcher took into account that the research sample would be limited in the time they had to complete the questionnaire due to the fact that the questionnaires would be completed in school time. Mindful of this, the questionnaire was designed to take less than forty minutes to complete, as this was the standard secondary school class time. Furthermore, if the questionnaire was too long, it might be the case that the respondents could lose interest in completing the survey and answer questions falsely

(Oppenheim, 2001). Hence, the vast majority of the questions were quantitative in nature and required little reading making it easier to complete.

The design of the seven-day logbook unlike the questionnaire was more simplistic in its approach. Using an adaption of the Burns *et al.* (2004) recall logbook, the main goal of this diary was to gain a comprehensive overview of the daily activities adolescents involved themselves in within a typical school week. In adapting this logbook for the needs of the research, it was decided that the diary would record all wake time activities from Monday to Sunday. Furthermore, it would be divided in half hour slots beginning at 8am and finishing at 3am. Space was allowed for those who woke up earlier or went to sleep later. Within each of the divided slots, students were allowed to record as many activities as needed summing up the total time for each activity done within each half hour. In addition, students were then asked to record whether the activity they had completed was compulsory, done on their own accord or participated in due to an outside influence. The questionnaire and logbook used can be found in Appendix H and I.

### **3.6.2 Sampling Procedure**

The first phase of this research was based in the Southeast region of Ireland in counties Waterford and Wexford. Within each County there are some thirty-six schools, which could be selected from. Moreover, within this sample of schools there was a good mix of single sex male, single sex female, mixed gender and community schools. As such, this provided a great deal of options as to which method of sampling could be used. Upon deliberating on these different sampling methods, it was decided

that purposive random sampling<sup>74</sup> (Sandelowski, 2000) would be utilised to select the various schools needed for the research. This was seen as the most appropriate selection due to the breakdown required and the distribution of the schools throughout each county. Only transition year students<sup>75</sup> (4<sup>th</sup> year) would be selected to participate in the study. Transition year students were considered ideal for selection as they were easily accessible and had transition year co-ordinators who would be helpful in assisting the investigator carrying out the research, and in particular aiding in the completion of logbooks. In addition, as they were mid-adolescent phase, it was deemed that this age demographic could provide an insightful view into adolescents' lifestyle pursuits.

The first part of the sampling breakdown simply involved splitting the schools from Waterford and Wexford. The reasoning for this was to ensure there would be an even number of each school type selected from each county. Following this, all the various types of schools were further sub-divided. A purposive random selection of eighteen schools (circa 750 students) was chosen, of which nine respective schools were selected from each county. Of these nine schools, at least one type of school (for instance community school) would be selected in order to obtain a good mix of schools and an even gender balance within the sample. Following selection, all respective schools were then contacted via phone call and letter. Eleven schools agreed to participate, six of which were from Waterford and five from Wexford. These schools all agreed a date and time for which the surveys could be completed and also a

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<sup>74</sup> The involved purposively selecting a cohort of schools from a particular area. From that cohort a random selection of schools was then selected.

<sup>75</sup> This year is optional in most schools in Ireland. It promotes the personal, social, vocational and educational development of students and prepares them for their role as autonomous, participative and responsible members of society.



date for which logbooks could be collected. The schools selected can be seen in Table 3.6.1 along with the respective return rate for both questionnaire and logbook.

**Table 3.6.1 Schools Selection & Return Rates**

<i>School</i>	<i>Questionnaires</i>			<i>Logbooks</i>		
	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
<b><i>Waterford</i></b>						
<i>St. Augustines College</i>	31	24	<b>55</b>	-	-	-
<i>Blackwater Community School</i>	15	23	<b>38</b>	2	7	<b>9</b>
<i>Waterpark College</i>	22	-	<b>22</b>	3	-	<b>3</b>
<i>Mercy Secondary School</i>	-	34	<b>34</b>	1	10	<b>11</b>
<i>De La Salle College</i>	35	-	<b>35</b>	19	-	<b>19</b>
<i>St. Pauls Community College</i>	45	16	<b>61</b>	-	-	-
<b><i>Total Waterford</i></b>	<b>148</b>	<b>113</b>	<b>245</b>	<b>25</b>	<b>17</b>	<b>42</b>
<b><i>Wexford</i></b>						
<i>Good Counsel College</i>	43	-	<b>43</b>	17	-	<b>17</b>
<i>Coláiste Bride</i>	-	33	<b>33</b>	-	20	<b>20</b>
<i>FCJ Bunclody</i>	25	39	<b>64</b>	3	9	<b>12</b>
<i>Vocational College Enniscorthy</i>	3	11	<b>14</b>	-	-	-
<i>Ramsgrange Community School</i>	2	9	<b>11</b>	1	6	<b>7</b>
<b><i>Total Wexford</i></b>	<b>73</b>	<b>92</b>	<b>165</b>	<b>21</b>	<b>35</b>	<b>56</b>
<b>Total</b>	<b>221</b>	<b>189</b>	<b>410</b>	<b>46</b>	<b>52</b>	<b>98</b>

### 3.6.3 Administration & Implementation

Each of the selected schools principals were contacted personally via a phone call and then via a letter outlining what would be involved in the research. Furthermore, each school was sent a copy of the questionnaire and logbook and in addition to this, they also received a sample parental and student consent form along with a personal letter to the school board of management outlining the background of the research. A large proportion of the schools responded positively, however, a small number ( $n = 7$ ) opted not to participate in the research for various reasons.

The questionnaires were given out in a set manner at each school to ensure reliability and the utmost understanding of the questions being asked. In doing so, the researcher personally met with all the students participating in the survey and was present in each of the schools while the questionnaire was being completed. Each school also allowed two class periods<sup>76</sup> for students to fill out the questionnaire whilst also allowing time for the administration of the logbook. Allowing eighty minutes ensured that all students had sufficient time to complete the survey while not rushing any of the answers.

When the students completed the questionnaire, each one was immediately scan checked to ensure they were filled out appropriately. Non-directional advice was given if necessary in order to reduce the likelihood of ambiguity. In filling out the most detailed section of the questionnaire, the students were asked to listen carefully to the researcher while it was explained how to answer the question appropriately. Thus, any misunderstanding, which may have existed before completing the questionnaire, was consequently removed or reduced.

Once the questionnaire was finished, the students were then provided with the logbook and an instruction leaflet. Prior to filling out the logbook, students were informed of the rules involved with filling it in, and were brought through a step-by-step guide as to how to appropriately complete each section. The transition year co-ordinators explained that they would allow class time each day for the students to work on their logbooks. Students were allowed to set alarms on their mobile phones for the week in order to remind them to fill out the logbook during the evening time and weekend.

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<sup>76</sup> A standard class period is forty minutes in Irish Secondary Schools.

Support was also provided from the schools to encourage students to fill out the diary. Additionally, a number of rewards were offered to those who successfully completed the logbook appropriately. Even with such awards in place however, the students did have the option not to submit the logbook in accordance with ethical guidelines. Moreover, due to the amount of work involved and the amount of time required to fill it out appropriately, a large number of students opted not to complete the diary ( $n = 298$ ) or in some cases hand back incomplete books ( $n = 14$ ).

### **3.6.4 Research Merits & Limitations**

#### ***3.6.4.1 Merits & Limitations of Questionnaires***

The use of the questionnaire as a method of analysis is common within sociological research (Burton, 2000). Questionnaires allow the researcher a great deal of flexibility in that they may be self-designed and may allow the researcher to query a number of topics. In particular, there are a number of benefits to using questionnaires as compared to other research methods:

- Firstly, questionnaires offer less opportunity for bias or errors caused by the presence or attitudes of the researcher (Sarantakos, 2005);
- Secondly, questionnaires are a good way of obtaining a complete picture of the activities which people involve themselves in (Veal, 1997);
- Thirdly, quantification can provide somewhat complex information in a succinct and easily understood form (Veal, 1997).

The decision to use a questionnaire came about from a variety of concerns. The goal of this research was comprehensive in its approach and required gathering a

substantial amount of information. As teenagers were the target group, it was of the researchers opinion that a questionnaire would be the best approach to gather such a wide variety of information. Additionally, a questionnaire was deemed to be the easiest method for adolescents to complete. The use of adolescents also meant that the researcher would have a limited time frame in which to work with them in schools. Therefore, whatever approach was adopted required an appropriate methodology which needed to gather a sufficient quantity of data in a short period of time.

While questionnaires inherently have their benefits and were considered the most appropriate option for Phase One of this research, one must also acknowledge that all research methods have their limitations. Bechhofer and Paterson (2000) note that '*social desirability*' plays a significant role when respondents fill out questionnaires. Social desirability results in answers that are commensurate with what the research subjects think they should say rather than what they actually feel (Black, 1999). In addition, questionnaires also fail in allowing the researcher to probe further into an answer provided from a respondent (Sarantakos, 2005). Finally, Kumar (2005) notes that as respondents can read all the questions prior to answering, the way in which they answer may in fact be affected by their knowledge of the other questions.

In conclusion, the questionnaire was appropriate given the demographic audience and the information which the researcher sought to gather. While limitations have been highlighted, the researcher took actions to curb any impact they may have on this research. For example, the intensity of pilot testing, non-directional advice provided during implementation and the presence of the researcher during administration.

#### **3.6.4.2 Merits & Limitations of Logbooks**

The decision to utilise a logbook in Phase One was much the same reason as that of using a questionnaire. The limitations outlined for using a questionnaire however, provides strong rationale for supplementing its use with a logbook. Moreover, in using a logbook, the researcher could capitalise on the limitations of the questionnaire and in particular, increase the validity and reliability of the data generated. More specifically, the logbook could provide for a more accurate measurement of adolescents' time spent engaged in particular behaviours and in particular, would allow for a succinct and comprehensive analysis of the social, leisure and lifestyle patterns of adolescents.

Inviting people to complete logbooks is one of the most flexible extensions of a questionnaire (Hakim, 2000). Should a researcher be interested in gaining precise estimates of different kinds of behaviour, the logbook warrants serious consideration (Bryman, 2004). In logbook studies, individuals provide frequent reports on the events and experiences of their daily lives depending on the information the researcher wishes to retrieve. These reports capture the particulars of experience in a way which is not possible using traditional designs (Bolger, Davis and Rafaeli, 2003). For example, Punch (2002) advocates the use of a logbook particularly when researching children. She notes that logbooks provide information about the everyday routine aspects of children's lives and allow for a relatively easy comparison of the many different activities, which children do on a daily basis. Furthermore, they are a great tool for reflecting on various activities between sub-sample groups (ibid). Corti (1993) also reflects positively on logbook use in social research. Firstly, she notes that logbooks can provide a viable alternative to the traditional interview method for events, which are often difficult for the research subjects to recall. Secondly, she notes

that unlike other self-completion methods, logbooks can help to overcome the problems associated with collecting sensitive information. Finally, Corti sums up her argument by noting that logbooks often supplement interview data to provide a rich source of information on respondent's behaviours on a daily basis. Of the many reasons for utilising logbooks in research, Bryman (2004) highlights the most influential grounds for its inclusion in this particular research:

- Firstly, when relatively precise estimates of the frequency and/or amount of time spent in different forms of behaviour are necessary, the logbook may provide valid and more reliable data than that of a questionnaire;
- Secondly, when information about the sequencing of different types of behaviour is required, it is likely to perform better than both questionnaires and interviews.

Contrary to these advantages however, there are a number of disadvantages which Bryman (2004) has also given due regard:

- Logbooks can suffer from a process of attrition in that people may become fed up filling them out halfway through the process;
- People may become less diligent over the time of their record keeping;
- Finally, there is sometimes failure to record details sufficiently quickly before memory recall problems set in.

Bolger, Davis and Rafaeli (2003) also outline further problems associated with logbooks. They note that while logbooks do have their positive points for use, there

are a number of inherent limitations, which must be acknowledged. Research subjects often require training on how to fill out a logbook so that they fully understand the protocol. Moreover, in order to obtain reliable and valid data, logbook research must obtain a level of participant commitment and dedication rarely required in other types of research (ibid).

In summation, utilising a logbook to supplement the questionnaire in Phase One of this research was merited. While a number of inherent limitations have been outlined, the researcher took action in order to minimise their impact. For example, prior to distributing the logbooks, each of the adolescents surveyed were mentored on how to appropriately fill out the diary. In addition, a number of rewards were offered as a means of enticing the adolescents to return their logbooks fully completed. Additionally, transition year co-ordinators were also put in a raffle for a €100 One for All Voucher<sup>77</sup>. In all, advantages of logbook use certainly outweighed the disadvantages in terms of the research being conducted. Nonetheless, these limitations certainly existed and must be given due regard.

### **3.7 Phase Two**

#### **3.7.1 Methodological Background**

Various academics and scholars over the years have attested to the value, reliability and use of ethnographic research in the social sciences (Pifer, 1999; Sparkes, 2002; Bryman, 2004). As a form of research, ethnography allows the researcher to participate overtly or covertly in peoples daily lives for an extended period of time, watching what happens through the collection of documents or gathering whatever

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<sup>77</sup> These vouchers are available from the Post Office and cover a number of businesses in Ireland.

data is available to them, so that they may shine a light on issues which are the emerging focus of enquiry (Hammersley and Atkinson, 2007). The rise in digital technologies in recent years has the potential to open new innovative directions in ethnography. Despite the capacity of these technologies, their penetration into popular sociological research methods remains limited and awareness of their potential is lagging far behind (Murthy, 2008). Ethnographers need to grasp the new digital age and explore new ways of constructing their representations (Dicks *et al.*, 2005). More specifically, SNSs are a widely available resource, which can be useful to ethnographers for various reasons. Social Network Sites contain vast expanses of material regarding even the most marginal social movements or groups. Additionally, ethnographers can ‘invisibly’ observe the social interactions of page members, gleaned a previously unavailable type of ethnographic data (Murthy, 2008).

Moving into the age of ‘digital ethnography’, Phase Two of this research sought to empirically review the Social Network use and digital communication of school-going adolescents. More specifically, the researcher sought to ethnographically observe the day-to-day use of the Social Network Site Bebo and actively record all comments made on adolescents Social Network pages while also categorising and reviewing all pictures and personal information displayed. Recent studies of SNSs (Lewis *et al.*, 2008; Manago *et al.*, 2008; Fogel and Nehmad, 2009) have employed a wide range of innovative and effective tools to study patterns of Social Network usage and their implications for both children and older adults. Research using an ethnographic base to study such patterns however remains limited (Boyd, 2008a) and largely unused. Digital ethnography opens a new gateway for innovative research on adolescents and in particular through the use of SNSs. Research reviewing Social Network Site usage



using digital ethnography can provide a clear and more in-depth overview of the digital lifestyles and behaviours of adolescents in the online world. Therefore, it is for this reason that ethnography was employed in Phase Two of this research. While ethnography formed the basis of the methodology used in this Phase, informal focus group interviews and a questionnaire were also utilised. The basis of use for these methods however, were purely to facilitate the ethnographic study. These methods will each be given due regard in the coming sections.

### **3.7.2 Instrument Design**

The premise of utilising another questionnaire in Phase Two was based on the requirement of gathering specific information in order to ethnographically study the subjects Bebo pages, should they be open to the public<sup>78</sup>. This information would facilitate the ethnographic study whilst also providing additional information pertaining to adolescents Social Network Site use. Moreover, the questionnaire and focus group interviews acted as a facade for the main ethnographic research to take place. In order to unobtrusively ethnographically review adolescents' use of Bebo, it was essential that they had no prior knowledge of the researcher reviewing their pages. Henceforth, at no stage were the students informed of the ethnographic study. However, for ethical purposes, only public pages were used.

Various methodologies researching Social Network use (Donath, 2007; Manago *et al.*, 2008; Fogel and Nehmad, 2009; Pempek, Yermolayeva and Calvert, 2009) were adapted, as a means of developing the questionnaire specific to the researcher's needs. From this analysis of previous methodologies, a second short two-page questionnaire

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<sup>78</sup> Active members of Bebo can either have their page as public or private. If public, anyone may access their page while if it's private, only friends of this member can access their page.

was designed and piloted on three occasions among first year college students ( $n = 43$ ) within Waterford Institute of Technology from December 2008 to January 2009. Unlike the previous questionnaire described in Phase One, time was not an issue in completing this survey given its length. In total eight questions were asked, querying various aspects of Social Network use and membership. Specifically, the questionnaire reviewed the main reasons for Social Network use, their Bebo address, the information which individuals provide online, reasons for using the Social Network Site and the manner in which they use the site. In conducting a review of the questionnaire from the pilot sample and lecturers within Waterford Institute of Technology, specific feedback was provided regarding the understanding, readability and manner in which the questions were asked. From this review, the final questionnaire was produced and executed within the selected schools.

The manner in which the ethnographic study was implemented was specific to the goal of the research. Similar research examining the content required were first explored (Thurlow, 2003; Faulkner and Culwin, 2005; Ellison, Steinfield and Lampe, 2007; Hinduja and Patchin, 2008; Pfeil, Arjan and Zaphiris, 2008; Thelwall, 2008a; Zhao, Grasmuck and Martin, 2008; Thelwall, 2009) in order to focus the ethnographic approach. From this appraisal of previous and related research, a series of steps were set in place to record specific data. Moreover, a coding system was set up by the researcher to record precise information upon finding a participants Bebo page and furthermore to record fixed information on a daily basis. This coding system refined the ethnographic process of reviewing the subject's pages and converged on the details specific to the research. The coding system was piloted on a number of randomly selected public Bebo pages ( $n = 22$ ) from December to February of 2009. From these

pilot studies, a number of fundamental problems were identified and were consequentially resolved during the course of the piloting.

One of the key areas of concern, which emerged from piloting, was that of categorising comments and pictures. Pink (2007) highlights, that the categorisation of photographs in particular, may raise a number of issues. Of particular concern, Pink (2007, p. 131) makes the point that the image portrayed in photos may be interpreted in a multitude of ways:

“The meanings of visual images may be determined exclusively by neither the temporal sequences in which they were shot nor by categories based solely on their content. The same image may simultaneously be given different meanings in different (but often interconnected) situations, each of which has ethnographic significance.”

Further to this point, Pink goes on to note that any system of categorising photographs should account for their ambiguity of meaning and fickle adherence to categories. This she states, means developing ways of categorising images that acknowledge the arbitrary nature of images interconnected meanings and are not dominated by content-based typologies or temporally determined sequences (ibid).

In order to overcome this deficiency, the researcher sought about establishing broad groups of categorisation that specifically identified a key facet of each picture that could be identifiable with one specific category. Ultimately, even with this breakdown the researchers interpretation of the picture still may not be the true depiction as that understood by the individuals in the picture. Nonetheless, despite a certain degree of ambiguity, the researcher established ten self-defined broad categories: Friends; Purple Leisure; Self-Portrait; Physical Activity; Illusionary; Media Related; Family; School; Holidays and Pets (these categories shall be explained in more detail later on in 3.8.2.2). Where crossover existed, two categories were coded in the data sheet. For

example a picture may exist where friends and pets were in a single picture. In this case, the picture would have been categorised concurrently. Prosser and Schwartz (2001) emphasise the importance of this process in researching images. They note that researchers must themselves be clear about the way in which they conceptualise photographs. Additionally they highlight that choosing an analytical framework must be guided by the equivalent logic that underpins the researcher's overall approach (ibid).

The issue of ambiguity was also evident within the comment analysis. For example, how we communicate with one another on a daily basis is subject to various dynamics and cultural norms. What meaning one individual may derive from a specific conversation may be interpreted differently from another person's perspective. Therefore, categorising comments made between adolescents online can be problematic. In an attempt to overcome this dilemma, a broad categorisation tool developed by Thurlow (2003) was utilised and adapted for this study. Referred to as the primary functional orientation of each message, individual comments were broken down into nine broad categories and themed accordingly. Five additional categories were then adapted as per the differing nature of the current research while some categories as outlined by Thurlow were also defined differently. The multifunctional nature of comments made was taken into account and coded appropriately to reflect this. In order to understand fully the thematic analysis conducted, each category is outlined along with its connotation. Comment examples are presented in Table 3.7.1. It is important to note that while the comments were categorised appropriately according to their respective theme, each comment was themed based on the researchers understanding of the comment. Therefore, the researcher cannot be certain

that each comment posted on the participant's site had the same communicative intent as that understood by the researcher. Nevertheless, despite this ambiguity, the thematic results as shown in Table 3.7.1 on the next page draw attention to communicative orientations of adolescents' comments in this online community.

The premise of using focus group interviews was to facilitate the findings of the questionnaire and ethnographic study. The structure of the interview was designed based on the results from the ethnographic and questionnaire survey. Specifically, the interviews sought to unearth specific patterns of Social Network use, reasons for not registering with the Bebo Social Network Site, issues of safety, further query aspects of students leisure time behaviours and finally to question outstanding issues which arose from the ethnographic results. There were a number of underlying principles, which the researcher took into account before proceeding with the interview research. Firstly, the interviews were semi-structured. That is to say, the researcher had set topics to discuss with the interviewees. However, if there was an issue which was unearthed in the course of the ethnographic study, the researcher could subtly probe into this matter. Secondly, if there was a possibility of the students realising the researcher had analysed their pages, specific questions perhaps leading to this exposure were avoided. In the context of the overall research conducted in Phase Two, these interviews provided a diminutive amount of information to supplement the overall research findings. Hence, their significance in terms of the overall research was rather limited.

**Table 3.7.1 Thematic Analysis Categorisation**

<i>Categorisation Theme</i>	<i>Connotation</i>	<i>Comment Illustration</i>
<b>Informational</b>	Dealt exclusively with enquiries or requests for information	<b>C1:</b> so whos the latest obsession? :D
<b>Riposte</b>	Responses to queries and solitary information	<b>C2:</b> I'm absolutely cornetto'd <b>C3:</b> notin much just on the computer
<b>Social/Practical Arrangement</b>	Dealt with plans to meet someone for social or recreational purposes	<b>C4:</b> we may organise sumthin like a meal or cinema yea?
<b>Salutary</b>	Comments in this category dealt exclusively with greetings	<b>C5:</b> wel lad wats da craic?
<b>Friendship Maintenance</b>	Friendship support and messages of gratitude	<b>C6:</b> Is your finger ok girl? :( <b>C7:</b> you were looking fab!
<b>Social Maintenance</b>	General chit chat among friends and exchanges of gossip not related to any other category	<b>C8:</b> im nice to ppl hu deserve it...ha ha he jeered us...tanx btw.... p.s ur sum dancer
<b>Romantic</b>	Comments of passionate or loving nature	<b>C9:</b> ya k babes watever ha ha loves u lots like jely tots
<b>Sexually Explicit</b>	Sexual expressions or sexually explicit references	<b>C10:</b> i jizzed in my pants when i saw ur skin!
<b>Purple Leisure</b>	References to illegal lifestyle behaviour	<b>C11:</b> tripple vodka...oh god!i was already fuc**d b4 dem sambucka's..
<b>Social Derision</b>	Slagging comments (sometimes derogatory). Mockery.	<b>C12:</b> yea well u look lyk yesterdays sh*t
<b>Sport Related</b>	Sports discussion	<b>C13:</b> ha cool, where ya playing then? mid field?
<b>Entertainment Related</b>	Comments related to the media, artists and entertainment world	<b>C14:</b> But greys anatmyz n tni? Dya watch dat :P
<b>Miscellaneous</b>	Un-categorical comments	<b>C15:</b> meep meep! <b>C16:</b> Yohaaa
<b>Chain Messages</b>	Junk messages with no conversational intent	<b>C17:</b> Hey cutie! I'm on my webcam now. Come watch me...(web page).

\* Adapted from Thurlow (2003)

### **3.7.2.1 Participant Observation – Unobtrusive Research as an Ethical and Viable Form**

As the actions and behaviour of people are central aspects in virtually any inquiry, the obvious and most natural technique is to observe what they do (Robson, 2002), or more appropriately denoted ‘participant observation’.

“By participant observation we mean the method in which the observer participates in the daily life of the people under study, either openly in the role of researcher or covertly in some disguised role, observing things that happen, listening to what is said, and questioning people, over some length of time.”

(Becker and Geer, 1957,p. 28)

Participant observation has the advantage of being able to directly observe the behaviour of those whom the investigator is interested in studying (Sánchez – Jankowski, 2002). Of specific concern to this research is that of unobtrusive participant observation and in particular digital ethnography. Digital ethnography is the modern equivalent of other traditional ethnographic forms. The classical distinction however, is that traditional ethnographers physically immerse themselves in distinct places and their cultures, whereas digital ethnographers capitalise on wired and wireless technologies to extend classic ethnographic methods, like participant observation, beyond geographic, as well as temporal boundaries (Masten and Plowman, 2003). Unobtrusive research is defined as “measures of behaviour taken on individuals who are not aware the researcher is gathering data” (Thomas, Nelson and Silverman, 2005, p. 297). This is an inherent part of digital ethnography and through such approaches, researchers can unobtrusively observe, for example the social interactions of Social Network members (Murthy, 2008). Specifically, unobtrusive measures offer a compendium of techniques and measures, which are less influenced by the intrusion of the researcher and therefore non-reactive (Palys, 1997).

The Hawthorne Studies initiated in 1924 by the management of the Hawthorne plant of the Western Electric Company in Chicago, Illinois in the United States was one of the earliest examples of research, which suggested that observer presence affected the responses of those being observed. The original investigators concluded that the increase in output was partly caused by the experimental set-up and the experiments themselves. Workers became suspicious of the doings of the experiment and curbed

their output as a result (Wickström and Bendix, 2000). This research was the birthplace of the term '*Hawthorne Effect*' and as a result of this study; unobtrusive research became a more acceptable methodological form among social scientists.

Behaviour of Internet users and accompanying changes in cultures is of great interest to academics from a wide variety of disciplines. Thoughtful research on this new medium can help us both understand its present and future. However, such research must be conducted ethically, or the researcher risks both harming the individuals and also disturbing the very phenomenon we seek to understand (Hudson and Bruckman, 2004). Within unobtrusive observation, the researcher studies people's behaviour without their knowing it. This eliminates the problems of informants playing to the audience (Russell-Bernard, 2000) as highlighted in the Hawthorne studies. The nature of this observation however, makes ethics a real issue since observers have the opportunity to interfere directly with the personal life of the research subjects and since in many cases, the actual observation occurs without the subject's knowledge of the research taking place (Sarantakos, 2005).

This is no different for the current research. According to Thomas (1996), social science researchers who have studied the realms of cyberspace will agree that it is a rich and abundant source of data. Whether labelled 'computer-mediated communication', 'cyber culture', or simply 'digital life', scholars are examining the same topics online that have long been the staple of offline social enquiry. As such, he notes, this expansion of cyber studies brings with it questions of the ethics guiding how we gather data, treat subjects, and indeed make public the results.



According to Denscombe (1998), problems arise when those who are being studied are unaware of the research or their role in it and as such they have no opportunity to provide informed consent for the research-taking place. This becomes more serious when the subjects do not know the identity of the researcher (Sarantakos, 2005). In referring to research on SNSs, Fletcher (2007) queries whether it is safe to lift information off SNSs without the consent of the individuals using the site. He claims that many of those who use the sites would disagree. He counter argues this point by alluding to the policies of newspapers. He notes that the tabloids have argued that material from SNSs are in the public domain and are therefore complying with ethical standards. Regardless of this point, Fletcher states that material from such sites must be contextualised properly.

On the contrary, some might argue that this has an obvious advantage as illustrated through the Hawthorne studies and moreover, that reactivity is no longer an issue (Walsh and George, 1993). Westbrook (1994) highlights that only unobtrusive observation in the natural setting can in effect negate the impact of the observers on the observed. Denscombe (1998) alludes to the point that the justification for such research cannot depend on consent, but draws instead on two counteractive arguments. First, if it can be demonstrated that none of the participants being observed suffered as a result of the research, then surely the researcher can argue that certain ethical standards were maintained. Second, if the identities of those who were observed were never disclosed then there is a reasonable case for suggesting that such observation was done in compliance with ethical standards.

The Internet is a technically accessible medium, which is often construed as a public sphere. However, the question of whether technical accessibility is the same as publicness is problematic (Berry, 2004). According to Eysenbach and Till (2001), informed consent, privacy and confidentiality are basic ethical tenants of research when dealing with people. To determine whether informed consent is required, you first have to decide whether the postings as shown on SNSs for example are ‘private’ or ‘public’ communications. This distinction they note, is important since informed consent is required when the behaviour of the research participant occurs in a private context whereby as such that individual can expect that no observation or reporting is taking place.

Nonetheless, researchers may conduct research in public places or use publicly available information about individuals without obtaining consent (Eysenbach and Till, 2001) such as SNSs or public blogs. This issue of ‘public’ and ‘private’ space forms the basis of many arguments for ethical issues and the Internet. For example, how does one distinguish if the user counts the information which they posted on a blog as public or private? At the forefront of this argument, Kraut *et al.* (2004) contends that if users are informed from the outset that their communication is not confidential, such as the case in large chat rooms or indeed Social Network Sites,<sup>79</sup> and researchers record these communications in ways that protect the anonymity of the individuals studied, then, there is inherently no need for informed consent.

The ability of both researchers and their subjects to assume anonymous or pseudonymous identities online, the complexities of obtaining informed consent, the

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<sup>79</sup> In entering chat rooms you are notified that you are entering a public domain. More so in the larger chat room sites. In the case with SNSs you have the option more often than not to have your site as public or private. Bebo offers this option.

often exaggerated expectations, the illusion of privacy in cyberspace, and the blurred distinction between public and private domains fuel questions regarding the interpretation and applicability of current policies governing the conduct of both social and behavioural research involving human subjects (Frankel and Siang, 1999). A major consideration in current research projects is the issue of whether data obtained from a study using unobtrusive or descriptive measures could have been gathered through the use of an alternative method for which informed consent may have been obtained. However in many cases, such an approach may not be possible or feasible, since by definition, the value of unobtrusively obtained data derives from the very conditions of measurement under which they are gathered (Page, 2000). In their book, *Ethnography: Principals and Practice*, Hammersley and Atkinson (2007) refer to five ethical considerations which they outline should be taken into account prior to conducting any ethnographic research: Informed Consent; Privacy; Harm; Exploitation; Consequences for future research.

In keeping to these guiding principals set out by Hammersley and Atkinson (2007) and the ethical guidelines set down by Waterford Institute of Technology, the researcher managed to keep to ethical criteria as outlined. Informed consent was requested for the focus group interviews and questionnaire, however none was sought after for the study of the Social Network pages. As noted earlier, when researching the Social Network Site Bebo, only students whose Social Network page were registered as public were studied. Those who had their page as private were discounted. In this context, the students had acknowledged that their site is open for anyone to view and access. Therefore, ethical principals were adhered to. The data, which was retrieved from the

pages, was cleaned<sup>80</sup> ensuring that any comments recorded could not be related back to the individuals in the research. Furthermore, the identities or location of the participants will at no stage be presented in the results of this research. Overall, the ethical principals as outlined for Internet research were upheld and at no stage will the identity of those surveyed ever be revealed, nor was any harm caused to any individual during the process of carrying out this research.

### **3.7.3 Sampling Procedure**

The research sample for Phase Two consisted of 108 participants drawn from transition year classes in three secondary schools in Co. Wexford (Good Counsel New Ross<sup>81</sup>, Mercy Secondary School New Ross and the CBS Secondary New Ross). Participants ranged in age from 15 to 17 years. The schools selected were divided between one single sex male, one single sex female, and one mixed school respectively. These schools were purposively selected (purposive sampling) due to their demographic characteristics and gender divide. The full initial sample ( $n = 108$ ) completed a small questionnaire, which queried various aspects of Social Network usage and membership with the Social Network Site Bebo. This sample ( $n = 108$ ) also took part in the interview research. Upon completion and analysis of the questionnaire results, those students who had a public Bebo page were identified ( $n = 49$ ) and selected to be included in the ethnographic research. While a larger sample of students did possess a Bebo page ( $n = 80$ ), only those with public pages were counted in the survey for ethical and observational reasons. The students who were selected did not know the researcher was analysing their pages. The reasoning for this is due to

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<sup>80</sup> Any data that may render an individual identifiable was deleted. Additionally, any data which was insignificant to the research, was removed.

<sup>81</sup> While this school was utilised in the first phase of the study, the Transition Year students, which were used for the second phase, were in a different class at the time of the first survey.

observer distortion or the Hawthorne Effect (Wickström and Bendix, 2000) as already discussed. Sarantakos (2005) contends that in observational research, when settings are distorted by the presence of the researcher or knowledge of the researcher's presence, participants may act in an artificial sense and not true to their normal behaviours. Over the course of the research, four students were lost as a result of privatising<sup>82</sup> their pages leaving the final research sample slightly reduced ( $n = 45$ ). In the final ethnographic sample, there was an almost even gender balance of males ( $n = 22$ ) and females ( $n = 23$ ).

### **3.7.4 Administration & Implementation**

Schools were approached and contacted in the same manner as Phase One for Phase Two. That is, each school was posted a letter detailing the nature of the research and was followed up a week later with a phone call in order to clear any ambiguity which the principals may have had. Additionally, the researcher explicitly explained the research process and detailed in particular the researcher's role in the ethnographic study. A further letter of consent was given to the parents of students participating and the students themselves. This letter provided details only pertaining to the questionnaire and focus group interviews. Only the principal was informed of the ethnographic survey, which was taking place. Each principal in turn then clarified to the researcher that at no stage would they inform the students of the ethnographic survey, which was taking place. The only difference in this process from that of Phase One was that this time the researcher only contacted the schools, which would be preferred for the study. For example, those schools which the researcher saw as suitable for the research. As Phase Two was potentially controversial, ethical approval was sought and sub-sequentially granted from the ethics committee in Waterford

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<sup>82</sup> Pages are either public or private. If private, the researcher can no longer access them.

Institute of Technology. The primary condition for its approval however, was that the researcher would only study public Bebo pages (those accessible to anyone in the world).

#### **3.7.4.1 Questionnaire**

In the initial stage of this study, a questionnaire was designed in order to obtain descriptive information pertaining to Bebo membership, profile information displayed and reasons for joining the Social Network Site. More specifically, the questionnaire provided information about students who possessed public Bebo pages whilst also gaining enough personal information so that the researcher may locate and research their personal pages. Furthermore, the questionnaire acted as a medium for which additional information concerning Social Network usage could be gained. This questionnaire was given to 108 students in the three schools selected (purposive sampling). The researcher then administered each questionnaire personally in a set manner at each school. Upon completion, the researcher scan checked each questionnaire so as to ensure each one was answered appropriately. Furthermore, non-directional advice as was given in Phase One was also provided. This questionnaire took approximately ten minutes to complete.

All students with public Bebo pages ( $n = 49$ ) were located from the information provided in the questionnaire results. These pages were found on the Internet using both Bebo and Google™ search engines. Following the location of the participant's pages, each were given their own files on the researcher's PC in which all data recorded over the course of the study would be stored<sup>83</sup>. Once each Bebo page was located, a number of actions were carried out. The profile information displayed was

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<sup>83</sup> These files were only accessibly via password.

copied into a Microsoft Word document and saved in the participant's personal file. Preceding this, typical details provided on Bebo pages were recorded (relationship status, membership start date, public/private page, hometown indication, number of pictures on page, whether music, blogs or videos were posted on the page and finally their membership of various groups) and entered into the statistical database package SPSS 15©. This data provided a variety of information about the participants involved in the study.

#### **3.7.4.2 Ethnographic Study**

As previously stated, a set coding system was employed during the course of the ethnographic study. Each day three important pieces of information were recorded from every site over a period of one month. These included the time in which the participant was last active, the increase in profile views (a total of three sites had this feature removed) and finally how many comments were left, from whom and the content of those comments. Prior to commencing the ethnographic study, the number of friends both male and female was recorded. Upon completion, the final number of friends was also recorded. Throughout the course of the research, every picture posted on each participant's site was categorised and inputted into SPSS 15©.

To help in increasing the reliability of the data which was being collected, namely the number of comments left in the past twenty four hours, time last active and the increase in profile views, it was decided that each page would be observed between the hours of nine and ten o'clock in the morning. Moreover, each participant would be reviewed in a specific order each day. In doing so, this would minimise the difference in the time since last active and profile view increases. Furthermore, during weekdays in particular, it would minimise the chances of the subjects being online as they were

in school. On the weekends however, there was no control for the time which students were online as their waking times could be different. As a measure of Social Network activity, this method is no doubt open for some critique, however for its purpose and the final result it provides, it offers an otherwise unattainable general idea of Social Network activity. The research commenced on a Monday morning and over the course of the twenty-eight days, the schools had no holidays assigned to them apart from one public holiday.

#### **3.7.4.3 Interviews**

Upon completion and analysis of the questionnaire and ethnographic survey, the focus group interviews were then conducted with the original students who completed the questionnaire ( $n = 108$ ). These commenced a number of weeks subsequent to the primary research allowing time for the researcher to collate and analyse the data. As outlined previously, these interviews sought to clarify any outstanding issues from the research results and furthermore provided the opportunity for a controlled presentation of personal views (Sarantakos, 2005) among the students. During the course of the interviews the researcher avoided leading the respondents into areas, which were of particular interest to them. Additionally, where a respondent was shy, the interviewer attempted to probe him/her for an adequate answer. In all, these interviews were minuscule in terms of the research conducted. Nonetheless, their usefulness in terms of the entire research process deemed them appropriate for inclusion. The merits and limitations of their use will be discussed in 3.7.5.2.



### **3.7.5 Research Merits & Limitations**

#### ***3.7.5.1 Merits & Limitations of Ethnography***

The use of a questionnaire in Phase Two has the same inbuilt merits and limitations as that of the questionnaire used in Phase One. These benefits and flaws are outlined in 3.6.4.1. The ethnographic and interview methodologies used however, warrant a balanced examination. Digital technology has expanded our notion of what constitutes a research ‘field’ (Hammersley and Atkinson, 2007). While ethnography has been utilised in social research to date, researchers have been slow in adapting the digital ethnographic style. Virtual communities and online networks present particular challenges and moreover opportunities for ethnographic research. New technologies and especially those of Social Network Sites generate new research areas and debates in social sciences, including the study of digital media as representation and theories of electronic communication (Pink, 2007). Murthy (2008) is a strong advocator of digital ethnographic research. He believes that as ethnography goes digital, its epistemological remit will remain much the same. He notes in particular, that for both the novice and expert researcher, the combination of participant observation with digital research methods can provide a fuller and more comprehensive account of people’s lifestyles. This is especially true he notes, with the inclusion of conflictual or ambiguous data from SNSs. Flick (2006) encourages the ethnographic study of people online. He notes that as a field for research, the Internet in particular has become a tool to study people ethnographically, which you could otherwise not reach. He further advocates that you can study the Internet as a form of milieu or culture in which people develop specific forms of communication or sometimes specific identities.

As a research form, ethnography has many advantages and in particular when researching SNSs. Denscombe (2003) draws attention to a number of particular advantages. Firstly he notes that direct observation has greater benefits than receiving information second hand from research subjects. Secondly, the detailed data it provides can deal with intricate and subtle realities. Bryman (2004) emphasises the covert role of ethnography, which was important in this particular research. He advocates that adopting a covert role avoids issues of access and more importantly, means that the research participants are less likely to adjust their behaviour because of the researcher's presence. Murthy (2008, p.845) pays particular attention to the benefit of ethnography when researching SNSs and highlights six advantages which he notes can be useful to ethnographers:

- Social Networks are virtual 'gatekeepers' with chains of 'friends' who are potential research respondents;
- They contain vast stores of multimedia material regarding even the most marginal social movements or groups;
- Ethnographers can 'invisibly' observe the social interactions of page members, gleaning a previously unavailable type of ethnographic data;
- Pages can be created by social researchers with the explicit purpose of conducting research online;
- The structure of relationships on the sites is a useful research method itself;
- Pages can be created by social researchers to disseminate useful information to the public.

Conversely, in providing a balanced perspective, one must also bear in mind the limitations of such research. Ethnography can present both opportunities and problems for social and cultural research as a result of its qualitative form. These problems however are not entirely analytical but can also be ethical too (Walsh, 1998). Bryman (2004) also draws attention to the point of ethical consideration. He notes that this form of research does not provide participants with the opportunity for informed consent and in this way entails deception. Furthermore, it can also be taken to be a violation of privacy. Denscombe (2003) adds further to the potential limitations of such an approach. He notes among others, that there is a potential weakness of reliability and little prospect of generalising. Sarantakos (2005) concurs with these statements. In contrast however, Sarantakos highlights that very often in ethnographic research there may be a lack of replication and an inability to ensure objectivity.

Within the current ethnographic approach, there have been a number of inbuilt limitations, which must be highlighted. However, this is not to take away from the fact that in their application they have provided an otherwise unattainable data set. Firstly, the nature of this research explored online communication. As such one must ponder the reality of the interaction taking place. Flick (2006) also emphasises this point. He suggests that to find the way from virtual communities to the real life of the participant is difficult. Secondly, while the research explored the communication and daily comments left online, it failed to explore the extent to which adolescents were communicating with their network of friends to which they are attached. Thirdly, in measuring the daily activity of the research sample, there was no control for the time in which the subjects came online, hence limiting the reliability of this measure. However, in using this measure, it provided a relative indication as to the previous

time of use, and hence an indication of the time of day in which adolescents were last using the Social Network Site. Finally, this study employed the use of a small research sample. To explore any meaningful association between various aspects of teenage Social Network usage, a larger research sample encompassing a larger demographic area may be more insightful.

In all, the use of ethnographic research allowed the researcher to delve ever closer into the lifestyle behaviours and online habits of adolescents. Furthermore, given the nature of the ethnographic approach the researcher was capable of noticing trends in adolescents' communication, which would otherwise have not been possible with other approaches. While ethical considerations have been highlighted as a concern, ethical approval was granted for its application and furthermore, only students who had a public Bebo page were investigated. As highlighted, this form of research provides many opportunities and in particular with researching SNSs. While there are a number of limitations, the research data it has provided is of great benefit to all those interested in researching and learning about SNSs of youth and adolescents.

### ***3.7.5.2 Merits & Limitations of Interviews***

While the use of focus group interviews and the data which it provided had a smaller role in the research, it is still noteworthy to underline why they were used and the benefits and drawbacks of such use. Interviews as a research tool are an attractive proposition and at first glance they do not require much technical paraphernalia. The reality though is not so simple (Denscombe, 2003). In focus group research, the investigator has very often got less control than with individual interviews. This question of control raises issues for researchers of how far they can allow a focus group to take over the running of proceedings (Bryman, 2004). May (2001) contends

that interviews rely on peoples' account of their actions. However, the accounts people provide may simply be inaccurate for one reason or another. Furthermore, while accounts may sometimes be a genuine reflection of an individual's experience, there may be circumstances or events which surrounded these, which the interviewee was not aware. Flick (2006, p.195) outlines:

“The proclaimed strength of the method compared with interviewing single persons is also the main source of the problems in applying it. The dynamics, which are determined by the individual groups, make it more difficult to formulate distinct patterns of process of discussions and also to clearly define the tasks for the moderators beyond the individual group. For this reason, it is hardly possible to design relatively common conditions for the collection of data in different groups involved in a study.”

Contrary to these arguments against focus group research, many academics have reflected positively for its inclusion in social research. In particular, Sarantakos (2005) contends that interviews provide a valuable source of flexibility in that they may be adjusted to meet the needs of diverse situations. Moreover, there is a capacity for correcting a misunderstanding by respondents and more control over the research environment. Denscombe (2003) attests to the insights one might achieve from an interview. This he notes is not possible using questionnaire techniques. He furthermore asserts that focus groups are a good method for producing data based on informants' priorities, opinions and ideas. That is he notes, informants have the opportunity to expand their ideas, explain their views and identify with what they regard as the crucial factors. Robson (2002) supports the latter of Denscombe's views. He maintains that face-to-face interviews offer the possibility of modifying one's line of enquiry, following up interesting responses and investigating the underlying motives in a way that other methods cannot.

To conclude, while focus groups did play a small role in the overall context of the research. The researcher felt that in using them, they would supplement the findings

from the other methods used. Stroh (2000) concurs with this motive for interview use in noting that focus group interviews provide an additional slant on the research data and allow for a more comprehensive understanding of information. Furthermore, these interviews provided an avenue for which the researcher could probe matters, which emanated directly from the ethnographic survey with the participants.

### **3.8 Analysis of Data**

In implementing the outlined methodologies, a complexity of data was retrieved in both qualitative and quantitative format. This required the researcher to utilise various statistical packages to facilitate accurate and reliable analysis of the information documented. SPSS 15© facilitated the analysis of any quantitative information while qualitative data was inputted and processed using the software package Nvivo 7. While these software packages facilitated examination of the bulk of the data retrieved, a further software program was additionally required in order to conduct a complete review of the text-based data obtained from the comment analysis of Bebo. The program chosen to do this was LIWC (Linguistic Inquiry Word Count) 2007. This is a contextual analysis program, which is able to “calculate the degree to which people use different categories of words across a wide array of texts,” (LIWC, 2009). Specifically, this application allows the user to insert text and investigate its content from seven dimensions: social processes; affective processes; cognitive processes; perceptual processes; biological processes; relativity and finally personal concerns<sup>84</sup> (Pfeil, Arjan and Zaphiris, 2008). Over the course of the research, the researcher had to conduct specific examination on data, which emanated from the multitude of approaches utilised. In particular, due to the number of methodologies exploited,

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<sup>84</sup> These are explained in Table 3.8.1.

various intricate pieces of investigation were conducted which require further elaboration.

### **3.8.1 Logbook Themes**

As indicated earlier within this Chapter (3.6.2), a total of ninety-eight logbooks were returned from the sample ( $n = 410$ ) of transition year students within Phase One of the research. Prior to conducting an analysis of the logbooks returned, it was essential first, to have a breakdown of the themes or activities, which the researcher wished to categorise. This breakdown was broad and self-defined by the researcher on what he believed were the most essential elements related to this research and to that of the life of an adolescent. While for the most part, each activity could be coded singularly, other activities often occurred interchangeably. In this case, they were coded appropriately to reflect the multipurpose nature of the activity. For instance, having dinner, whilst watching TV would have to be coded twice to reflect the nature of the two activities the adolescent was doing. In total, eleven categories were derived from this breakdown. These are as follows:

***Physical Activity:*** This refers to the time in which the participants referred to engagement of physical activity in any way or form. For example, this could be time spent jumping up and down on a trampoline, to time engaged in competitive sport or walking to school.

***Social Life:*** ‘Social Life’ refers to hanging around activities and general talking among friends and family. This could include for

instance, going shopping with friends or family or going to an event of some form.

***Subsistence Activity:*** Refers to daily behaviours necessary for survival and hygiene matters. For instance, eating, showering, cleaning one's self and getting changed or ready for an event.

***Work:*** Time engaged in work practices either at home or in paid employment.

***Leisure Time:*** Entails participating in activities solely in their spare time, which are for self-fulfilment or relaxation. Reading books is a sizable component within this category.

***PC:*** This refers to the time which adolescents spent using a personal computer or similar device (games consoles are not part of this category).

***Games Console:*** Games console refers exclusively to the time spent using games console devices or video games. This includes the use of the Sony Playstation, Xbox, Nintendo Wii™ or other similar or smaller derivatives of these larger devices.

***Television:*** Implicit within the name itself, this category looks simply at the time spent watching television.



***Music:*** Again, implicit within the title, any time spent listening to music is directed into this category.

***Social Network:*** Certainly the most significant in terms of the overall research, this component deals entirely with the time spent using the Social Network Site Bebo and others like it.

***Miscellaneous:*** This category was used for coding any other activity, which could not be categorised in the above-donated themes. For example, time spent travelling by bus or car.

With these categories in mind the researcher coded each activity performed and totted up the total time for both the week and weekend. As alluded to earlier (3.6.1), the logbook was divided in half hour slots beginning at 8am and finishing at 3am. Space was also allowed for those who woke up earlier and went to sleep later. Following the analysis of the data, a series of statistical tests were conducted along with specific cross tabulations.

### **3.8.2 Bebo Comment, Profile and Picture Analysis**

In conducting the ethnographic review of Bebo Social Network pages, a substantial amount of text and image based data was retrieved. Specifically, 1,942 individual comments were recorded from the research subject's pages and a further 10,316 pictures were reviewed and categorised. Additionally, all personal information (hobbies and interests), were coded and themed appropriately.

### **3.8.2.1 Thematic Analysis of Comments**

The thematic analysis of the comments posted on the subject's Social Network (Bebo) pages was conducted in two phases. As discussed in 3.7.4.2, the first phase of this analysis was carried out on the basis of research conducted by Thurlow (2003). Thurlow's research wished to explore linguistic forms and communicative functions among a relatively small sample ( $n = 159$ ) of teenagers. As the intention of this research was similar in nature to the current research, the themes used for Thurlow's study were adopted and adapted to reflect the research protocol for this investigation. A total of nine themes were derived from this adaptation and a further five added, as per the differing nature of the current research. The themes added allow for a more comprehensive examination of the topics of conversation observed on SNSs. These themes can be reflected upon in Table 3.7.1 on page 184. From these themes, the researcher went through each comment recorded and themed it accordingly. Again, as already alluded to, the multi-functional nature of comments was taken into account and upon completion of this thematic analysis, 3,747 themed comments were recorded.

In addition to the aforementioned thematic analysis, a further analysis was conducted using the software package LIWC2007. Through this program, the researcher analysed the use of words from within seven dimensions mentioned earlier within this section. These dimensions are explained further in Table 3.8.1 on the next page. The program itself seeks target words or word stems, categorises them into linguistic dimensions and then converts the raw counts to percentages of the total words (Abe, 2009). Additionally, it derives frequency values for a large number of words, which are pre-sorted into both psychological and linguistic properties. The LIWC categorisation

procedure is highly correlated with that of trained judges, and furthermore indicates good external validity (Hirsh and Peterson, 2009). Overall, this program analyses approximately eighty linguistic dimensions, which include standard speech categories such as per cent of pronouns used, articles and prepositions and those of psychological properties, personal concerns and linguistic processes (Brough, 2009). The researcher used this program to compare usage of words among both males and females and furthermore to gain additional insight into adolescents' communication patterns.

**Table 3.8.1 Dimensions of LIWC2007 Linguistic Analysis**

<b>LIWC2007 Word Categories</b>	
<b><i>Psychological Processes</i></b>	
<i>Social Processes:</i>	These are words, which make reference to other people. A total of 617 words are accounted for in this category. People who use a high number of words in this category are generally more outgoing and more socially connected with others.
<i>Affective Processes:</i>	Affective processes are a combination of both positive emotions (e.g. love, nice sweet) and negative emotions (e.g. hurt, ugly, nasty). The more people use positive emotion words, the more optimistic they tend to be. Likewise negative emotion words are related to people's ratings of anxiety. This category accounts for 2,196 words.
<i>Cognitive Processes:</i>	Accounting for 1,493 words, this category relates to the use of words, which reflect how people are actively thinking about their writing topic. Examples include: consider; should; think; wonder and because.
<i>Perceptual Processes:</i>	Perceptual processes are words, which make reference about properties and elements of the environment (e.g. feeling, touch, view, listen). In total this category amounts to 471 words.
<i>Biological Processes:</i>	These processes denote words, which relate to the human body, health, lust and ingestion. Examples include: love; horny; eat; cheeks; flu; pain; blood. A total of 1,090 words make up the category.
<i>Relativity:</i>	Refers to words describing areas, space, time or motion (e.g. exit, area, arrive, car, down, thin, until, season). Some 1,265 words make up this category.
<b><i>Personal Concerns</i></b>	
This is a separate category not related to psychological processes, which refers to daily concerns of life such as work, achievement, leisure, home, money, religion and death. In all, 1,229 words complete this category.	
Adapted from Pfeil <i>et al.</i> (2008) and Pennebaker <i>et al.</i> (2007)	

### **3.8.2.2 Picture Categorisation**

As alluded to in the former part of this Chapter (3.7.2), the issue of picture categorisation brings with it particular concerns. Pink (2007) refers to the fact that pictures themselves may be interpreted from a number of perspectives and as such,

any system employed to categorise a series of photographs must account for their ambiguity. Furthermore, it must be acknowledged that despite the researcher categorising the photographs in what he believes is evident in the picture, to another individual, these pictures may be construed differently.

To help overcome this vagueness, the researcher created ten self-defined broad groups of categorisation. These groups, as outlined earlier (3.8) are: Friends; Purple Leisure; Self-Portrait; Physical Activity; Media Related; Family; School; Holidays; Pets and Illusionary. In selecting these self-designated categories, the researcher first went through two hundred pictures from the pilot studies and placed them into twenty-one precise categories. In addition, these two hundred pictures were presented<sup>85</sup> to seven research masters students, one PhD student and a small sample of transition year students ( $n = 17$ ) not connected with the study<sup>86</sup>. These individuals then described in a few words what they entailed from the photographs. Using this data, the researcher amalgamated the opinions of the students and the precise categories self-defined, to form the ten broad categories as outlined. The full meaning of these categories and what they entail can be seen in Table 3.8.2.

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<sup>85</sup> These photographs were selected from random Bebo pages no known to the researcher. All faces in each of the pictures extracted were blurred for ethical reasons.

<sup>86</sup> This sample of students were gathered from a nearby mixed gender secondary school in Waterford City which had no connection with the study. Permission was sought from both the Principal and Transition Year co-ordinator to involve these students in this pilot scheme.

**Table 3.8.2 Picture Categorisation Connotations**

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<i>Picture Categorisation Connotation</i>	
<i>Friends:</i>	This photography type denotes anything got to do with friends of the subject (e.g. social gatherings, general pictures of friends, or friends hanging around or posing for pictures).
<i>Purple Leisure:</i>	Pictures in this category signify anything to do with deviant illegal behaviour such as drinking alcohol, smoking or indeed taking drugs.
<i>Self-Portrait:</i>	These images refer to self-poses or self-pictures of the individual who is the owner of the Bebo page.
<i>Physical Activity:</i>	Photos in this category refer entirely to anything which involves physical activity i.e. sports, casual activity or trampolining.
<i>Media-Related:</i>	A number of photos appeared depicting celebrities, sports stars, artists, actors, actresses and game show hosts. Any pictures relating to these were denoted in this category.
<i>Family:</i>	This photography type signifies anything got to do with family or relations of the subject ( <i>Note:</i> unless explicitly stated underneath the picture, sometimes this was not always possible. However, more often than not, it was possible to identify family members as a result of earlier picture captions).
<i>School:</i>	These were images of school related activities, school tours, sports days or classroom general pictures.
<i>Holidays:</i>	Simply categorised as pictures in which the research subject was on holidays.
<i>Pets:</i>	It was often the case that pictures of farm animals, pets and household animals were posted on the subject's pages. All these pictures were filed in this group.
<i>Illusionary:</i>	A number of images were unclassifiable. For example pictures were posted of cartoons, drawings and illusions. These pictures were all classified as Illusionary.

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### **3.8.2.3 Thematic analysis of Profile Information**

The thematic analysis conducted on the profile information<sup>87</sup> was much more simplified than that of the thematic analysis conducted on posted comments. Research which looked into this area of profile information on similar SNSs (Ellison, Steinfield and Lampe, 2007; Hinduja and Patchin, 2008; Zhao, Grasmuck and Martin, 2008; Pempek, Yermolayeva and Calvert, 2009) was utilised as a baseline for categorising the results. From this review of relating research and the pre-set categories set up on Bebo, the researcher initially designed ten themes in which to categorise the information. However, as the research progressed, a further three themes were added. In addition to this thematic analysis, the LIWC2007 program was again used to review

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<sup>87</sup> Profile information refers to the personal traits of the research subjects, which they post on their profile. For example, as standard, Bebo allows users to divulge information about their most liked or disliked music, films and sports. Additionally, they can say what they are scared of and when they are at their happiest. These are pre-set pieces of information for which the individual can respond to or create others.

the use of words in much the same way as already detailed (3.8.2.1). The themes developed are as follows:

***Favourite Films:*** Any films which the subject likes or dislikes. These can be any sort of film and do not necessarily have to be box office hits.

***Favourite Music:*** Again, the same as above. They may indicate what type of music they like or dislike.

***Favourite Sports:*** This relates to any sport, which the subject likes to watch or indeed play. They may also indicate which sport they do not like.

***TV Programmes:*** Similar in nature to those outlined above. The participant simply indicates which TV programmes they like or dislike.

***Happiest When:*** For this category, the participant details when they are at their happiest. As indicated this is a pre-set category on Bebo.

***Scared Of:*** Again a pre-set on Bebo. In this category people simply specify what it is they may be afraid of or scared of doing or trying.

***E-Mail Posting:*** Should an individual publicly post their e-mail address in their profile page, it is recorded in this category.

- Chain Posting:*** In many cases, chain postings of a good or bad nature are posted on Bebo pages. These may also be salutations towards the fight for different causes. For example, cancer.
- Camaraderie:*** This theme relates to postings commenting on friendships or specific details about their friends.
- Personal Info:*** While all the categories in this thematic analysis provide some sort of personal information concerning the research subjects. This category deals exclusively with personal introductions about one's self i.e. hi, im 16 from Ballynamucka and I go to school in St.Patricks's Gaelscoil<sup>88</sup> etc.
- Outward Statement:*** Sometimes the subjects often left statements relating to their frustration about something. Often these statements would refer to something in their life or about something, which they would like to provide their opinion about.
- Hates:*** Implicit within the title, this simply relates to what individuals posted about what they hate.
- Interests:*** This category themed comments relating to what the subject was interested in doing. For instance reading books or cooking.

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<sup>88</sup> This is purely a fictional statement for the purpose of illustration.

### 3.8.3 Statistical Methods Utilised

The data, which emanated from each of the research approaches, had mixed properties. Indeed, a combination of both parametric and non-parametric data was retrieved. Deriving from this breakdown, a mixture of ordinal, nominal (non-parametric) and scale (parametric) variables were appropriately designated within the appropriate software packages. From these scales of measurement, a number of appropriate statistical tests were carried out on the gathered data. The tests of most significance were the Chi-Square Tests of Independence, Chi-Square Goodness of Fit Test, Mann-Whitney U and Independent Sample T-tests, Binary Logistic Regression, Spearman Rho correlation, Pearson correlation and Kendall's tau-b coefficient. The purpose of each of these tests is explained below:

- ***Chi-Square Test of Independence:*** This test measures the association between two categorical variables. The ***Fisher's exact test*** is used in place of this Chi-Square test when the table used has an expected frequency of less than five;
- ***Chi-Square Goodness of Fit:*** The Chi-Square Goodness of Fit test is a non-parametric test, which determines if the observed frequencies differ from what we expect to find;
- ***Independent Samples t-test:*** The Independent Samples t-test compares the mean scores of two groups on a given variable;



- ***Mann-Whitney U:*** Often seen as the non-parametric equivalent of the t-test for paired samples, the Mann-Whitney U test is used to compare medians from non-normal distributed samples;
- ***One Way Anova:*** This test compares the mean scores of one or more groups based on one independent variable;
- ***Binary Logistic Regression:*** Binary Logistic Regression is used if the dependent variable is binary (dichotomous) and you wish to explore the relative influence of continuous and/or categorical independent variables on your dependent variable, and moreover assess the interaction effects between the independent variables;
- ***Pearson R Correlation:*** The Pearson R Correlation details the magnitude and direction of the association between two variables, which are normally distributed;
- ***Spearman Rho Correlation:*** The Spearman Rho Correlation details the magnitude and direction of the association between two variables, which are not normally distributed;
- ***Kendall's tau-b Coefficient:*** The Kendall's tau-b Coefficient is used to measure the association between two ordinal variables.

The results presented have been statistically analysed using a multitude of statistical techniques as outlined. Statistical analysis for the social sciences accepts a significance level of  $P < 0.050$  (Sarantakos, 2005; Acton *et al.*, 2009). In many cases however, the significance found has been below the  $P < 0.001$  levels. This essentially means that with respect to  $P < 0.050$  level, there is a 1 in 20 chance of accepting a hypothesis as correct when it is actually false. Alternatively, where  $P$  is less than 0.001, there is a 1 in a 1000 chance of accepting a hypothesis as correct when it is actually false (Acton *et al.*, 2009). Therefore, any  $P$  value below the .05 level is deemed as statistically significant for this research. Where appropriate these statistical significances will be outlined.

### **3.9 Demographic and Subsidiary Data**

Between both Phase One and Phase Two, a total of 518 adolescents were surveyed. The mean age of those surveyed in Phase One ( $n = 410$ ) was 15.88 years compared to 15.77 years ( $n = 108$ ) in Phase Two showing no relative difference<sup>89</sup>. Overall, 221 males and 189 females (54% versus 46%) were involved in Phase One. A similar breakdown can be found in phase two with a total of 60 males and 48 females (56% versus 44%). In relation to nationality, 92% of the total sample ( $n = 518$ ) was of Irish nationality ( $n = 479$ ). The remaining 8% is comprised of those from the European accession states ( $n = 30$ ), Australia ( $n = 3$ ), North America ( $n = 2$ ), Africa ( $n = 2$ ), South America ( $n = 1$ ) and Asia ( $n = 1$ ).

### **3.10 Summary**

This Chapter has outlined in detail the parameters of the fieldwork conducted for both Phase One and Phase Two of this research. The methodologies utilised in both these

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<sup>89</sup> The use of Transition Year students was consistent across both phases. This would have kept the difference in age group to a minimum.

Phases were constructed to answer the research questions and hypotheses outlined. The various stages of both Phase One and Phase Two were outlined accordingly, paying specific attention to the research design, administration and implementation, the sampling procedure and the merits and limitations of each procedure used. Finally, the process of how the data emanating from these methodologies will be analysed has also been outlined. The next Chapter will now present and discuss the findings from this research methodology.

*Chapter Four*

~

*Presentation &  
Discussion of  
Results*

## 4 Presentation and Discussion of Results

### 4.1 Introduction

This Chapter presents and discusses the main findings from a systematic analysis of the data obtained from both Phase One and Phase Two of the research. In order to facilitate this, the Chapter will be broken down into three respective sections. The first section will outline and briefly discuss the results found in the context of related academic studies explored in the Literature Review. Following this, the research hypothesis outlined in the Methodology Chapter (3.3.1) will be tested. Finally, the third section offers an overall discussion of the results found in the context of both current and emerging theory. Prior to outlining the findings of this research, a brief narrative will first be presented at the start of each respective sub-section. These narratives are typical of adolescent behaviour observed during the course of this research. Each narrative depicted attempts to set the scene for the results to follow<sup>90</sup>. These results shall now be outlined and discussed.

### 4.2 ICT Ownership

Shane, a 16-year-old transition year student is travelling home on the bus from school. While joking and interacting with his friends, Shane listens to his favourite songs on his iPod touch. At the same time, he is texting his girlfriend and updating his Bebo account on his mobile phone. Upon arriving home, Shane turns on the television and sits down to do his homework. During late afternoon, Shane retreats to his bedroom to play his Playstation®3. For an hour or so he competes with his friends online at his favourite games. Later that evening, he logs onto his Social Network account to socialise with his friends and update his profile once again. Though he is using the computer in the sitting room, Shane still maintains an interest in what is on television while also instant messaging his peers.

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<sup>90</sup> In some of the narratives, there is an overlap between the behaviors outlined. This is because some of the activities detailed are interlinked.

The above narrative is a general depiction of the captivation of ICTs in the lives of adolescents. Shane lives utterly surrounded by ICTs. His typical day revolves around the usage and multi-tasking of these devices. The present section conceptualised the extent to which such bombardment is evident in the lives of Irish adolescents. The results found that the majority of adolescents had access to a personal computer and the Internet in the home. Most had access to a couple of televisions, with a large proportion having one located in their bedroom. Over 80% were also in possession of a games console. Moreover, each adolescent had at least one mobile phone. The following section will now explore these matters in more detail and briefly discuss their significance in terms of other academic studies in the area.

#### **4.2.1 Personal Computer Ownership & Internet/Broadband Access**

The current study established that 89% ( $n = 363$ ) of the research sample ( $n = 410$ ) own one or more personal computer. As can be seen in Table 4.2.1, just over 54% ( $n = 219$ ) specifically own one personal computer<sup>91</sup>, however more than a third own two or more. The amount of computers owned was directly associated with their socio-economic status<sup>92</sup> (Pearson Chi-Square = 196.187,  $df = 6$ ,  $P < 0.001$ ) with analysis disclosing that as socio-economic status increased, so too did the level of computer ownership (Kendall's tau-b = .559,  $P < 0.001$ ).

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<sup>91</sup> It must be noted that the questionnaire asked respondents to detail how many computers they owned which were three years old or less. The reasoning for this was because it was determined that computers over this age were in many ways obsolete and dated given the technological advancements each year in computer technology.

<sup>92</sup> Socio-economic status was determined using the FAS scale. Refer to 3.6.1 for more information.

**Table 4.2.1 Personal Computer Ownership**

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<b>Valid</b>	<b><i>None</i></b>	46	11.2	11.2	11.2
	<b><i>One</i></b>	219	53.4	53.5	64.8
	<b><i>Two</i></b>	102	24.9	24.9	89.7
	<b><i>More than two</i></b>	42	10.2	10.3	100
	<b><i>Total</i></b>	409	99.8	100	
<b>Missing</b>		1	0.2		
<b>Total</b>		410	100		

Linked to computer ownership is the issue of broadband and Internet access. The CSO (2009) show that 62% of households in Ireland have an Internet connection and of this 62%, some 69% have a broadband connection. Broken down by region, it is found that 49% of households in the Southern and Eastern areas of Ireland have a broadband connection. As was highlighted by Preston, Cawley, and Metykova (2007), a low connection rate may be due to accessibility problems in remote areas (Tookey, Whalley and Howick, 2006; LaRose *et al.*, 2007). This research found that in Ireland, the level of broadband availability falls significantly outside those of the larger urban areas and furthermore this gap is significant when compared to other older European Union (EU-15<sup>93</sup>) member states. In fact, it was found that Ireland had the second lowest rate of households connected to broadband amongst the EU-15 member states<sup>94</sup> (ibid).

Nevertheless, figures from the present study reveal a much better connection percentage as compared to those purported by the CSO. Results suggest that of those who possess a personal computer, 84% ( $n = 324$ ) are connected with a standard

<sup>93</sup> The EU-15 stated here discount the accession states which joined the European Union in 2004 and 2007.

<sup>94</sup> Greece had the lowest.

Internet or broadband connection. However, unlike computer ownership, it was found that no such association existed between having a broadband or Internet connection and social class (Pearson Chi-Square = 4.204,  $df = 2$ ,  $P = 0.122$ ).

For the most part, the findings on personal computer ownership and access to the Internet reiterate what has already been found in the literature (Robertson, Soopramanien and Fildes, 2007a; CSO, 2009) highlighting as they do that the majority of teens have a personal computer in their possession and are connected to the Internet. However, in relating these findings to the notion of a digital divide, it cannot be concluded for certain that one exists. Certainly, it is statistically established that those in the professional class are more likely to own one or more personal computers. However, it cannot be inferred from this relationship that those in the working classes are hindered in their access to personal computers. For example, the research did not seek to establish whether adolescents had access to a personal computer either through a school, a library or elsewhere. Indeed for some adolescents, gaining access to a personal computer may be relatively easy. Henceforth, under the traditional notion (Martin and Robinson, 2007), one could conclude that a divide exists given that 48% of those in working social classes compared to 72% in the middle classes had access to a personal computer in their home. As noted however, under modern conceptions (Alampay, 2006; van Dijk, 2006; Helsper, 2008), this argument may be deemed invalid.

#### **4.2.1.1 Personal Computer Location**

To date, there has been an absence of research that has specifically sought to establish the primary location of a personal computer in the family home. Of those available, both the bedroom (Stahl and Fritz, 2002) and more recently, the sitting room (Jansz,



Avis and Vosmeer, 2010) have been recognised as the location of choice for many families. This study sought both to establish the primary location of a personal computer in Irish homes and examine whether the location of the personal computer was directly related to the time spent using the Internet or a personal computer in general. The percentage of responses for each location is presented in Table 4.2.2 allied to the average time of use for Internet and general personal computer usage for both logbook and questionnaire.

**Table 4.2.2 Personal Computer Location against Time Spent Using Personal Computer and Internet<sup>9596</sup>**

<i>PC Location</i>	<i>Count (Quest)</i>	<i>Percent (Quest)</i>	<i>Mean PC Time (hours per-week) Questionnaire</i>	<i>Mean Internet Time (hours per-week) Questionnaire</i>	<i>Mean PC Time (hours per-week) Logbook</i>
<i>Sitting room</i>	131	34.3	4.49	5.07	2.46
<i>Kitchen</i>	39	10.2	5.13	4.52	4.17
<i>Your Bedroom</i>	96	25.1	6.75	6.7	3.37
<i>Dinning Room</i>	26	6.8	7	5.45	4.49
<i>Parents Bedroom</i>	28	7.3	3.5	3.33	1.91
<i>Brother/Sister Bedroom</i>	31	8.1	7.82	6.18	3.1
<b><i>Other</i></b>	<b>129</b>	<b>33.8</b>	<b>6.76</b>	<b>6.4</b>	<b>3.5</b>

The sitting room was found to be the most likely location for personal computer usage in the household (Chi-Square Goodness of Fit,  $P < 0.001$ )<sup>97</sup>. Following this was the bedroom. Remarkably, a quarter of those surveyed reported having a PC in their bedroom. The questionnaire findings relating to the time spent using personal computers indicate that whilst discounting for ‘other’, no statistical association existed for time spent at a particular location (Chi-Square Goodness of Fit,  $P = 0.791$ ). A similar finding was found for Internet usage times (Chi-Square Goodness of Fit,  $P =$

<sup>95</sup> Both ‘garage’ and ‘utility room’ responses were added to ‘other’ due to the small number of responses in each variable.

<sup>96</sup> ‘Quest’ refers to questionnaire responses.

<sup>97</sup> This statistic discounts the response of ‘other’ for reliability purposes.

0.924) and the recorded logbook details in relation to time spent using personal computers (Chi-Square Goodness of Fit,  $P = 0.914$ ). Interestingly, the highest times for personal computer use are found in locations where the least supervision from parents existed (for example, a siblings bedroom or dining room<sup>98</sup>). This is particularly clear in the times revealed in the questionnaire findings. Nonetheless, this finding is not statistically significant.

Given the absence of literature in this area, no comparison can be made in respect of the time spent using personal computers and where it is located. Having said this, a contrast can be made in respect of television usage. For instance, it is widely recognised that placing a television in the bedroom can result in a higher intensity of television usage (Gentile and Walsh, 2002; Livingstone, 2002; Van den Bulck, 2004; Mesch and Talmud, 2010; Rideout, Foehr and Roberts, 2010). Therefore, one could expect to find similar findings in respect of personal computer usage. In the case of this research however, although the times found would seem to infer a statistical relationship in this direction, no statistical association was in fact found. Therefore, it could not be concluded that location directly affects the time spent using a personal computer. In contrast to this finding however, it was confirmed that bedroom and the sitting room were the most likely location for the placement of a personal computer in the family home, hence confirming previous findings (Stahl and Fritz, 2002; Jansz, Avis and Vosmeer, 2010). The very nature of this finding coupled with the noticeable time differences in places of least parental supervision, begs the question of whether

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<sup>98</sup> The dining room is an area where food is consumed. In the context of this research, this area is expected to be an area where close parental supervision would not occur. By contrast, the sitting room is expected to be one of the busiest areas in the family home and therefore one of the most closely supervised.

parental mediation strategies exist in the home. This matter will be explored in a later sub-section.

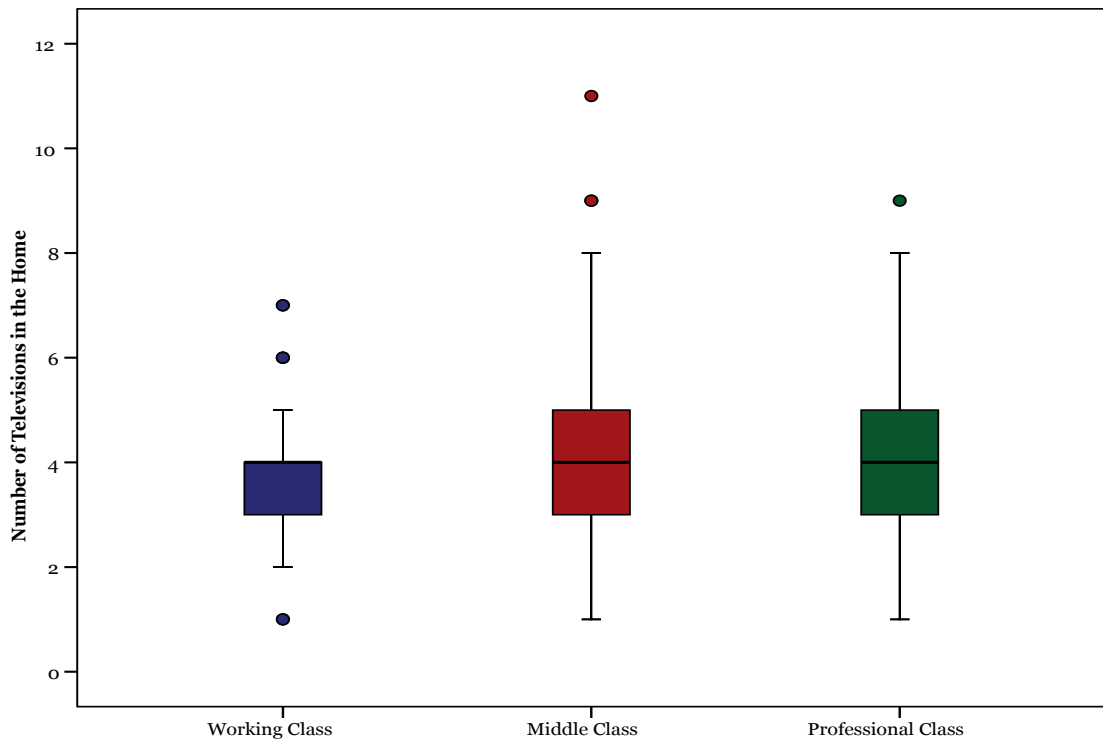
#### **4.2.2 Number of Televisions in the Home**

In total, 98% ( $n = 402$ ) of the research sample have one or more televisions in their home with the average number of televisions owned averaging four. No relationship was found ( $r = .599, P = 0.054$ )<sup>99</sup> between the number of televisions in the home and the time spent watching television. However, results clearly indicate that as social class increased, so too did the level of TV ownership (Spearman  $r = .149, P = 0.003$ ). Furthermore, in conducting a One-Way ANOVA to test the variance of means, it was found that there was a statistical difference in the number of televisions owned between the social classes (One-Way ANOVA,  $F(2, 396) = 4.143, P = 0.017$ ). Figure 4.2.1 details the average number of televisions owned by each of the social classes and the variance in the number of televisions owned between the groups. It can be seen from this figure that the greatest variation in ownership exists in middle class homes.

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<sup>99</sup> This statistic relates purely to Phase One questionnaire findings.

**Figure 4.2.1 Box plot: Mean number of Televisions by Social Class**



The general consensus in academic circles suggests that close to 100% of adolescents have access to a television (Connor, 2003; CSO, 2006b, Rideout, Foehr and Roberts, 2010). In fact, the average number of televisions per household has been found to be as much as four (Burns *et al.*, 2004; Jordan *et al.*, 2006) with many teens shown to possess a television in their bedroom (Amarach Research, 2008; Williams *et al.*, 2009). These findings are very much in line with the present results.

In recent years, it has become accepted that television ownership is universal and even those most deprived, still have access to this device. In fact, Masthoff (2002) suggests, that children of working class families are more likely to possess their own television as compared to children deriving from the middle and professional classes. Unlike that of computer ownership, research has established that those who have a television located in their bedroom are more likely to spend a greater period of time using the

device (Mesch and Talmud, 2010; Rideout, Foehr and Roberts, 2010). By contrast however, no relationship has been found between the number of televisions owned and the overall time spent watching television (Yalcin *et al.*, 2002; Marshal *et al.*, 2004; Spurrier *et al.*, 2008).

In this respect, it could be argued that the present findings contrast to some extent with what has already been established in the literature (Masthoff, 2002; Kent and Facer, 2004). Undoubtedly, while a clear statistical association was established between social class and the number of televisions owned, the fact remains that 98% of those surveyed still had possession of a TV. Consequently, one could not establish that digital divide exists in terms of access in this case. Likewise, given that no relationship was found between the number of televisions owned and the time spent watching television, it could be argued that social class disparities are therefore not relevant.

#### **4.2.2.1 Television Set-Up**

Following on from the previous section, respondents were next asked to detail the set-up, which they have on the main television in their home. Depicted in Table 4.2.3 are the responses to this question, along with the mean time which respondents spent watching television depending on the television set-up. Statistically, the most popular set-up is that of digital television (Chi-Square Goodness of Fit,  $P < 0.001$ ). Specifically, just short of 60% ( $n = 244$ ) of respondents report having digital television and of those who have digital television, over 53% ( $n = 130$ ) claim to have premium digital packages. The mean times reported for those possessing each television set-up are inconsistent. This however may be the result of a greater number of respondents detailing that they possess the basic digital television set-up. Alternatively, within

questionnaire responses, adolescents detailed their television activity for the previous week, while logbook responses recorded use over a specific time-log of one week.

Within the times reported for questionnaire responses, those who have standard channels are shown to spend the most time watching television weekly. By contrast however, logbook times suggest that the greatest time reported watching television is for those who have cable television<sup>100</sup>. Those individuals who possessed premium digital packages in general<sup>101</sup> spent more time watching television. No statistical association existed between family affluence and the main television set-up in the home (Pearson Chi-Square = 5.393, df = 6,  $P = 0.494$ ). That is to say, there is no statistical association between those who have digital television and social class.

**Table 4.2.3 Television Set-Up on Main TV in the Home**

<b>Television Set-Up (Main Television)</b>	<b>Percent</b>	<b>Mean Time Questionnaire (Minutes)</b>	<b>Mean Time Logbook (Minutes)</b>
Digital Television	59.6	711.05	893.82
Cable Television	19.2	725.07	895.60
Standard Channels	21.2	769.62	799.66
<b>Total</b>	<b>100.0</b>		
Digital Television Sports Package	18.8	830.76	759.83
Digital television Movies Package	12.9	840.63	895.89
<b>Total</b>	<b>31.7</b>		

#### **4.2.2.2 Television Location**

As presented in Table 4.2.4, it can be seen that the greatest percentage of televisions are located in the sitting room. This is reaffirmed statistically with a Chi-Square Goodness of Fit test which clearly indicates that this was the most likely location for a

<sup>100</sup> This is perhaps due to the differences in the methodological properties of logbooks and questionnaires. This issue will be addressed in 4.4.

<sup>101</sup> Logbook times for those who have a digital television sports package are less than the times reported for those with standard television set-ups.

television set in the family home (Chi-Square Goodness of Fit,  $P < 0.001$ ). Interestingly, 65% ( $n = 266$ ) of the sample report having a television in their bedroom. This is the second most popular location to have a television set in the home. A greater percentage of males (70%) than females (60%) report having a TV in their bedroom. In addition, no association was found between social class and the location of the television set within the home (Pearson Chi-Square = 13.344,  $df = 18$ ,  $P = 0.771$ )<sup>102</sup>. However, as socio-economic status increased, so too did the percentage of adolescents with a television in their bedroom with 59% ( $n = 33$ ) of those in the working class having a TV in their room compared to 65% ( $n = 146$ ) in the middle class and 68% ( $n = 85$ ) in the professional class. The observed percentages however are not statistically different (Chi-Square Goodness of Fit,  $P = 0.720$ ).

**Table 4.2.4 Television Location in the Home**<sup>103</sup>

<i>TV Location</i>	<i>Count (Questionnaire)</i>	<i>Percent (Questionnaire)</i>
<i>Sitting room</i>	394	96.6
<i>Kitchen</i>	153	37.5
<i>Your Bedroom</i>	266	65.2
<i>Dinning Room</i>	60	14.7
<i>Parents Bedroom</i>	232	56.9
<i>Brother/Sister Bedroom</i>	216	52.9
<b><i>Other</i></b>	<b>103</b>	<b>27.7</b>

It is clearly evident from the results found that social class has no effect on the location of a television set in the home. It would however seem from the results shown that males were more likely than females to have a television located in their bedroom. This may be due to males using the device for games console purposes. Conversely, it may be that females prefer to read or engage in other social behaviours when in their bedrooms. Bryce and Rutter (2003b) suggest that it is becoming increasingly evident

<sup>102</sup> This statistic discounted for 'other'.

<sup>103</sup> Due to the small number of responses, the locations of 'garage' and 'utility room' were removed from the responses and added to the 'other' category.

in recent years that children and adolescents have developed social and leisure routines, which increasingly involve spending time in their own domestic space. Moreover, many of the social activities which once took place outside the home are now occurring in the bedroom (Haddon, 2004) and sometimes through digital mediums (Horst, 2010). However, having taken into consideration the noted effects of possessing a television in the bedroom (Owens *et al.*, 1999; Dennison, Erb and Jenkins, 2002), one might expect that parents would be more safety conscious in this regard. Clearly however, given the number of teens shown in this research and indeed in previous studies to have a television in their bedroom, perhaps more could be done to educate parents on this matter.

#### **4.2.3 Games Console Ownership**

Respondents were queried on two aspects of games console ownership. Firstly, they were asked to detail if they currently have any type of games console in their household and secondly, should they have a games console in their home, to detail all the consoles which they had in their possession. The research found that just over 81% ( $n = 333$ ) of the research sample had a games console in their home. Given that the question was restricted to the household, a statistical test to measure a gendered difference would be irrelevant. Conversely, a test by social class was deemed more appropriate. In conducting this test, it was found that no association existed between social class and games console ownership (Pearson Chi-Square = 3.531,  $df = 2$ ,  $P = 0.171$ ).

In relation to the type of games console owned, respondents were asked to list each of the consoles, which they had in their home. The list of consoles provided was based on the most popular devices in the market at the time of the research. Table 4.2.5



illustrates the responses of the research participants to this question. As shown in this table, the Playstation®2 was the most popular device<sup>104</sup>. This was statistically confirmed following a Chi-Square Goodness of Fit Test ( $P < 0.001$ ). Of specific note, all three of the Sony consoles made up just over 50% of all responses.

**Table 4.2.5 Games Consoles in Household**

<i>Games Console</i>	<i>Number of Responses</i>	<i>Percentage Responses</i>
Playstation®	116	34.6
Xbox®	48	14.3
NINTENDO GAMECUBE™	22	6.6
Playstation®2	306	91.3
Game Boy Advance™	80	23.9
Xbox 360™	34	10.1
PSP™	93	27.8
Game Boy™ Color	82	24.5
Playstation®3	24	7.2
Wii™	17	5.1
Nintendo DS™	55	16.4

The findings outlined fall in line with previous academic studies (Amárach Consulting, 2004; Alexopoulos *et al.*, 2009). Added to this, Kerr (2003) identified that at one stage, Ireland had the highest per-capita ownership of the original Playstation® than anywhere in the world. Furthermore, the country also had a greater penetration of Playstation®2's than that of the UK. Therefore, it is unsurprising that the Playstation® and Playstation®2 were found to be the most common games consoles owned by the research sample. However, given that the Nintendo Wii™, the Xbox 360™ and Playstation®3 had only arrived on the market at the time of this research, this may have limited this finding. Nevertheless, the findings provide a clear illustration of the types of games consoles, which adolescents buy. Interestingly, portable games consoles did not seem to be too popular among adolescents. Perhaps these devices

<sup>104</sup> The Playstation®3, Xbox 360™ and the Nintendo Wii™ had just arrived on the market at the time of this study.

may be associated with younger children, which may have been off putting for older adolescents.

#### 4.2.4 Mobile Phone Ownership

It has been widely acknowledged in recent years that most if not all of adolescents own a mobile phone (de Róiste and Dinneen, 2005). Indeed, of those teens in possession of a mobile, the vast majority possess a pay as you go phone (Downey, Hayes and O’Neill, 2007). In line with these findings, the present study found that 99% ( $n = 406$ ) of the research sample own a mobile phone<sup>105</sup>. Moreover, of those who possess a mobile, 98% ( $n = 398$ ) possess a pay as you go system. The remaining 2% ( $n = 7$ ) possessed a bill phone. Additional statistical analysis established that the majority of teens purchased the phone themselves (Chi-Square Goodness of Fit,  $P < 0.001$ ), though sometimes a parent/guardian purchased a phone for the teen.

The research queried adolescents on the amount of money spent on mobile credit in an average week. Likewise, those who were bill pay customers were also asked to detail their average monthly bill. The results of this analysis are shown in Table 4.2.6.

**Table 4.2.6 Money Spent Maintaining Mobile Phone Usage**

<i>Mobile Phone Set-Up</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Pay as you go weekly credit (weekly)</i>	392	€0.00	€80.00	€11.53	€11.45
<i>Bill phone average bills (monthly)</i>	6	€5.00	€95.00	€37.50	€34.17

It can be seen from the above Table that the average amount of money spent weekly on pay as you go credit is €11.53. Conversely, bill pay customers spent an average of

<sup>105</sup> Given that such a large proportion of the research sample possess a mobile phone, any correlations between social class and gender would be invalid

€37.50 per-month. This figure broken down weekly was €9.37. Despite this lower figure, it must be noted that only six respondents reported being bill pay customers.

Further scrutiny of the data sought to examine whether any difference existed in credit-spent per-week between males and females<sup>106</sup>. A further test (Table 4.2.7) was conducted to measure whether there was any statistical difference in the amount of credit-spent per-week by those who had a part-time job. It was found from these statistical tests that there was no statistical difference between gender and credit use. However, a statistical difference in credit used per-week between those who had a part-time job and those who did not was established with those who have a part time job, statistically spending more credit per-week.

Additional statistical analysis sought to measure whether any statistical variance or association existed between social class and phone-credit used weekly<sup>107</sup>. The first test conducted was a One-Way ANOVA. The results of this test showed no variances in phone-credit used between the social classes (One-Way ANOVA,  $F(2, 387) = .230$ ,  $P = 0.795$ ). Following this, a Spearman Rho correlation was performed to measure any association between social class and credit spent weekly. In a similar fashion to the latter test outlined, no significant  $P$  value was unearthed (Spearman  $r = .017$ ,  $P = 0.736$ ).

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<sup>106</sup> Due to the small number of bill pay customers, any association found would be insignificant.

<sup>107</sup> Again, due to the small number of bill pay customers, any association found would be insignificant.

**Table 4.2.7 T-test on Credit Spent Weekly Against Gender and Part-Time Employment<sup>108</sup>**

<i>Group Statistics</i>				<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (2-tailed)</i>
<b><i>Gender</i></b>								
<b>Male</b>	210	10.91	11.717	EQA	0.173	0.678	-1.151	0.250
<b>Female</b>	182	12.24	11.120	EQNA			-1.156	0.249
<b><i>Have job in part-time employment</i></b>								
<b>Yes</b>	179	13.24	12.194	EQA	13.835	0.000	2.67	0.008
<b>No</b>	211	10.15	10.630	EQNA			2.64	0.009

The above findings concur with previous suggestions in the literature (de Róiste and Dinneen, 2005). In addition, the present findings on credit spending are very much in line with both Irish and international research (Davie, Panting and Charlton, 2004; Downey, Hayes and O'Neill, 2007), though the focus of this earlier research was on a younger demographic than used in the present survey. The fact that most teenagers possess a pay as you go phone may be a reflection of parental mediation factors. For example, once credit has run out, the adolescent is limited in his or her use of the phone. At the same time, a parent or guardian may still be able to contact their children. Having said this however, it has been found that the majority of Irish children spend most of their weekly pocket money on phone-credit (Nutrition and Health Foundation, 2005). Indeed, one of the primary reasons for searching for part-time employment by Irish teens was for phone subsidy purposes (Byrne *et al.*, 2006). In this case, parents may be limited in their control of their children's mobile phone use.

<sup>108</sup> EQA stands for equal variances assumed and EQNA stands for equal variances not assumed.

### 4.3 ICT Use

Lizzy is sitting down to do her school homework on a Sunday evening. After a quick game of Solitaire on her personal computer, she decides to look up information for her homework using the Internet. While browsing the web, Lizzy instant messages a friend from her class on MSN<sup>109</sup> regarding the information which she used to complete the assignment and where she found it. She also posts an angry message on her Social Network account detailing how she hates doing school homework on a Sunday. Upon completing her assignment Lizzy decides to play a game of FIFA against her younger brother. Later that night, she rings her friend to find out gossip about her prior nights activities.

Adolescents rarely use the Internet for one sole purpose and quite often carry out a variety of tasks in one session. Additionally, communication with the outside world is available through a number of avenues. In the case of the above narrative, Lizzy communicates her feelings through her Social Network account, she asks questions about her homework through her MSN account and she finds out gossip about her friends through her mobile phone. During the course of this research, numerous adolescents made reference to the multitude of activities they would pursue instantaneously. These observations appear to indicate that adolescent's multi-task whilst using ICTs on a regular basis. For example:

"I use Bebo a few times a week...I use MSN too...I use it at the same time as Bebo...I probably use it more than Bebo...I also go onto You Tube or do some homework on the computer..." (Female, 16 years old);

"I generally sit at home and watch television...I also talk to my friends on MSN and use Bebo...See my computer is in the sitting room so I get the best of both worlds..." (Female, 15 years old);

"Yeah, I have the Internet...I use it every day...do loads of things really...mostly listen to music and check out the ladies on Bebo...you know yourself...a bit of window shopping...I generally have a chat with the lads on MSN now and again...to see what's the story...I watch the odd video as well...most nights I'd be watching a film in my room while using my laptop or playing football manager" (Male, 16 years old).

The results of this section expand on these observations highlighting the extensive use of personal computers and the Internet by adolescents. What is more, they illustrate

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<sup>109</sup> MSN is an instant messaging program.

the specific uses of both mobile phones and games consoles. These findings shall now be highlighted and discussed.

### 4.3.1 Personal Computer Usage

Table 4.3.1 illustrates the popularity of personal computer use among adolescents. It can be seen from this Table that of those who have a personal computer in their household, just over 91% ( $n = 352$ ) use it for some purpose. Females (92%) report a slightly higher usage than their male (91%) counterparts, however, this difference is small and not significant (Pearson Chi-Square = .340,  $df = 1$ ,  $P = 0.345$ ).

**Table 4.3.1 Personal Computer Usage by Gender**

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<b>Valid</b>	<b>Yes</b>	352	85.9	91.4	91.4
	<b>No</b>	33	8.0	8.6	100
	<b>Total</b>	385	93.9	100	
<b>Missing</b>		25	6.1		
<b>Total</b>		410	100		
		<b>Male Responses</b>		<b>Female Responses</b>	
		<b>Count</b>	<b>Percent</b>	<b>Count</b>	<b>Percent</b>
<b>Valid</b>	<b>Yes</b>	184	90.6	168	92.3
	<b>No</b>	19	9.4	14	7.7

To discover how adolescents used their computers, it was asked of respondents to detail in no particular order the main activities which they use their personal computer for. Table 4.3.2 illustrates the information found as a result of this question.

**Table 4.3.2 Personal Computer Purpose of Usage**

<i>Main Personal Computer Usage</i>		<i>Male Personal Computer Usage</i>		<i>Female Personal Computer Usage</i>	
School Homework	<b>21%</b>	Internet	<b>21%</b>	School Homework	<b>26%</b>
Internet	<b>18%</b>	School Homework	<b>16%</b>	Social Network	<b>18%</b>
Social Network	<b>15%</b>	Games	<b>13%</b>	Internet	<b>16%</b>
Music	<b>10%</b>	Music	<b>12%</b>	MSN	<b>10%</b>
Games	<b>9%</b>	Social Network	<b>12%</b>	Music	<b>7%</b>
MSN	<b>8%</b>	MSN	<b>7%</b>	E-Mail	<b>6%</b>
E-Mail	<b>4%</b>	Socialising	<b>4%</b>	Games	<b>5%</b>
Socialising	<b>3%</b>	Word Processing	<b>3%</b>	Photos	<b>5%</b>
Word Processing	<b>3%</b>	E-Mail	<b>3%</b>	Word Processing	<b>4%</b>
Photos	<b>3%</b>	Entertainment	<b>2%</b>	Socialising	<b>1%</b>
Entertainment	<b>2%</b>	Photos	<b>1%</b>	Other	<b>2%</b>
Software Programs	<b>1%</b>	Software Programs	<b>1%</b>		
Other	<b>3%</b>	Other	<b>5%</b>		
(n = 352)	<b>100%</b>		<b>100%</b>		<b>100%</b>

A total of 45% of usage is made up of Internet required activities, normally SNSs, MSN and e-mail. Within the top three responses of each category, it can be seen that both Internet and school homework feature consistently. This finding is similar to those cited by Roberts *et al.* (1999). While third in the overall rankings and second in the female standings, it is interesting to note that Social Network usage is only ranked as fifth amongst males. Unsurprisingly however, game play is third. This has been highlighted both in Irish (de Róiste and Dinneen, 2005; Lalor, de Róiste and Devlin, 2007) and international (Ho and Lee, 2001; Colley and Comber, 2003; Gentile *et al.*, 2004; Stratton, Conn and Smallacombe, 2005) studies as a more popular activity amongst males. A series of Chi-Square Goodness of Fit tests performed on this data revealed that there was a statistically significant association between gender and use of their personal computer. Figures show that males were most likely to use their personal computer for general browsing on the Internet ( $P < 0.001$ ), while females were most likely to use their computer for homework purposes ( $P < 0.001$ ). Perhaps, it

could be argued that adolescents, who are using a personal computer for school homework purposes, may be using the Internet to do this via their personal computer. This argument is further elaborated in 4.3.2.

### **4.3.2 Internet Usage**

In recent years, numerous studies have analysed the daily patterns of Internet usage amongst adolescents, focusing not only on the activities which they perform online, but also on the amount of time and content of the activities they engage in (Prezza, Pacilli, and Dinelli, 2004; Ó Briain and Nitting-Fulin, 2009; Livingstone *et al.*, 2011). This study reviews both the time and type of activity online. Furthermore, in the latter half of this Chapter, the context of Social Network Site activity shall also be reviewed.

To start with however, the type of activities adolescents engaged in was reviewed. The research participants were provided with a selection of common Internet activities and asked to select the activities most appropriate to their situation. As illustrated in Table 4.3.3, it can be seen that amongst the activities specified, the use of SNSs was common (Chi-Square Goodness of Fit,  $P < 0.001$ ). This was the case for both male (Chi-Square Goodness of Fit,  $P < 0.001$ ) and female (Chi-Square Goodness of Fit,  $P < 0.001$ ) Internet usage. However, with two SNSs listed in the top ten Internet sites most visited in Ireland at the time of this survey (Alexa, 2009), it is no surprise that Social Network activity is the most prominent activity.



**Table 4.3.3 Most Common Internet Activities**

<i>Internet Activity</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>	
	<b>Count</b>	<b>Percent</b>	<b>Count</b>	<b>Percent</b>	<b>Count</b>	<b>Percent</b>
<b>Homework research</b>	218	58.4	99	49.5	119	68.8
<b>Social Networks</b>	278	74.5	145	72.5	133	76.9
<b>Chat rooms</b>	207	55.5	103	51.5	104	60.1
<b>E-mail</b>	176	47.2	79	39.5	97	56.1
<b>General browsing</b>	156	41.8	93	46.5	63	36.4
<b>Play games</b>	136	36.5	96	48	40	23.1
<b>Buying items/shopping</b>	98	26.3	59	29.5	39	22.5
<b>Downloading software/Music</b>	176	47.2	106	53	70	40.5
<b>Other</b>	21	5.6	13	6.5	8	4.6
<b>Number of Responses</b> <i>(n = 385)</i>	<b>1,466</b>		<b>793</b>		<b>673</b>	

Homework research, which was highlighted earlier (4.3.1) as the main activity of computer use for females, again yielded a high percentage. Results indicated a direct association between homework research and gender, signifying that females were more likely to use the Internet for this purpose (Pearson Chi-Square = 13.503, df = 1,  $P < 0.001$ ). Further statistically significant associations were found between gender and e-mail use (Pearson Chi-Square = 10.089, df = 1,  $P < 0.001$ ), general browsing (Pearson Chi-Square = 3.308, df = 1,  $P = 0.043$ ), playing games (Pearson Chi-Square = 22.802, df = 1,  $P < 0.001$ ) and downloading software/music (Pearson Chi-Square = 4.965, df = 1,  $P = 0.017$ ). However, these results signified a statistical association in the alternative direction showing that males were less likely to use e-mail and females unlikely to play games, download music/software or embrace general browsing. The output of these results is illustrated in Table 4.3.4.

**Table 4.3.4 Association between Gender and Internet Activity**

<i>Internet Activity Variables</i>	<i>Male</i>		<i>Female</i>		$\chi^2$ value	<i>Pearson</i> $\chi^2$ df	<i>Sig.</i>
	<i>Yes%</i>	<i>No%</i>	<i>Yes%</i>	<i>No%</i>			
<b>Homework research</b>	44.8	55.2	<b>63.0</b>	37.0	13.503	1	<b>0.000</b>
<b>Social Networks</b>	65.6	34.4	70.4	29.6	1.057	1	0.178
<b>Chat rooms</b>	46.6	53.4	55.0	45.0	2.889	1	0.055
<b>E-mail</b>	35.7	<b>64.3</b>	51.3	48.7	10.089	1	<b>0.001</b>
<b>General browsing</b>	42.1	57.9	33.3	<b>66.7</b>	3.308	1	<b>0.043</b>
<b>Play games</b>	43.4	56.6	21.2	<b>78.8</b>	22.802	1	<b>0.000</b>
<b>Buying items/shopping</b>	26.7	73.3	20.6	79.4	2.058	1	0.093
<b>Downloading software/Music</b>	48.0	52.0	37.0	<b>63.0</b>	4.965	1	<b>0.017</b>

Similar to the above findings, Livingstone *et al.* (2011) postulates that using the Internet for school homework purposes, rates as the top online activity for children across Europe. Unlike the present research however, Livingstone *et al.* (2011) found no gender differences in Internet usage. Livingstone *et al.* (2011) does however indicate that this is somewhat surprising as general trends would seem to point towards general tastes and interest differences between boys and girls as was evident in the present findings. However, Livingstone *et al.* (2011) attests that despite this, boys did demonstrate a slightly wider repertoire of online activities for which games played a major part. Use of SNSs was also evident both in the Livingstone *et al.* (2011) research and that of Ó Briain and Nitting-Fulin (2009). The above results reaffirm these earlier and later findings. As suggested by Livingstone *et al.* (2011), SNSs are the fastest growing Internet activity among youth. Therefore, it comes as no surprise that the vast majority have a Social Network account.

### **4.3.3 Games Console Usage – Games Played**

Having already queried games console ownership, the research questionnaire sought to question the research participants on the type of games that they played. This question in particular sought to find out the nature of the games that were being played most

often, for example violent, active participant or strategy games. Moreover, the research sought to find out whether games console users were playing games by themselves or with friends. Illustrated in Table 4.3.5, it can be seen what type of games were played most often by the research sample.

Both 'sport games' and 'violence, crime and action' orientated games feature prominently amongst the male sample group. By contrast there was a greater variety of game types played among females. Within the top five responses for males, there are three sports games, which are featured among responses. Amongst female responses, there is a combination of multiple genres. Interestingly, male game play featured in Table 4.3.5 did not detail any interactive or active games whereas female game play did. Furthermore, of the games cited in Table 4.3.5, some 62% of the games were played on the Playstation®2 console, while only 2% were played on the Nintendo Wii™. This may of course be due to the limited amount of time in which the latter console was available on the market at the time of this study. When analysing the manner in which the research sample played these games it was found that 36% play alone, 22% play with friends and the remainder play with both friends and themselves (42%). No statistical association was found between gender and the manner in which they played video games (Pearson Chi-Square = 6.639, df = 3,  $P = 0.084$ ).

**Table 4.3.5 Games Played on Games Consoles<sup>110</sup>**

<i>All Responses</i>		<i>Male Responses</i>		<i>Female Responses</i>	
Fifa	11%	Fifa	15%	Sims	9%
Need for Speed	10%	Need for Speed	11%	Grand Theft Auto	9%
Grand Theft Auto	9%	Grand Theft Auto	10%	Need for Speed	8%
Pro Evolution Soccer	7%	Pro Evolution Soccer	9%	Crash Bandicoot	6%
Sims	3%	Tiger Woods	4%	Fifa	5%
Tiger Woods	3%	Medal of Honour	3%	Singstar	5%
Crash Bandicoot	2%	Gears of War	3%	Simpsons	3%
Gears of War	2%	Final Fantasy	2%	Super Mario	3%
Medal of Honour	2%	Timesplitters	2%	Lord of the Rings	2%
Final Fantasy	2%	Smackdown Vrs Raw	2%	Tomb Raider	2%
Singstar	2%	Halo	2%	Buzz	2%
Smackdown Vrs Raw	2%	Tekken	2%	Eye Toy	2%
Tekken	2%	Killzone	1%	Metal Gear Solid	2%
Timesplitters	2%	Madden NFL	1%	Pro Evolution Soccer	2%
Halo	1%	Gran Turismo	1%	Harry Potter	2%
Lord of the Rings	1%	Hitman	1%	Tony Hawks	2%
Simpsons	1%	Call of Duty	1%	Tekken	1%
Super Mario	1%			Wii Sports/Play	1%
Buzz	1%			Gran Turismo	1%
Tony Hawks	1%			Dance Mat	1%
Gran Turismo	1%				
Metal Gear Solid	1%				
<b>Game Types<sup>111</sup></b>					
<i>Violent, Crime &amp; Action</i>	21%	<i>Violent, Crime &amp; Action</i>	27%	<i>Violent, Crime &amp; Action</i>	11%
<i>Sport Games</i>	22%	<i>Sport Games</i>	29%	<i>Sport Games</i>	8%
<i>Car Racing Games</i>	11%	<i>Car Racing Games</i>	12%	<i>Car Racing Games</i>	9%
<i>Strategy Games</i>	6%	<i>Strategy Games</i>	2%	<i>Strategy Games</i>	11%
<i>Interactive/Active Game</i>	3%	<i>Interactive/Active Game</i>	0%	<i>Interactive/Active Game</i>	10%
<i>Adventure</i>	4%	<i>Adventure</i>	0%	<i>Adventure</i>	16%

In general the present results find no anomalies with previous academic studies. For instance, the most popular games played by female adolescents have also been shown to be the likes of ‘The Sims’ and ‘Grand Theft Auto’ (Olson *et al.*, 2007). What is more, action/combat games and sport-orientated games were also deemed to feature

<sup>110</sup> A number of game responses have been removed from this table due to their small value, hence why the values do not add up to 100% in total. Specifically, those games which represented less than 1% of responses, were removed from the table.

<sup>111</sup> The game type percentages shown represent the total percentage of responses of that game type present in the current table.

highly among adolescents (The Kaiser Family Foundation, 2002) and in particular among males. Perhaps this difference in taste in relation to games played is linked to gender persona disparities. Males for example might have a natural preference for violent games, whereas females may be more predisposed towards less competitive and more reserved games (Bryce and Rutter, 2003a). That being said however, 'Grand Theft Auto' is perhaps one of the most violent games of its era and it is interesting that both this research and other research in the area (Olson *et al.*, 2007) identified this game as a popular choice among females. On a whole however, female game play as shown in the current findings was largely embedded in adventure and interactive game play. Therefore, it is hard to draw any conclusions from this suggestion. Likewise, while the present findings indicate that no association exists between gender and the manner in which adolescents play games, other studies have found that males were in fact more likely to play games consoles by themselves (Olson *et al.*, 2007).

#### **4.3.4 Purpose of Mobile Phone Use**

The final analysis on mobile phones sought to review how adolescents use these devices. In doing so, respondents were asked to detail from a selection of examples what it is they use their mobile phone for the majority of the time. The results found that the most prominent reason, for which adolescents use their mobile, was to 'text friends' (Chi-Square Goodness of Fit,  $P < 0.001$ ). Texting boyfriend/girlfriend served as the next most important function (36%), followed jointly by 'to call family' (32%) and 'to socialise' (32%). Interestingly, 12% of respondents reported using their mobile phone for 'safety' purposes.

**Table 4.3.6 Main Purpose of Mobile Phone Use by Gender**

<i>Mobile Phone Use</i>	<i>Male</i>		<i>Female</i>	
	<i>Count</i>	<i>% Response</i>	<i>Count</i>	<i>% Response</i>
<i>Text Friends</i>	151	69.9	147	78.2
<i>Convenience</i>	54	25.0	38	20.2
<i>Socialising</i>	73	33.8	57	30.3
<i>Text Family</i>	62	28.7	50	26.6
<i>Safety</i>	24	11.1	26	13.8
<i>Call Family</i>	70	32.4	60	31.9
<i>Text Boyfriend/Girlfriend</i>	82	38.0	65	34.6
<i>Call Friends</i>	77	35.6	44	23.4
<b><i>Other</i></b>	<b>12</b>	<b>5.6</b>	<b>1</b>	<b>0.5</b>

As can be seen in Table 4.3.6 above, both males and females specify that ‘texting friends’ is the foremost use of their mobile phone and this is significant to the  $P < 0.001$  level (Chi-Square Goodness of Fit) for both genders. In respect of the other responses shown, there is in general a very small difference between each gender. The main differences of note are that of ‘calling friends’ (males 35.6% versus females 23.4%) and ‘texting friends’ (males 69.9% versus females 78.2%). As inferred from that latter finding, females report greater use of their mobile phone for texting. In addition to this, added analysis of the data shows that females statistically send more text messages than males’ per-day (Independent Sample t-test, M.D. = -13.461,  $t = -4.417$ ,  $P < 0.001$ ). Specifically, it was found that on average females sent 28.55 text messages per-day compared to just 15.08 for males. Further analysis revealed that those who have a part-time job send more text messages per-day than those who do not (Independent Sample t-test, M.D. = -14.260,  $t = 4.668$ ,  $P < 0.001$ ). This however, is not surprising given that this group statistically used more credit per-week as highlighted earlier. Finally, in conducting a One-Way ANOVA on the data, it was found that no variance in text messages sent per-day existed between the social classes (One-Way ANOVA,  $F(2, 373) = .217$ ,  $P = 0.805$ ).

Concurrent with previous research (Netsafe, 2005; de Róiste and Dinneen, 2005), the use of the mobile phone for texting purposes is clearly evident in the present findings. What is more, the current results conform to suggestions that females are the more likely to use their phone for such purposes and send more text messages on average per-day (Faulkner and Culwin, 2005; Ling, 2005; Barron and Ling, 2007). Perhaps this may be a reflection of a greater need for social communication and gossip among females (Levin and Arluke, 1985; McAndrew, Bell and Garcia, 2007). For example, in the previous sub-section, females in general spend more money on their mobile phones than their male counterparts therefore apparently socialising more. Interestingly, it has been suggested in the literature that one of the primary reasons for parents allowing their children to possess a mobile phone is for safety purposes (Srivastava, 2005). Despite this, the present research and indeed other academic Irish studies (de Róiste and Dinneen, 2005) have found that only one in every ten of adolescents express safety as a reason for owning a mobile phone.

#### **4.4 Time Spent Using ICT Devices**

Mark, an avid user of various ICT devices spends a large portion of his time after school using his personal computer and playing computer games on his Playstation®3. In general, Mark may spend anywhere from between two to three hours per-day using a combination of his personal computer and the Internet, his games console and watching television. Some days, he spends less time as a result of both watching television and surfing the Internet at the same time. For the most part however, Marks daily leisure routines are immersed in the use technological paraphernalia. Though Mark is a keen Rugby player and trains more than four times per-week, he always makes time to embrace his digitised leisure pursuits.

Sarah, Marks friend, is also a devoted user of specific ICT devices. Sarah enjoys socialising with her friends on the Internet and watching her favourite soaps on the television. In an average school day, Sarah too may spend anywhere between two to three hours engrossed in ICT pursuits. For instance, on a typical Monday night after school, Sarah spends a considerable amount of time browsing the Internet while instant messaging her friends and updating her Social Network account. Later that evening she will gear herself up to watch her favourite television programmes, Greys Anatomy and Desperate Housewives. To Sarah, there is a big social element to these programmes and it is important to know what is happening for conversation purposes.

The detailed narratives provide a characteristic insight into the amount of time which adolescents spend using various ICT paraphernalia. Within both narratives, it can be seen how teens expend a sizeable proportion of their leisure time utilising ICT devices. For boys like Mark, using games consoles provides a credible means of entertainment and social participation with friends in online activated games. Conversely, for girls like Sarah, gossip and social practices form an important element of her daily ICT usage patterns. Quite often the use of ICTs supplement female adolescents social credibility in that they have a mechanism in which to socialise with their peers and discuss various topical matters which in many cases relate to television programmes. As a direct consequence of this, girls and adolescents in general, tend to spend a substantial amount of time using ICTs.

The findings to be detailed clearly illustrate the prominence of such leisure pursuits in the daily lifestyle patterns of adolescents. The data presented derives from both methodologies<sup>112</sup> (questionnaire and logbook) utilised in Phase One of the research. It must be noted however, that the logbook did not measure Internet usage due to complications in accurately recording the time spent online<sup>113</sup> however; the standardised questionnaire did endeavour to measure this variable (Marshall *et al.*, 2002). Prior to outlining the findings arrived at from this analysis, it must be noted that any differences in time found between both methodologies must be acknowledged in the context of the methodology which measured this variable. For example, it has been suggested that time differences between logbook and memory recall questionnaires could be attributed to the fact that in completing the logbook,

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<sup>112</sup> As referred to in the Methodology Chapter, the research measured time at particular behaviours using a logbook and standardised questionnaire (Marshall *et al.*, 2002).

<sup>113</sup> While the logbook did not measure overall Internet activity, it did set about measuring the time spent engaged on SNSs. It was felt that measuring too many aspects of Internet use could confuse the survey participants.



adolescents had a greater awareness of the time they spent using a particular device having recorded their activities so close to their completion. Conversely, when filling out the questionnaire, they had to consider how much time they had spent engaged in an activity in the previous week from memory (Conrath, Higgins and McClean, 1983; van den Brink, Bandell-Hoekstra and Huijer Abu-Saad, 2001). According to Coxon (1999), questionnaire data will consistently yield higher average estimates than diary accounts. However, while she accounts that a diary method is likely to be a more accurate means of analysis than memory recall questionnaire data, she acknowledges that they are strongly correlated. This point should be taken into careful consideration when interpreting the results presented in the remainder of this section. The results obtained shall now be presented and discussed.

#### **4.4.1 Time Spent Using Personal Computer & Internet**

Table 4.4.1<sup>114</sup> portrays an Independent Samples t-test conducted on data retrieved from both the questionnaire and logbook on time spent by male and female adolescents using a personal computer per-week. The mean time spent by both genders per-week using a computer according to questionnaire findings was 6 hours and 39 minutes. By contrast, logbook findings were 3 hours and 7 minutes per-week. Broken down by per-day usage, these figures equated to 56 minutes for questionnaire times and 26 minutes per-day for logbook times respectively. Furthermore, broken down by gender and approach, it is found that males and females equally spend an average of 56 minutes per-day according to the questionnaire method, whereas males spend 29 minutes per-day compared to 24 minutes for females as recorded using the logbook methodology.

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<sup>114</sup> While the logbook is often regarded as a much more accurate means of analysis (Conrath, Higgins and McClean, 1983; Bryman, 2004), the results should be viewed cautiously given the smaller number of adolescents surveyed using this technique. Allied to this, the logbook was an actual recording throughout the week, whereas the questionnaire was an average recording from memory over a previous week.

**Table 4.4.1 T-test on Time Spent Using Personal Computer by Gender**

<i>Group Statistics</i>				<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (2-tailed)</i>
<b>Logbook</b>								
<b>Male</b>	23	208.173	211.589	EQA	3.347	0.073	0.756	0.453
<b>Female</b>	35	173.914	134.300	EQNA			0.690	0.495
<b>Questionnaire</b>								
<b>Male</b>	140	399.679	380.721	EQA	1.381	0.241	0.006	0.995
<b>Female</b>	137	399.380	456.080	EQNA			0.006	0.995

As evidenced from the above Table, no statistically significant difference was found for both male and female personal computer usage times for either methodology. From a socio-economic perspective, it was analysed whether any difference existed between the time spent using a personal computer and that of their social class. Table 4.4.2 illustrates a One-Way ANOVA which was conducted on the data to measure any such variance, which might exist between the social classes. As can be seen in the Table, no variance existed, with both logbook ( $P = 0.286$ ) and questionnaire ( $P = 0.749$ ) both yielding a statistically insignificant result.

**Table 4.4.2 ANOVA: Socio-Economic Status and Time Spent Using Personal Computer**

<i>One-Way ANOVA</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<b>Logbook</b>	<i>Between Groups</i>	1196.28	2	598.14	1.279	0.286
	<i>Within Groups</i>	25711.62	55	467.459		
	<i>Total</i>	26907.84	57			
<b>Questionnaire</b>	<i>Between Groups</i>	102246.191	2	51123.095	0.289	0.749
	<i>Within Groups</i>	48219194.03	273	176627.084		
	<i>Total</i>	48321440.22	275			

As outlined in the introduction to this section, time spent online was only measured using the questionnaire. Similar to computer use, an Independent Samples t-test and

One-Way ANOVA was carried out on the data. From these tests, it was found that no statistically significant relationship existed between time spent online and gender (Independent Sample t-test,  $M.D. = -36.103$ ,  $t = -.970$ ,  $P = 0.333$ ) and socio-economic status (One-Way ANOVA,  $F(2, 292) = .718$ ,  $P = 0.489$ ). Specifically, results revealed that adolescents spent on average 6 hours and 1 minute online per-week. In breaking these figures down further, it was established that adolescents spend on average 51 minutes online per-day. Analysed by gender, the results indicate that males spend on average 49 minutes online per-day whereas females spend 54 minutes. Perhaps it could be suggested from these findings, that any time in which adolescents use their personal computers, they spend the bulk of this time online. That being said, while this suggestion has been supported in the literature (Stahl and Fritz, 2002), more research would be required to clarify this evocation.

Due to the limited evidence available on Irish adolescents and the time which they spend using personal computers (Kuntsche, Overpeck and Dallago, 2008); it is hard to draw inferences from the data presented. Internationally however (Ho and Lee, 2001; Parriarca *et al.*, 2009), it would seem from the present results that Irish teens are less intensive users of personal computers. In relation to Internet usage times, it would appear that the results found are in line with previous Irish studies (European Commission, 2007). Interestingly, if one were to combine the mean questionnaire times found for both personal computer and Internet use, coincidentally the results of this research would fall in line with the time suggested for personal computer use as purported by Parriarca *et al.* (2009). That being said, it might have been that the latter study actually included Internet use in questioning this matter. In respect of gender disparities, no statistical differences were found in this research. This also seems to be

the case internationally for personal computer usage (Ho and Lee, 2001; DeBell and Chapman, 2006). With regard to Internet use however, the matter is open to dispute with numerous studies finding conflicting results (Schumacher and Morahan-Martin, 2001; European Commission, 2007). Consequently it is hard to draw comparisons from the present findings.

#### **4.4.2 Time Spent Using Games Consoles**

The time which adolescents spend using games consoles was measured in the same manner to that of personal computer and Internet use. The questionnaire results shown in Table 4.4.3, found that 53% ( $n = 118$ ) of males and 18% ( $n = 35$ ) of females spent time using a games console during an average week. From this Table, it can be seen that there is a statistically significant difference in the time spent between both genders using games consoles. This difference is similar in both questionnaire and logbook results, both of which unearth a  $P$  value less than the 0.05 level. Logbook findings established that on average adolescents spent 3 hours and 46 minutes per-week using their games console. Questionnaire findings on the other hand are higher at 5 hours and 31 minutes per-week. This equates to an average of 32 minutes per-day use according to logbook results and 47 minutes per-day use according to questionnaire findings. In respect of gender, logbook results suggest that males spend 36 minutes per-day using a games console compared to just 15 minutes per-day for females. Conversely, questionnaire results find that males spend on average 52 minutes per-day using a games console compared to 30 minutes for females. As cautioned earlier, one should be prudent in reflecting on the mean times illustrated given the difference in methodological approaches. However, their relevance should not be discarded.

**Table 4.4.3 T-test on Time Spent Using Games Console by Gender**

<i>Group Statistics</i>				<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (2-tailed)</i>	
<b><i>Logbook</i></b>								
<b>Male</b>	34	258.141	244.213	EQA	4.842	0.033	1.822	0.076
<b>Female</b>	9	106.666	77.741	EQNA			3.076	0.004
<b><i>Questionnaire</i></b>								
<b>Male</b>	118	366.932	360.102	EQA	10.63	0.001	2.4	0.018
<b>Female</b>	35	211.285	241.202	EQNA			2.962	0.004

Further analysis evaluated the effect if any, which social class may have on time spent using a games console. In doing so, a One-Way ANOVA statistical test (Table 4.4.4) was carried out on the data. This test shows with respect to both methodological approaches that no statistically significant difference exists between time spent using games consoles and social class. Furthermore, a Spearman Rho correlation reaffirmed this finding by showing no association between social class and time spent using a games console for both questionnaire and logbook (Spearman  $r = -.004$ ,  $P = 0.958$ ; Spearman  $r = .044$ ,  $P = 0.778$ ).

**Table 4.4.4 ANOVA: Socio-Economic Status and Time Spent Using Games Console**

	<i>One-Way ANOVA</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<b><i>Logbook</i></b>	<i>Between Groups</i>	1558.073	2	779.037	0.014	0.986
	<i>Within Groups</i>	2178191.6	40	54454.791		
	<i>Total</i>	2179749.7	42			
<b><i>Questionnaire</i></b>	<i>Between Groups</i>	48234.582	2	24117.291	0.203	0.816
	<i>Within Groups</i>	17681473	149	118667.601		
	<i>Total</i>	17729707	151			

To date, numerous academics have found that males are more persistent and intensive users of games consoles compared to their female counterparts (McMurray *et al.*,

2000; Connor, 2003; de Róiste and Dinneen, 2005; Downey, Hayes and O'Neill, 2007; The Nielsen Company, 2009; Rideout, Foehr and Roberts, 2010). The present findings affirm these suggestions. The results clearly illustrate a statistical difference in male and female time spent using games consoles and furthermore, this is reaffirmed statistically on both methodologies. What is more, the average times reported for male and female intensity of use fall in line with international findings (The Nielsen Company, 2009; Rideout, Foehr and Roberts, 2010) suggesting as they do that teenagers spend anywhere from 15 minutes to 50 minutes per-day using a games console dependant on gender. Presently, there is an absence of literature, which examines the possible effect of social class on time spent using games consoles. The present study contributes to this deficiency, highlighting as it does that no relationship in fact exists.

#### **4.4.3 Time Spent Watching Television**

Similar to personal computer and games console time measurements, the same methods of analysis were again utilised in measuring the time spent watching television. According to logbook responses, adolescents spent 13 hours and 58 minutes per-week watching television, which broke down to an average of 1 hour and 59 minutes per-day. Conversely, questionnaire responses amounted to an average of 12 hours and 6 minutes weekly, and an average daily use of 1 hour and 43 minutes per-day.

Males report greater viewing times than females in the logbook results whereas females have higher viewing times than males in the questionnaire responses<sup>115</sup>. For example, logbook responses ( $n = 98$ ) indicate that males ( $n = 45$ ) spent an average of 2

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<sup>115</sup> A reason for this disparity may be due to the difference in sample size for each methodology.

hours and 9 minutes per-day watching television compared to 1 hour and 56 minutes per-day for females ( $n = 53$ ). By contrast, questionnaire results suggest that males ( $n = 158$ ) spend 1 hour and 37 minutes per-day watching television compared to 1 hour and 49 minutes per-day for females ( $n = 170$ ). Both questionnaire (Independent Sample t-test,  $M.D. = -88.41891$ ,  $t = -1.526$ ,  $P = 0.128$ ) and logbook (Independent Sample t-test,  $M.D. = 92.58164$ ,  $t = 1.083$ ,  $P = 0.281$ ) results however yield no statistically difference between the genders as can be seen in Table 4.4.5.

**Table 4.4.5 T-test on Time Spent Watching Television by Gender**

<i>Group Statistics</i>				<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (2-tailed)</i>
<b><i>Logbook</i></b>								
<b>Male</b>	45	907.0533	422.61298	EQA	0.083	0.281	1.083	0.281
<b>Female</b>	53	814.4717	420.61609	EQNA			1.083	0.282
<b><i>Questionnaire</i></b>								
<b>Male</b>	158	679.8987	511.95849	EQA	1.437	0.128	1.526	0.128
<b>Female</b>	170	768.3176	535.53233	EQNA			1.529	0.127

In keeping with the analysis of time conducted on the previous technological devices, a One-Way ANOVA was again carried out on the data to measure whether there was a statistically significant difference in time spent watching television by social class. Results of this analysis as shown in Table 4.4.6 show that there is no such difference between the classes. Furthermore, in reaffirming this finding, a Spearman Rho correlation also revealed an insignificant result for both logbook and questionnaire results (Spearman  $r = -.077$ ,  $P = 0.451$ ; Spearman  $r = .034$ ,  $P = 0.544$ ).

**Table 4.4.6 ANOVA: Socio-Economic Status and Time Spent Watching TV**

<i>One-Way ANOVA</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<b>Logbook</b>	<i>Between Groups</i>	557958.59	2	278979.297	1.826	0.167
	<i>Within Groups</i>	14516895	95	152809.423		
	<i>Total</i>	15074854	97			
<b>Questionnaire</b>	<i>Between Groups</i>	720118.02	2	360059.012	1.303	0.273
	<i>Within Groups</i>	89522506	324	276304.031		
	<i>Total</i>	90242624	326			

The American Academy of Pediatrics (2001) recommends a maximum of two hours television-viewing per-day. It would seem from the results of this research that Irish teens are very much in line with those recommended limits. In terms of social class disparities, research has suggested that children from working class backgrounds were more likely to spend more time watching television in an average week (Devis-Devis *et al.*, 2009; Patriarca *et al.*, 2009). This however was not upheld in the present results. Indeed for both logbook and questionnaire analysis, no statistically significant relationship was found between social class and time spent watching television. For instance, in terms of the overall results found on television usage, one could conclude that while social class differences are evident in the amount of televisions owned, in all, no overarching effect has been witnessed. In fact, in many of the variables statistically computed in respect of television ownership and use, no statistical relationship was found against social class.

#### **4.5 Parental Mediation of ICT Devices**

Chris, a transition year student claims to spend anywhere from three to four hours per-day using a range of ICT devices. Interestingly, his parents claim that they mediate a number of aspects of his ICT use. They maintain that they restrict the time which Chris spends watching television, playing games on his games console and using the Internet. They also maintain that they monitor what he does online. Chris however, claims otherwise. He notes that while his parents claim to restrict his ICT activities, they rarely get involved. In fact,



Chris actively watches television while doing his homework and spends hours online browsing various websites, which he knows his parents wouldn't approve of. He does this because he knows they won't realise how to track his activities. Furthermore, as Chris has a television located in his bedroom, his parents are often unaware of how much time he spends using the device. This is primarily because his parents are in fact pursuing their own daily digitised leisure activities, watching their favourite programmes on the main TV set in the home.

The above narrative provides an insight into parental mediation practices in many adolescents' homes. As evidenced from the narrative, parental claims concerning their regulation of ICTs are often sidestepped. Correspondingly however, the same has been found in relation to adolescents' assertions. Tapscott (2009) purports that very often parents are uneducated as to how to mediate their children's ICT use effectively. What is more, sometimes parents maybe so pre-occupied in their own ICT leisure practices, that often they are unaware of their children's activities. With this in mind, the following section will detail the level of parental mediation found in respect of the current research sample group. Attention is drawn to those who are limited in different aspects of their ICT use and furthermore, what specific limitations are imposed as a whole. The results illustrate that overall parental mediation is limited, and many adolescents are left unmediated to engage in their use of ICTs. The following section will first explore the level of parental mediation observed in respect of each ICT device studied. Following this, these observations will be briefly discussed in terms of their academic significance.

#### **4.5.1 Parental Restrictions on Personal Computer Use**

Table 4.5.1 (page 252) details the level of parental mediation, which is placed on adolescents' use of their personal computer. As can be seen in Table 4.5.1, only three out of every ten surveyed were restricted on personal computer use. Interestingly a larger percentage of females had restrictions placed on their personal computer use.

However, no statistically significant association existed between personal computer restrictions and that of gender (Fisher's Exact Test = 2.421,  $df = 1$ ,  $P = 0.074$ ). Likewise, no statistical association was found between social class and personal computer restrictions (Pearson Chi-Square = 1.009,  $df = 2$ ,  $P = 0.604$ ). The most likely restriction to be placed on using the computer is that of 'time spent using the device' (Chi-Square Goodness of Fit,  $P < 0.001$ ). This is the most common restriction placed for both males and females (Chi-Square Goodness of Fit,  $P < 0.001$ ;  $P < 0.001$ ).

Binary logistic regression was carried out on the entire data set to establish whether other characteristics predispose parents to restrict adolescent usage of PCs. Specifically, the regression test implemented sought to find out whether social class, number of computers owned or whether having restrictions placed on other technological devices was directly related to having constraints placed on personal computer use. Results of this analysis revealed that adolescents who had no restrictions placed on their games console use were likely to have no restrictions placed on their PC use ( $B = -1.507$ ,  $S.E. = .473$ ,  $\text{Exp}(B) = .222$ ,  $P < 0.001$ ). Likewise, those who had no restrictions placed on Social Network usage were also likely to have no restrictions placed on PC use ( $B = -1.315$ ,  $S.E. = .554$ ,  $\text{Exp}(B) = .268$ ,  $P = 0.018$ ). No other relationships were found for the other variables.

**Table 4.5.1 Restrictions Placed on PC Use by Gender**

<i>Restricted on Computer Usage</i>	<i>Percent</i>	<i>Type of Restrictions</i>	<i>Number of Responses</i>	<i>Percent</i>
<b>Yes</b>	32.9	Specific times of use	45	36.0
<b>No</b>	67.1	Time spent using device	67	53.6
		Type of usage	8	6.4
<b>Yes</b>		Restricted on Internet	28	22.4
<i>Male</i>	29.4	Not allowed play games	1	0.8
<i>Female</i>	36.9	Other	9	7.2
<b>No</b>				
<i>Male</i>	70.6			
<i>Female</i>	63.1			

#### 4.5.2 Parental Restrictions on Games Console Use

Table 4.5.2 details the level of parental restrictions placed on games console use. Like parental restrictions placed on personal computer usage, a small percentage (15%) of those surveyed had parental restrictions placed on their games console usage. In contrast to personal computer restrictions however, more males (17%) than females (12%) have restrictions placed on their games console use. This is most likely a reflection of greater usage by males as highlighted in 4.4.2. Results reveal however, that no statistically significant association existed between games console restrictions and gender (Pearson Chi-Square = 1.770,  $df = 1$ ,  $P = 0.120$ ). Furthermore, no statistically significant association between social class and games consoles restrictions was unearthed (Pearson Chi-Square = .679,  $df = 2$ ,  $P = 0.712$ ). In a similar fashion to restrictions on personal computer use, again ‘time spent using the device’ was established as the most likely restriction to be placed on games console usage (Chi-Square Goodness of Fit,  $P < 0.001$ ). This was significantly the case for males (Chi-Square Goodness of Fit,  $P < 0.001$ ), however for females, despite being the most

recorded response; this category of restriction just fell short of an outright association (Chi-Square Goodness of Fit,  $P = 0.051$ ).

**Table 4.5.2 Restrictions Placed on Games Console Use by Gender**

<i>Restricted on Games Console Usage</i>	<i>Percent</i>	<i>Type of Restrictions</i>	<i>Number of Responses</i>	<i>Percent</i>
<b>Yes</b>	15.0	Time spent using device	39	46.4
<b>No</b>	85.0	Type of game played	7	8.3
		Sit certain distance from TV	6	7.1
<b>Yes</b>		Not allowed play at certain times	13	15.5
<i>Male</i>	17.1	Homework must be done first	15	17.9
<i>Female</i>	11.7	Other	4	4.8
<b>No</b>				
<i>Male</i>	82.9			
<i>Female</i>	88.3			

Similar to restrictions placed on personal computer use, binary logistic regression was carried out on the entire data set in order to establish whether other characteristics predispose parents to restrict adolescent games console usage. The regression test implemented, sought to find out whether socio-economic status, gender or whether having restrictions placed on other devices was directly related to having restrictions placed on games console use. Results revealed that those who had no restrictions placed on television use were likely to have no limitations placed on games console use ( $B = -2.020$ ,  $S.E. = .421$ ,  $\text{Exp}(B) = .133$ ,  $P < 0.001$ ). Additionally, those who had no restrictions on personal computer use were also not likely to have rules placed on games console use ( $B = -1.651$ ,  $S.E. = .413$ ,  $\text{Exp}(B) = .192$ ,  $P < 0.001$ ). No other variables were found to be related to this category.

### 4.5.3 Parental Restrictions on Television Use

The next ICT device for which parental mediation was analysed was that of televisions. As can be seen in Table 4.5.3, just over 17% ( $n = 72$ ) of those surveyed

had restrictions placed on their television viewing. While more males than females have restrictions placed on their television viewing, the percentage difference is small. Moreover, no statistically significant relationship was found between television restrictions and that of gender (Pearson Chi-Square = .005,  $df = 1$ ,  $P = 0.525$ ). In addition, no statistically significant association was also found between social class and parental restrictions (Pearson Chi-Square = 1.863,  $df = 2$ ,  $P = 0.394$ ). Similar to the data presented on games console and personal computer restrictions, ‘time spent using the device’ was again highlighted as the most prominent parental restriction placed on technological devices (Chi-Square Goodness of Fit,  $P < 0.001$ ). This was significantly the case for both males (Chi-Square Goodness of Fit,  $P < 0.001$ ) and females (Chi-Square Goodness of Fit,  $P < 0.001$ ). The overall level of restrictions placed on adolescents is shown in Table 4.5.3 below.

**Table 4.5.3 Restrictions Placed on Television Viewing by Gender**

<i>Restricted on Television Usage</i>	<i>Percent</i>	<i>Type of Restrictions</i>	<i>Number of Responses</i>	<i>Percent</i>
<b>Yes</b>	17.6	Time spent watching television	50	47.6
<b>No</b>	82.4	Programmes watched	14	13.3
		When you can watch television	22	21.0
<b>Yes</b>		Films/DVD's watched	6	5.7
<i>Male</i>	17.7	Channels watched	8	7.6
<i>Female</i>	17.5	No pornographic material	0	0
		Other	5	4.8
<b>No</b>				
<i>Male</i>	82.3			
<i>Female</i>	82.5			

Binary logistic regression was again carried out on the entire data set in order to establish whether particular characteristics predispose parents to restrict television viewing. The regression test implemented like the preceding one’s detailed within this section, sought to establish whether socio-economic status, gender or whether having restrictions placed on other technological apparatus was directly related to having

restrictions placed on television use. By contrast however, this regression test also included the variable that quantified the number of televisions in the home to see if this had any further effect on the restrictions imposed. Results of this analysis revealed that those who had no limitations placed on their games console use, were also likely to have no restrictions placed on their television viewing ( $B = -1.820$ ,  $S.E. = .426$ ,  $\text{Exp } (B) = .162$ ,  $P < 0.001$ )<sup>116</sup>. No statistically significant relationship was found between the amount of TVs which were in the home and parental mediation ( $B = .220$ ,  $S.E. = .128$ ,  $\text{Exp } (B) = .1247$ ,  $P = 0.085$ ). Additionally, no statistically significant relationship was found between the other variables outlined.

#### **4.5.4 Parental Mediation Non-Existent**

On each of the ICT devices studied during this research, no statistical significant association existed between the variables of social class, gender and parental mediation. That said however, it is interesting to note that a larger percentage of females had restrictions placed on their personal computer usage than males. Perhaps as suggested by Livingstone and Haddon (2009a; 2009b), parents are more likely to worry about girls and young kids than they are boys. Likewise it may be that parents feel they had to protect their daughters from the dangers of online paedophiles or alternatively felt their sons were at less risk of such happenings. While boys were shown to have greater limitations imposed on games console usage, this could be attributed to their widely acknowledged greater usage of the device.

Keeping with personal computer use, Ó Briain and Nitting-Fulin (2009), identified that while studying a cohort of Irish children aged between 9-16 years, 72% had never had filters placed on their personal computers by their parents to block specific

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<sup>116</sup> The opposite finding is outlined for games console restrictions in 4.5.2.

Internet sites. This figure is somewhat commensurate with the outlined findings, albeit, queried in a different manner. Could it be that this parental disregard is manifested by a lack of media expertise? While this research has reviewed parental restrictions, it has not reviewed prior parental experience or knowledge of the media device. Livingstone and Bober (2003) for example, note that parents are much more hesitant when it comes to computers and the Internet. Parents often lack the practical experience of using these devices and more often than not their children are more experienced in using these media devices (Mesch and Talmud, 2010). Certainly, it is plausible to suggest that parents who grew up in a time of limited media exposure are restricted in their understandings of these technological advancements. However, as our technology advances, it is perhaps worth educating those who are technologically inept in protecting their children from the possible dangers of the online world.

Unlike personal computer use, as yet, no Irish data exists on parental mediation and Irish adolescents television use. International research findings however, somewhat conform to the present results. Gentile and Walsh (2002) for example found that restrictions placed on the time spent watching television was the most common mediation strategy detailed in their research. By contrast, Rideout, Foehr and Roberts (2010) extenuate that while parents limited the time which their children watched television, this was in fact not the greatest limitation imposed. That being said, time limitations made up a large percentage of the overall limitations imposed.

In all, it would appear from the results found that parents as a whole are somewhat lacklustre when it comes to mediating their children's use of ICT devices. However, that is of course if we are to believe the accounts of those surveyed. Livingstone

(2007) for instance, details that three quarters of parents but less than half of children she surveyed, maintain that they have rules for when their children may watch television. The present study however dealt with a much older sample group, and therefore it is hard to draw conclusions from this suggestion.

On the matter of age and parental mediation, one may ponder why parental mediation strategies with adolescents are so low. Indeed, one could question why parents should be concerned about their adolescents' use of ICTs in the first place. Certainly, common sense in this regard would perhaps suggest that as children grow older, they will inherently become more independent, more mature and as a result parents may be less likely to impose ICT related restrictions (Jordan *et al.*, 2006). Hitherto, many academics have questioned parental mediation strategies, but have more often than not related their studies to a younger demographic. Of those studies, which have examined older adolescents, the general consensus would suggest that in all, very few limitations are imposed (Rideout, Foehr and Roberts, 2010). That being said, recent research has extenuated that parents are in fact mediating their children's use of ICTs. As noted, O'Neill, Grehan and Ólafsson (2011) found that nearly 90% of 15-16 year olds they surveyed were mediated in their Internet use via a number of policies in the home. To date, many academics have positioned concerns in relation to ICT use as mere moral panics. However, many articles, particularly in newspapers, have highlighted among other things, adolescents' risky use of SNSs (Hasib, 2009) and more specifically the type of information, which they browse and provide for the public to access online hence, providing some justification for concern. Takings such concerns into consideration, the following sections will now detail and explore more comprehensively, adolescents' use of SNSs.



## **4.6 Adolescents Interest and Motive for Registering with**

### **Bebo**

Ricky is one of many students in his class who are registered with a Social Network Site. In fact, out of the thirty students in his transition year group, only three are not registered with a Social Network. Ricky initially joined his chosen Social Network Site due to its popularity among his peers. In addition, he also had an interest in being able to connect with people with whom he would have otherwise not had the opportunity to connect with. Each day, Ricky communicates regularly with his friends through the Social Network Site. In addition to this however, he looks up other people's pages and in particular girls in the opposing transition year classes in his town. He also browses photographs and comments posted by his friends.

The story of Ricky's registration with a Social Network Site reflects most adolescents' initial interest in and reason for using a Social Network Site. The above narrative brings to light some of the reasons for adolescents continued use of such sites. What is more, the results presented in this section further place this narrative in context, illustrating as they do, that the majority of teens are registered with one or more Social Network Site. Furthermore, they identify the main reasons involved in adolescents registering with and using SNSs. While it was imperative in the context of this study to analyse various aspects of Social Network Site use, it was also equally important to monitor why it is that adolescents are using and indeed registering with SNSs. As such, this investigation first reviewed the percentage of adolescents registered with specific SNSs and in particular Bebo. Following this, adolescents were queried as to why they use Bebo and what it was that best described their interest in the site. The result of this analysis shall be presented and discussed in the subsequent section.

#### **4.6.1 Level of Registration with Social Networks Sites**

In both Phase One and Phase Two of the research, respondents were queried on their membership of the Social Network Site Bebo. However, in contrast to the questionnaire employed in Phase Two, the questionnaire utilised in Phase One also

queried membership of other SNSs. The reason for this was because the researcher wished to establish which Social Networking site was the most popular among teens. The subsequent findings indicated that Bebo was the most popular site, and henceforth, why Bebo was chosen as the Social Network Site for analysis in Phase Two of the research.

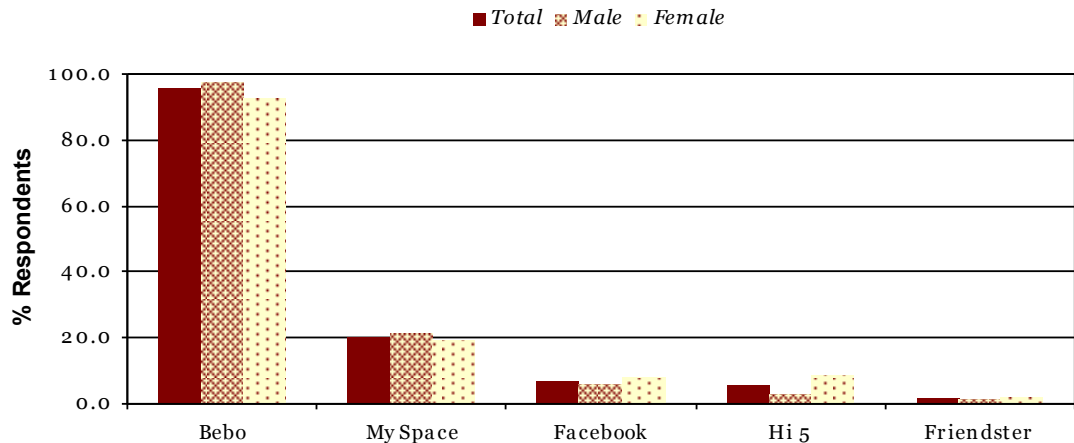
Relating specifically to results uncovered in Phase One, it was found that 87% ( $n = 357$ ) of adolescents possessed a Social Network page, which equated to almost nine in every ten of adolescents surveyed. Broken down further, this equated to 85% of males ( $n = 188$ ) and 89% of females ( $n = 169$ ). Of those who had a Social Network page, 96% ( $n = 341$ ) denoted that Bebo was the Social Networking site of preference<sup>117</sup>. As illustrated in Figure 4.6.1, this was the undisputed Social Network Site of choice for both males (Chi-Square Goodness of Fit,  $P < 0.001$ ) and females (Chi-Square Goodness of Fit,  $P < 0.001$ )<sup>118</sup>. Following Bebo, MySpace was clearly the next Social Network of preference for adolescents and just behind MySpace was Facebook. These results of course are specific to the time this research was carried out.

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<sup>117</sup> As a percentage of the total sample, 83% of adolescents surveyed in Phase One has a Bebo Social Network page.

<sup>118</sup> Figure 4.6.1 details the specific membership of Social Network Site membership by gender from the cohort of adolescents, which possessed a Social Network page ( $n = 357$ ).

**Figure 4.6.1 Social Network Site Membership by Gender**



Results from Phase Two of the research, uncovered a slightly diminished level of Bebo membership. Specifically, of the participants surveyed in Phase Two ( $n = 108$ ), 74% ( $n = 80$ ) indicated that they had Bebo membership. While this figure is 9% less than the percentage of those who possessed a Bebo page in Phase One, a number of the respondents, by the time of the focus group interviews, suggested that at one stage they did possess a Bebo page, while others alluded to Internet connection problems as the reason for their neglect of their Social Network page<sup>119</sup>. Further analysis of the Phase Two results reveal that 63% ( $n = 38$ ) of males and 87% ( $n = 42$ ) of females possessed a Bebo page. Following this analysis, a Chi-Square test of Independence suggested that females were more likely than males to have acquired Bebo membership (Pearson Chi-Square = 8.110,  $df = 1$ ,  $P = 0.008$ ). By contrast however, this statistical relationship was not found from the results in Phase One (Pearson Chi-Square = 0.003,  $df = 1$ ,  $P = 0.531$ ). Added scrutiny of the data in Phase One also suggested that there is no statistical association between social class and having a Social Network account (Pearson Chi-Square = 5.653,  $df = 2$ ,  $P = 0.059$ ).

<sup>119</sup> Phase One of this research was completed in early 2007. Phase Two was completed in early 2009.

In light of what has been suggested in the Literature Review, it comes as no surprise that Bebo was at the time of this research, the most popular Social Network Site among Irish teens. In the intervening time since completing Phase Two of the research, Bebo has become less popular among Irish adolescents with Facebook now taking a more prominent role in Irish society and indeed worldwide. Research on the Bebo Social Network Site however, is still significant due to the common characteristics which it holds with popular SNSs around the world (Thelwall and Marvin, 2009). In addition to this, there is a distinct absence of literature relating to Irish adolescents use of SNSs in general.

#### **4.6.2 Interest in the Social Network Site Bebo**

Within Phase Two of the research, respondents ( $n = 108$ ) were requested to detail from a list of six responses, what it was that best described their interest in Bebo. As can be seen from Table 4.6.1, there is a varied response from both genders. In respect of males, the ‘popularity of Bebo’ was the greatest appeal to the site (Chi-Square Goodness of Fit,  $P < 0.001$ ) whereas for females, ‘the ability to reconnect with people’ was much more important (Chi-Square Goodness of Fit,  $P < 0.001$ ). While this difference is certainly evident, there was however no statistical association found between gender and their interest in Bebo (Pearson Chi-Square = 7.774,  $df = 6$ ,  $P = 0.258$ ). Of note however, the response ‘self-presentation’ was higher for males than it was for females (40% versus 26%).

While it is believed that females are more concerned about how they present themselves online (Pempek, Yermolayeva and Calvert, 2009), it would seem from the results shown, that males too may wish to be viewed in a positive manner. That being said, Zhao, Grasmuck and Martin (2008) suggest that all teens wish to be viewed

positively and males may be no exception to this. While more males alluded to this as a reason for joining Bebo, the means in which they wish to be presented may vary compared to their female counterparts. The forthcoming sub-sections will review this matter in more detail.

**Table 4.6.1 Adolescent’s Interest in Bebo by Gender<sup>120</sup>**

<i>Interest in Bebo</i>	<i>Male</i>		<i>Female</i>	
	<i>Count</i>	<i>% Response</i>	<i>Count</i>	<i>% Response</i>
<i>Ability to reconnect with people</i>	15	39.5	25	59.5
<i>Ability to learn new information</i>	13	34.2	13	31.0
<i>Networking ability</i>	6	15.8	5	11.9
<i>Self-presentation</i>	15	39.5	11	26.2
<i>Lack of care about privacy</i>	4	10.5	7	16.7
<i>Popularity of Bebo</i>	24	63.2	20	47.6

### 4.6.3 Why Adolescents Use Bebo

Relating to adolescents interest in Bebo, it was also asked of respondents why they used the site. To this end, those who possessed a Bebo page ( $n = 80$ ) were asked to select from a series of options as to why they use SNSs. From this analysis it was found that ‘communication with friends’ was the main motive for use and moreover, this was the case for both male (Chi-Square Goodness of Fit,  $P < 0.001$ ) and female (Chi-Square Goodness of Fit,  $P < 0.001$ ) responses. By contrast, despite this being the most popular response for both genders, there was a difference of use following this motive. For instance, in relation to females, ‘looking at or posting photos’ (71%) and ‘post and/or read peoples comments’ (67%) were the next two most important reasons of use, however for males ‘entertainment’ (66%) and ‘looking at other peoples pages’ (61%) were much more popular.

<sup>120</sup> Adopted from Pempek, Yermolayeva and Calvert (2009)

**Table 4.6.2 Reason for Using Bebo by Gender**

<i>Main Reason for Using Bebo</i>	<i>Male</i>		<i>Female</i>	
	<i>Count</i>	<i>% Response</i>	<i>Count</i>	<i>% Response</i>
<i>Communicate with friends</i>	33	86.8	40	95.2
<i>Looking at or posting photos</i>	18	47.4	30	71.4
<i>Send or receive private messages</i>	13	34.2	12	28.6
<i>Post and/or read peoples comments</i>	21	55.3	28	66.7
<i>Look at other peoples pages</i>	23	60.5	27	64.3
<i>Communicate with rarely seen friends</i>	20	52.6	24	57.1
<i>Entertainment</i>	25	65.8	23	54.8
<i>Find out about events</i>	11	28.9	9	21.4
<i>Meet new people or get to know people better</i>	12	31.6	13	31.0
<i>Find out information about certain people</i>	6	15.8	6	14.3

In light of the above results, it could be implied that adolescents do not just use SNSs to maintain friendships but also to view, interpret and augment their own social standing as a result of monitoring other adolescents Social Network pages. As postulated by Boyd (2004), friendships made online are often phony relationships in which an acquaintance may be accepted and portrayed for social status purposes (Donath and Boyd, 2004). What is more, while communication was detailed as the most popular function of Social Network Site use, next was looking at people’s photos and comments and viewing other people’s pages as the most popular reported uses. Such actions would seem to fall in line with Tufekci (2008a) and Donath’s (2007) theories of gossip about human relationships. Indeed, such is the nature of the reported activities, that perhaps it may be suggested that SNSs both facilitate and supplement adolescents pursuit for social status and gossip about their peers, which in turn may have a positive effect on their own social standing.

#### **4.7 Adolescents Use of Bebo**

Rose logs onto her Social Network Site a couple of times a day. More often than not, she will do so from her mobile phone. Rose loves being the centre of attention and loves to make it seem as if she is popular among her peers. Therefore, Rose adds and accepts many people as friends with whom she has no real solid relationship. Rose also leaves her profile page as public so that

people can access and see her page. She does this because she wants people to see the provocative pictures of herself and pictures of her with her friends, which she has posted on her Social Network account. In her mind, such actions will increase her profile views and in turn enhance her social standing. That is to say, the number of people who visit her page is a direct reflection of how popular she is. In addition to these activities, Rose often comments randomly on people's pages so as to get a reply on her page. This too will reflect on her social status. In all, Rose may spend anywhere from forty minutes to an hour and a half each day maintaining her Social Network page, uploading pictures, posting comments and browsing other peoples pages.

The above narrative provides an insightful view into the seriousness with which some adolescents hold their Social Network pages. For Rose, image is important and as such she manipulates certain aspects of the Social Network application in order to appear more popular to her peers. What is more, she spends a considerable amount of time maintaining this image. Rose represents those adolescents who actively seek to be recognised amongst their peers. On the opposite end of the continuum however, some adolescents merely use their Social Network Site simply to reply to comments and sometimes to view other people's pages. More often than not, they have no concerns for the image they portray and in fact, place their Social Network Site page as private so as to stop other people from viewing their page. The results to be presented in the following section exemplify these notions of Social Network Site use. To start with, the results identify that most adolescents leave their page as public for everyone to view. Additionally, a number of different user types also emerge from the data, suggesting as highlighted that some teenagers are very conscious of the image that they portray and how popular they appear to be, whereas others, are quite content to use a Social Network Site for basic purposes. These matters shall now be reviewed in more detail in the following section.

#### 4.7.1 Status of Bebo Page

Within both Phase One and Phase Two of the research, respondents were requested to detail if their Social Network page was public or private<sup>121</sup>. Relating specifically to Phase One, it was established that eight in every ten adolescents (84%) with a Social Network page, had their page as public ( $n = 299$ ). This figure was similar for both males (82%) and females (86%) and moreover, no statistical association was found between gender and whether or not an adolescents Social Network page was public or private (Fisher's Exact Test = 0.784,  $df = 1$ ,  $P = 0.230$ ). Likewise in Phase Two, males (61%) and females (62%) were similar in the percentage of those who had their page as public and again no statistical association was found between gender and whether or not an adolescents Social Network page was public or private (Fisher's Exact Test = 0.016,  $df = 1$ ,  $P = 0.541$ ). As can be seen from the results, the overall percentage of adolescents who had their page as public dropped to six in every ten adolescents with Bebo pages (61%). While this figure is 23% less than the latter finding, it must be noted that Phase Two dealt with a much smaller sample than that of Phase One. In addition, Facebook was beginning to emerge as a popular Social Network Site. Perhaps media publicity of this topic may have also had an influence. No statistical correlation or statistical difference was found between time spent using a Social Network Site per-day and whether an individual had their profile as public or private (Spearman  $r = -.042$ ,  $P = 0.512$ ; Independent Sample t-test,  $M.D. = 72.81116$ ,  $t = 1.148$ ,  $P = 0.252$ ). Likewise there was no statistical association between socio-economic status and Social Network privacy settings (Pearson Chi-Square = .310,  $df = 2$ ,  $P = 0.857$ ).

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<sup>121</sup> Public pages are accessible to anyone whereas to gain access to a private Bebo page, you must be a friend of the person who has the private page.



The figures outlined are consistent with many studies both in Ireland and internationally (Acquisti and Gross, 2006; Ellison, Steinfield and Lampe, 2007; Carverlee and Webb, 2008; Hinduja and Patchin, 2008; National Centre for Technology in Education, 2008; Zhao, Grasmuck and Martin, 2008; Fogel and Nehmad, 2009), though recent research has suggested a shift towards more privatised profiles (Livingstone, Ólafsson and Staksrud, 2011; O'Neill, Grehan and Ólafsson, 2011). In contrast to the above findings, many studies have highlighted that boys were more likely than girls to leave their page as public (Caverlee and Webb, 2008; Lewis, Kaufman and Christakis, 2008; National Centre for Technology in Education, 2008; Fogel and Nehmad, 2009). This research however found that no such association existed within both Phase One and Phase Two findings. The literature thus far presented in the Literature Review has found that adolescents may opt to leave their page public for social interaction purposes (Ellison, Lampe and Steinfield, 2009). Lewis, Kaufman and Christakis (2008) on the other hand suggest that individuals are more inclined to place their profile as private if they are female and more active online. The results of this research do not confirm Lewis, Kaufman and Christakis (2008) suggestions, finding instead that no such relationship exists in this regard.

#### **4.7.2 Activities Performed on Bebo Page in a Typical Week**

In order to review the type of activities which adolescents engage in on a typical week whilst using Bebo, it was asked of respondents (Phase Two) to detail from a list of fifteen popular Social Network activities, how often they performed a particular activity on a likert scale. The scale implemented was based on four points ranging from 'often' (value = 1) to 'never' (value = 4). In order to measure a gendered difference in how often the particular activities were performed, a series of Mann-Whitney U tests were conducted. The results of this Mann-Whitney U analysis

inclusive are shown in Table 4.7.1 and Table 4.7.2 (page after). As can be seen from both Tables 4.7.1 and 4.7.2, there are numerous significant differences in terms of the regularity of performing particular activities between both genders. However, having taken into consideration the mean ranks of analysis, the only difference of note highlights that females are statistically more likely than males to use SNSs for looking at photos. All other significant differences found relate to activities performed ‘sometimes’, ‘rarely’ or ‘never’. In an extension of this finding, a series of Chi-Square Goodness of Fit tests were conducted to measure the variance in how often adolescents engaged in these particular activities and moreover whether there was a statistically significant distribution in the regularity of responses. As can be seen from Table 4.7.3 (page 268), the majority of responses found to be significantly distributed refer to engagement in the specified activities ‘often’ or ‘sometimes’, however four activities are stated as being performed ‘rarely’ or ‘never’.

**Table 4.7.1 Social Network Activities Performed in a Typical Week against Gender**

<i>Type of Activity Performed</i>	<i>N</i>	<i>Mann-Whitney U</i>	<i>Wilcoxon W</i>	<i>Z</i>	<i>P-Value</i>
<i>Looking at/reading other peoples profiles</i>	80	731	1634	-0.700	0.484
<i>Looking at photos</i>	79	385.5	1288.5	-4.131	<b>0.000</b>
<i>Reading comments on your page</i>	78	664.5	1567.5	-1.302	0.193
<i>Reading comments on others' pages</i>	80	743	1484	-0.561	0.575
<i>Posting comments on peoples' pages</i>	79	640	1543	-1.572	0.116
<i>Reading private messages from others</i>	79	748.5	1489.5	-0.311	0.756
<i>Sending private messages</i>	80	749	1490	-0.491	0.623
<i>Looking at groups</i>	80	523	1264	-2.749	<b>0.006</b>
<i>Responding to/reviewing events/invitations</i>	80	605.5	1346.5	-1.998	<b>0.046</b>
<i>Adding or removing friends</i>	79	695	1556	-0.879	0.380
<i>Changing/editing profile</i>	80	750.5	1491.5	-0.500	0.617
<i>Posting photos on your page</i>	80	498.5	1401.5	-3.008	<b>0.003</b>
<i>Creating events and sending invitations</i>	79	733.5	1436.5	-0.517	0.605
<i>Looking at video links in others' profiles</i>	80	596	1337	-2.031	<b>0.042</b>
<i>Posting videos on your page</i>	80	571.5	1312.5	-2.272	<b>0.023</b>

**Table 4.7.2 Ranks of Mann-Whitney U Analysis**

<i>Type of Activity</i>	<i>Gender</i>	<i>N</i>	<i>Mean Rank</i>	<i>Sum of Ranks</i>	<i>Type of Activity</i>	<i>Gender</i>	<i>N</i>	<i>Mean Rank</i>	<i>Sum of Ranks</i>
<i>Looking at/reading other peoples profiles</i>	Male	38	42.26	1606.00	<i>Responding to/reviewing events/invitations</i>	Male	38	35.43	1346.50
	Female	42	38.90	1634.00		Female	42	45.08	1893.50
<i>Looking at photos</i>	Male	37	50.58	1871.50	<i>Adding or removing friends</i>	Male	38	42.21	1604.00
	Female	42	30.68	1288.50		Female	41	37.95	1556.00
<i>Reading comments on your page</i>	Male	36	42.04	1513.50	<i>Changing/editing profile</i>	Male	38	39.25	1491.50
	Female	42	37.32	1567.50		Female	42	41.63	1748.50
<i>Reading comments on others' pages</i>	Male	38	39.05	1484.00	<i>Posting photos on your page</i>	Male	38	48.38	1838.50
	Female	42	41.81	1756.00		Female	42	33.37	1401.50
<i>Posting comments on peoples' pages</i>	Male	37	43.70	1617.00	<i>Creating events and sending invitations</i>	Male	37	38.82	1436.50
	Female	42	36.74	1543.00		Female	42	41.04	1723.50
<i>Reading private messages from others</i>	Male	38	39.20	1489.50	<i>Looking at video links in others' profiles</i>	Male	38	35.18	1337.00
	Female	41	40.74	1670.50		Female	42	45.31	1903.00
<i>Sending private messages</i>	Male	38	39.21	1490.00	<i>Posting videos on your page</i>	Male	38	34.54	1312.50
	Female	42	41.67	1750.00		Female	42	45.89	1927.50
<i>Looking at groups</i>	Male	38	33.26	1264.00					
	Female	42	47.05	1976.00					

**Table 4.7.3 Chi-Square Goodness of Fit Analysis on Distribution in Regularity of Activity**

<i>Type of Activity Performed</i>	<i>Chi-Square</i>	<i>df</i>	<i>P-Value</i>	<i>Regularity of Responses Significantly Different from Expected Value</i>
<i>Looking at/reading other peoples profiles</i>	36.200	3	<b>0.000</b>	Sometimes
<i>Looking at photos</i>	30.114	3	<b>0.000</b>	Sometimes
<i>Reading comments on your page</i>	124.769	3	<b>0.000</b>	Often
<i>Reading comments on others' pages</i>	18.900	3	<b>0.000</b>	Rarely
<i>Posting comments on peoples' pages</i>	69.101	3	<b>0.000</b>	Often
<i>Reading private messages from others</i>	5.000	3	0.172	-
<i>Sending private messages</i>	5.900	3	0.117	-
<i>Looking at groups</i>	3.600	3	0.308	-
<i>Responding to/reviewing events/invitations</i>	32.500	3	<b>0.000</b>	Never
<i>Adding or removing friends</i>	26.975	3	<b>0.000</b>	Sometimes
<i>Changing/editing profile</i>	40.500	3	<b>0.000</b>	Sometimes
<i>Posting photos on your page</i>	7.300	3	0.063	-
<i>Creating events and sending invitations</i>	82.772	3	<b>0.000</b>	Never
<i>Looking at video links in others' profiles</i>	9.000	3	<b>0.029</b>	Rarely
<i>Posting videos on your page</i>	6.700	3	0.082	-

The responses reported to be performed ‘often’ were that of ‘reading comments on your page’, and ‘posting comments on people’s pages’. These are of no surprise however, as they are commonly known as activities symbolic of basic daily use of the site (Pempek, Yermolayeva and Calvert, 2009). Adolescents next reported performing the following activities ‘sometimes’: ‘looking at/reading other people’s profiles’, ‘looking at photos’, ‘adding or removing friends’ and finally ‘changing/editing profile’. These activities like the latter finding are again not surprising given that they make up activities that are required for basic use of the site (National Centre for Technology in Education, 2008). All other results denoting from the Chi-Square analysis show no other confounding results.

The results presented fall in line with previous academic hypotheses on Social Network usage (National Centre for Technology in Education, 2008; Lenhart *et al.*, 2010). Of note however, the posting of comments to one another and in particular the surveillance of photos on other peoples Social Network pages would seem to complement the surveillance theory put forward by Lampe, Ellison and Steinfield (2006) and Tufekci (2008b). Indeed, as previously suggested in the Literature Review (2.4.4.2), the use of such features may facilitate adolescents need for social contact and in particular, their craving for gossip about human relationships (Dunbar, 1996). What is more, the findings outlined in 4.6.3 would seem to complement such suggestions.

#### **4.7.3 Daily Use and Time Spent Using Bebo in an Average Week**

Both qualitative and quantitative data were used to measure the regularity of Social Network Site use. Each day, the researcher recorded the time in hours in which the subjects ( $n = 45$ ) were last active on Bebo, while focus group interviews also queried

aspects of Social Network Site usage. Additionally, the questionnaire and logbook implemented in Phase One of the research measured the intensity of adolescents' use of the site in an average week.

#### **4.7.3.1 Time Last Active**

Results from the ethnographic study indicate that the average time in which the subjects were last active was 19 hours and 36 minutes. This would seem to imply that the majority of the participants were using Bebo most days of the week. Male and female time of last use displayed no significant statistical difference with Independent t-test results not displaying any value of significance (Independent Sample t-test, *M.D.* = .64918, *t* = .231, *P* = 0.818). When controlling for the days in which the students were not active (for example, those last active over 24 hours), it was found that the average time of last activity dropped to 14 hours and 5 minutes. This would suggest that the main time in which the participants used their Social Network Site was between the hours of 10 and 11pm in the evening possibly before going to bed.

Similar surveys on college students have come to comparable conclusions as the above shown results. Golder, Wilkinson and Huberman (2007) and Pempek, Yermolayeva and Calvert (2009) both find that college students were most likely to access their Social Network pages between 9pm in the evening and just before midnight. While the results of this research suggest that teenagers access their pages between 10 and 11pm in the evening, perhaps the reason for them not accessing their pages closer to midnight may be due to school commitments or parental restrictions.

#### **4.7.3.2 Time Spent using Bebo**

According to questionnaire responses in Phase One of the research, adolescents spent an average of 5 hours and 14 minutes per-week using Bebo. This equated to an average daily use of 44 minutes per-day. By contrast, logbook findings suggest that adolescents spent an average of 3 hours and 40 minutes per-week using the website and a daily average of just 31 minutes. Both logbook and questionnaire results suggest dissimilar findings in relation to how much time males and females spend using Bebo per-week. Specifically, logbook findings suggest that males spend on average 4 hours and 30 minutes per-week using Bebo, which works out at 38 minutes per-day. Females on the other hand spend 3 hours and 4 minutes per-week using the site and just 26 minutes per-day. By contrast, questionnaire results show that males spend 5 hours and 4 minutes per-week using the Social Network and 43 minutes per-day whereas females spend 5 hours and 24 minutes per-week and 46 minutes per-day. In addition to these findings, no statistical difference was found for both methods in respect of social class (One-Way ANOVA,  $F(2, 40) = .443, P = 0.645$ ;  $F(2, 246) = .864, P = 0.423$ ) and their time spent using SNSs. Certainly, it is unclear which gender spends more time using Bebo per-week. That being said, as noted the questionnaire queried adolescents in respect of their use of SNSs in previous week, whereas the logbook recorded use of a period of time during the specific day of use<sup>122</sup>.

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<sup>122</sup> Refer to 4.4 for justification of this possible influence.

**Table 4.7.4 T-Test of Time Spent Using Bebo by Gender**

<i>Group Statistics</i>				<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (2-tailed)</i>	
<b><i>Logbook</i></b>								
<b>Male</b>	18	271.000	230.697	EQA	1.555	0.220	1.384	0.174
<b>Female</b>	25	184.4640	179.499	EQNA			1.328	0.194
<b><i>Questionnaire</i></b>								
<b>Male</b>	117	303.769	312.807	EQA	1.281	0.259	-.472	0.638
<b>Female</b>	133	324.285	367.975	EQNA			-.476	0.634

Despite the differences outlined between both questionnaire and logbook findings, it would seem clear that in general adolescents are spending between 31 and 44 minutes per-day using SNSs. In light of previous academic findings which suggest that young people use SNSs for an average of 10 minutes to 1 hour and 23 minutes per-day (Ellison, Steinfield and Lampe, 2007; Lampe, Ellison and Steinfield, 2008; Fogel and Nehmad, 2009; Pempek, Yermolayeva and Calvert, 2009), it would seem that the present findings are in line with international trends. Given the degree of variation between the studies thus far outlined, perhaps certain factors may be predisposing certain usage patterns. For example, different Social Network user types. This will now be explored in the forthcoming sub-section.

#### **4.7.4 Social Network User Types**

Four main types of users emerged from the focus group interviews conducted. These were classified by the researcher under the following four headings depending on usage: habitual; most days; weekly and intermittent. Cases of habitual use displayed regular usage<sup>123</sup> on a daily basis. A large proportion of this user type also utilised their mobile phones as a method of access to the site. Interestingly, those who used their

<sup>123</sup> This can be anywhere from five to ten times per-day.

phone for Bebo use also paid utilisation fees<sup>124</sup>. As can be seen from the responses below, cost did not appear to be an issue when it came to accessing the site:

“I use it every day...go on it and leave comments for people...most of the time I use it on my mobile and pay the €2 a day or so to use it” (Male, 16 years old);

“I use Bebo every single day...just look at peoples profiles and leave other people comments...I have it on my phone so I go on it before I go to sleep and I go on it when I go home from school” (Female, 16 years old);

“Every day...it’s mostly Bebo mobile I use though...99 cent a day with O2<sup>125</sup> so it’s not too bad...I’d really only be on it for a few minutes and but sometimes I’d be on it for half an hour and it would take the full amount of money then though” (Male, 16 years old).

Those who used Bebo most days seemed only to use it at specific times. While habitual in nature, these users seemed not to be as over-enthusiastic in its application. Some students would use it for extended periods while others would use it briefly but consistently on a daily basis:

“I use it the whole time...every day...I do be chatting and looking at other peoples pages all the time...I’d spend a few hours on it online” (Female, 16 years old);

“I have the Bebo...yeah usually use it every night. I only go on it and look around and see if anyone is on, look at other people’s pages and put pictures on it as well...I’d usually spend about half an hour on it” (Female, 16 years old).

In relation to weekly and intermittent users, subjects would go online either to reply to a comment or out of sheer boredom. These users seem content just to reply to comments or accept friends. In some cases, these groups do display some interest in other people’s pages and uploading of photos but do so on an irregular basis. Moreover, they appear to have no other ulterior motives for use of the site. These two categories are grouped together for presentation purposes but in reality the main disparity between the groups is regularity of use. The purpose of use however remains the same. Interview responses to these comments are outlined below:

“I don’t use Bebo that often...I’d use it sometimes when I have nothing to do...I’d go online maybe once a week but more so on the weekends” (Female, 16 years old);

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<sup>124</sup> At the time of the research, mobile phone networks had an operating charge for use of the Social Network Site Bebo each day.

<sup>125</sup> This is one of four mobile phone networks operating in Ireland.



“I have it but only use it some days...just reply to comments and stuff like that and sure that’s about it” (Male, 15 years old);

I suppose I use it every second or third day...a bit like, just to leave comments...the odd time just look at people’s pages and all...I wouldn’t do that much...check out the women the odd time...see if they are taken or not ya know (Male, 16 years old).

The user types outlined seem to be consistent with other Social Network user typologies identified in the Literature Review. Of specific note, Brandtzaeg and Heim (2011) identified five user typologies in his research of 5,233 Norwegian adolescents. Each of the user types identified in this research share commonalities with those identified in the present study. Having said this however, it must be noted that the breakdowns established in both this research and indeed other studies (Heim *et al.*, 2007; OFCOM, 2008; Brandtzaeg and Heim, 2011), all derive from the researcher’s interpretation of the user groups and through the use of a different methodological approach. Likewise while some studies have identified groups based on their use of SNSs, others have done so based on the type of activities they pursued online.

#### **4.7.5 Adolescent “Popularity”**

During the course of the ethnographic study<sup>126</sup>, the researcher recorded the initial and final number of friends, which each subject boasted. To supplement this, the researcher also monitored the initial, final and average number of views per-day. As a result, a benchmark figure was established which in effect provided an insight into the popularity of adolescent’s Social Network Site pages. Illustrated in Table 4.7.5, it can be seen that the research subjects averaged five people viewing their page per-day<sup>127</sup>. The average number of friends per research participant ranged from 12 to 509 with an overall average of 202. This average would suggest a rather large network of friends.

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<sup>126</sup> As outlined in the Methodology Chapter, this involved monitoring adolescents Social Network pages every day for a period of one month observing and recording the various means in which adolescents were using their SNSs.

<sup>127</sup> It must be noted that the researcher discounted one view each day accounting for his disposition in researching the Bebo page.

However, it could be argued that many of the friends connected with each of the participants are not contacted regularly and may be added as friends to indicate a level of popularity or indeed give an image that they are popular (Boyd, 2004; Richardson and Hessey, 2009).

**Table 4.7.5 Average Number of Friends and Profile Views**

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Initial number of profile views</i>	42	20	12375	3220.33	2995.70
<i>Final number of profile views</i>	39	71	12467	3433.08	3111.40
<i>Average number of views per-day</i>	42	1.11	15.63	5.25	3.14
<i>Final number of friends</i>	42	12	509	202.44	112.00

Not surprisingly, it was found that males had more male friends than female and likewise the same was found for females. In addition, no significant gender difference in the number of friends or number of profile views per-day was found. In fact the results suggest that very little or no actual difference exists between how many profile views an adolescent receives per-day or their number of friends. While females do have on average more listed friends than males, this difference was found to be statistically insignificant. The results of these findings are depicted in Table 4.7.6.

**Table 4.7.6 T-Test on Gender Differences in Number of Friends and Profile Views**

<i>Group Statistics</i>				<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>	
<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (2-tailed)</i>
<b><i>Number of Friends</i></b>							
<b>Male</b>	22	182.18	101.492	EQA	0.855	-1.193	0.240
<b>Female</b>	23	221.83	120.213	EQNA		-1.197	0.238
<b><i>Number of View's Per-Day</i></b>							
<b>Male</b>	21	5.1182	3.64821	EQA	0.512	-.268	0.790
<b>Female</b>	21	5.3810	2.62979	EQNA		-.268	0.790

According to Mesch and Talmud (2010), the average number of Social Network friends an individual may have numbers 120, with females likely to have more friends than males. The range of friends found however, has been shown to vary immensely with various academics suggesting that it can range from none to over a thousand (Hinduja and Patchin, 2008; Pfeil, Arjan and Zaphiris 2008). These suggestions are partially reflected in the present results. Firstly, the current research established that adolescents had an average of 202 Social Network friends, some 82 people higher than that suggested by Mesch and Talmud (2010). Secondly however, it was established that there was a wide variation in the number of friends between the sample group, hence coinciding with previous findings (Hinduja and Patchin, 2008; Pfeil, Arjan and Zaphiris 2008). In recent years, research has established that having a large network of friends online may be good for social capital formation (Steinfeld, Ellison and Lampe, 2007; Tomai *et al.*, 2010). While it was not sought to establish such outcomes from the present study, given the results found, one could certainly conclude that SNSs are perhaps a viable means of bridging social relationships even if many relationships have been found to be false or for popularity purposes (Boyd, 2004).

#### **4.8 Socio-Linguistics of Conversation and Use of Phonetic**

##### ***Language***

Deirdre is an ardent user of SNSs. When commenting on or instant messaging her friends online, she actively uses phonetic language. She does this because her friends also use the same type of language when communicating with each other online, added to the fact that it has become a much faster way of communicating. When socialising with her friends online, Deirdre generally looks to find out gossip about other people or any other information about different events. She also talks about general activities and plans for the weekend, in addition to sending messages of friendship and support. Due to such technologies, Deirdre's day-to-day language use be it on mobile phones, on SNSs or instant messaging programs has transformed immensely.

The outlined narrative provides a typical insight into the daily communicative practices of adolescents on SNSs. As evidenced from the above story, most teens actively use phonetic language. Furthermore, they tend to talk about a wide array of topics online. The results indicate that comments posted on SNSs are normally of a social maintenance nature. More specifically, the use of phonetical language is widespread, both in male and female commentary observed. What is more, the linguistic processes witnessed vary depending on gender. These findings will now be examined more closely.

#### **4.8.1 Thematic Analysis of Daily Comments Received**

In the course of the ethnographic study, a total of 1,942 comments were downloaded from Bebo pages. In order to reflect the multi-functional nature of the commentary observed, many comments were coded into a variety of themes. For instance in **C18**, the comment is categorised to reflect two themes.

**C18:** “Heya! wat ya tink of da ceili????”

“Heya” is themed as salutary, while “wat ya tink of da ceili”<sup>128</sup> is themed as an informational response<sup>129</sup>. Accounting for this issue, a total of 3,747 comments were categorised in the overall thematic analysis. The average number of comments posted on the participant’s site over the course of twenty-eight days was 1.73 comments per-day. In addition, results indicated that females on average received slightly more (2) comments than males (1.5) each day. Despite this slight difference, no apparent significant statistical difference in the number of comments received per-day between male and female users was found (Independent Sample t-test, *M.D.* = -.483, *t* = -.834,

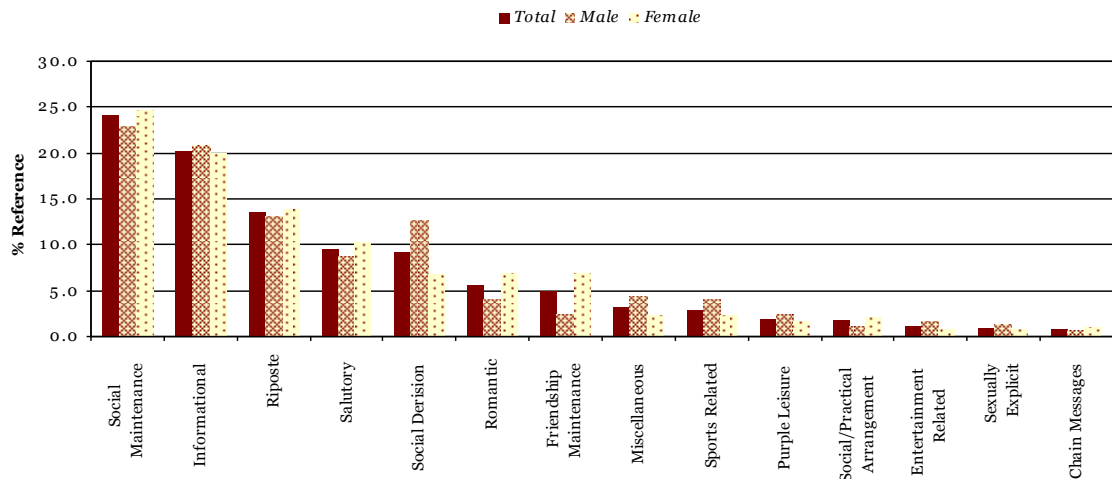
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<sup>128</sup> Céilí is an event where Irish dancing takes place.

<sup>129</sup> Refer to Table 3.7.1 (page 180) for a full break down of the thematic categories.

$P = 0.409$ ). While the average number of comments received is somewhat low, it must be noted that just over a fifth of the students surveyed did receive in the region of 4 to 8 comments on average per-day. Results also suggest that those who do receive the most comments per-day were significantly more likely to have been active in the last twenty-four hours ( $r = -.518, P < 0.001$ ). This would seem to indicate that those who are the most active will in return receive the most comments. The results of the thematic analysis conducted on these comments are presented in Figure 4.8.1.

**Figure 4.8.1 Thematic Analysis of Public Comments**



As depicted in the above Figure, social maintenance, informational and riposte themed comments represented over half of the comments analysed<sup>130</sup>. This is not surprising given how Irish people communicate on a daily basis. Interestingly, social derision represented nearly a tenth of the overall commentary themed and was most evident amongst males. This social ridicule seemed to form the basis of various commentaries observed throughout the Bebo research process. Moreover, the derision which was taking place seemed not to act as a method of despondency among adolescents, but more so as a means of bonding<sup>131</sup>. Perhaps such derision may be due to a cultural

<sup>130</sup> An explanation for the labels in this table can be found on page 180.

<sup>131</sup> It must be noted that this is the researcher's interpretation of the derision which was taking place. Adolescents at the receiving end of this commentary may have a different opinion.

disposition in Ireland (Hughes, 2007)<sup>132</sup>. Female commentary was similar to that of males except those of friendship maintenance themed comments. These equated to nearly three times the amount of postings compared to males. This would suggest that females are more overtly supportive to their friends than their male counterparts. Romantic comments were also higher among female comments; however this theme may be subject to bias due to a tool employed on the site at the time of research whereby people can give love to each other on a day-to-day basis<sup>133</sup>. Likewise, salutary comments were extremely varied in their approach. However this also may be due to a cultural disposition.

The commentary observed in this research seemed to reinforce those findings proposed by Thurlow (2003) and Thelwall (2009). Though the aforementioned research made no mention of social maintenance themed commentary<sup>134</sup>, friendship maintenance, salutary, informational and practical arrangement commentary were all evident in their research. Certainly while social maintenance commentary made up a large proportion of the overall commentary observed in this research, it must be noted that such a result may in part be due to the fact that the current research altered the Thurlow (2003) model of thematic analysis when applying it to this research. Therefore, while some inferences may be made, one must be cautious in comparing these results. Perhaps the predominance of social maintenance themed commentary may possibly be a reflection of Dunbar's (2004) theory of gossip about human relationships. Undoubtedly, this would seem to be the case from the results found.

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<sup>132</sup> It must be noted that the concept of Social Derision was only explored via the thematic analysis of comments made. Perhaps future studies could expand on this research and look at this topic further via the use of focus group interviews.

<sup>133</sup> When people are posting comments to one another, Bebo provides an option which if ticked also leaves a love heart on the recipient's page.

<sup>134</sup> This theme derived from the researcher's interpretation of the commentary observed and was an adaptation to Thurlow (2003) classification of themes.

## **4.8.2 Conversation Linguistics**

The conversations recorded by means of the ethnographic process were analysed using the linguistic analysis program, LIWC2007. As outlined earlier (3.8), this is a contextual analysis program which is able to calculate the degree to which people use different categories of words across a wide array of texts (LIWC, 2009). Through this program, the researcher analysed the use of words from within seven psychological dimensions as outlined in Table 3.8.1 on page 205. This software also facilitated the analysis of general linguistic processes such as the use of verbs and pronouns, words related to personal concerns and finally spoken categories. For clarity of understanding, the analysis conducted on linguistics will be presented under the following three headings: linguistic processes; psychological linguistic processes and finally, personal concerns. Each of the aforementioned headings relates specifically to different aspects of the LIWC2007 analysis and will be discussed accordingly.

### **4.8.2.1 Linguistic Processes**

The linguistic processes analysis reviews the overall word count, words per-sentence, the use of pronouns; the use of verbs and finally the use of swear words. The results of this audit found that females (Mean = 1,154.96, S.D. = 932.15) used more words than males (Mean = 742.35, S.D. = 653.24). Yet males (Mean = 60.43, S.D. = 63.75) used more words per-sentence than females (Mean = 49.38, S.D. = 48.45). In other words, females leave more comments but say less per-sentence. In spite of this, an Independent Samples t-test found no statistically significant difference between both genders in respect of each variable detailed (Independent Sample t-test, *M.D.* = -.412.614,  $t = -1.772$ ,  $P = 0.083$ ; *M.D.* = 11.045,  $t = .687$ ,  $P = 0.495$ ). In a similar manner no statistical difference was found in the gendered use of pronouns (Independent Sample t-test, *M.D.* = -.12860,  $t = -.140$ ,  $P = 0.889$ ) and that of common

verbs (Independent Sample t-test,  $M.D. = .32172$ ,  $t = .357$ ,  $P = 0.723$ ). The use of swear words however, did reveal a gendered disparity. Results found, show that males were more likely than females to use such language (Independent Sample t-test,  $M.D. = .33232$ ,  $t = 2.580$ ,  $P = 0.019$ ). However, in spite of this finding, it must be noted that the overall use of such words is relatively small. As with previous academic findings, the use of swear words among teenagers seems to be an integral part of daily conversation (Thelwall and Marvin, 2009). Furthermore, as identified by Hughes (2007), the use of such language is a common cultural characteristic among Irish people. Therefore, it should come as no surprise that such language use was evident in the present study.

#### **4.8.2.2 Psychological Linguistic Processes**

As detailed within the Methodology Chapter (3.8.2.1), the LIWC2007 application allows the user to insert text and investigate its content from within six psychological linguistic dimensions: social processes; affective processes; cognitive processes; perceptual processes; biological processes; and finally relativity<sup>135</sup> (Pfeil, Arjan and Zaphiris, 2008). Each of the aforementioned dimensions and their inherent attributes were correlated against linguistic processes variables using a Pearson correlation test. Furthermore, their overall use was correlated against gender using an Independent Samples t-test. The result of this analysis first found that the most common use of the aforesaid linguistic dimensions relates to words of relativity (Mean = 16.46, S.D. = 4.61). Following this were words of affective processes (Mean = 15.78, S.D. = 4.36) and cognitive processes (Mean = 15.62, S.D. = 6.06).

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<sup>135</sup> Each of the psychological linguistic dimensions is elaborated on in 3.8.2.1.



As shown in Table 4.8.1 (page 284), no significant statistical difference exists between males and females on each of the linguistic properties analysed. This is not to say however, that a difference in language use did not exist. Further analysis of the inbuilt properties of each of the linguistic processes stated, revealed a number of differences between male and female use of words. Specifically, it was found that males were most likely to use words related to space (down, in, thin) (Independent Sample t-test,  $M.D. = .64294$ ,  $t = 2.184$ ,  $P = 0.034$ ), and ingestion (dish, eat, pizza) (Independent Sample t-test,  $M.D. = .21085$ ,  $t = 2.364$ ,  $P = 0.024$ ), whereas females were significantly more likely use words related to discrepancy (should, would, could) (Independent Sample t-test,  $M.D. = -.34371$ ,  $t = -2.198$ ,  $P = 0.033$ ).

In putting this data under further scrutiny, a series of Pearson correlations were conducted to measure whether specific statistical associations existed in the data with other linguistic properties. Specifically, the linguistic processes already alluded to, were cross-compared against the psychological linguistic properties. To this end, it was found that the lower the amount of words used per-sentence, the greater the use of wording in the psychological linguistic dimensions of social processes ( $r = -.429$ ,  $P = 0.002$ ), negative emotion ( $r = -.388$ ,  $P = 0.006$ ), cognitive processes ( $r = -.471$ ,  $P < 0.001$ ), perceptual processes ( $r = -.433$ ,  $P = 0.002$ ) and finally relativity ( $r = -.335$ ,  $P = 0.019$ ). In addition, with an increased use of swear words, subjects were more likely to use words related to negative emotion ( $r = .647$ ,  $P < 0.001$ ) and biological processes ( $r = .616$ ,  $P < 0.001$ ). While further correlations were found, given the aims and objectives of this research, their significance was deemed irrelevant.

According to Pfeil, Arjan and Zaphiris (2008), teenagers tend to communicate in an informal manner, but are also most likely to focus on their emotions and representing themselves when posting comments on SNSs. What is more, the aforesaid scholars highlight that females are significantly more likely than males to use more self-references, negative emotions and social words than their male counterparts. In contrast to the latter of these findings, the present survey found no such outcomes. In fact, no statistical relationship was found between gender and use of the psychological variables. In hindsight, perhaps a difference in methodology may have contributed to this outcome. Having said this however, it was established within the present research that adolescents used words related to affective processes generously. Therefore, Pfeil, Arjan and Zaphiris (2008) suggestion that adolescents tend to communicate their emotions when communicating online, seems to be upheld.

**Table 4.8.1 T-Test on Gendered Difference in Psychological Linguistic Processes**

<i>Group Statistics</i>				<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (2-tailed)</i>
<b><i>Social Processes</i></b>								
<b>Male</b>	23	9.700	3.836	EQA	0.050	0.825	0.463	0.646
<b>Female</b>	26	9.174	4.085	EQNA			0.465	0.644
<b><i>Affective Processes</i></b>								
<b>Male</b>	23	16.797	4.516	EQA	0.869	0.356	1.544	0.129
<b>Female</b>	26	14.897	4.098	EQNA			1.535	0.132
<b><i>Cognitive Processes</i></b>								
<b>Male</b>	23	15.663	6.132	EQA	0.044	0.835	0.046	0.963
<b>Female</b>	26	15.583	6.122	EQNA			0.046	0.963
<b><i>Perceptual Processes</i></b>								
<b>Male</b>	23	2.958	1.855	EQA	9.397	0.004	0.646	0.522
<b>Female</b>	26	2.675	1.173	EQNA			0.629	0.534
<b><i>Biological Processes</i></b>								
<b>Male</b>	23	4.813	3.025	EQA	3.576	0.065	1.483	0.145
<b>Female</b>	26	3.784	1.728	EQNA			1.436	0.160
<b><i>Relativity</i></b>								
<b>Male</b>	23	17.566	5.011	EQA	1.727	0.195	1.590	0.119
<b>Female</b>	26	15.499	4.086	EQNA			1.570	0.124

#### **4.8.2.3 Personal Concerns**

This final sub-section analyses the use of words, which deduce an individual's personal concerns. Specifically, the LIWC2007 software program measured the degree to which words referring to work, achievement, leisure, home, money, religion and death were used. Following on from the analysis, it was found that in general, usage of these word themes was low amongst males and females. Additionally, statistical analysis found no gender difference in the use of such words bar words denoting death. The findings suggest that females were statistically more likely than males to use words relating to death (Independent Sample t-test,  $M.D. = -.04052$ ,  $t = -2.219$ ,  $P = 0.033$ ). However, it was established that females while in fact using words which

denoted death, were not implying this from their comments. Indeed, it found through analysis of the comments made between the subjects that, when in fact adolescents used such wording, they were actually referring to getting somebody, for example, a friend, back for something they had done. Examples of such use of this language are shown in the following comments:

“Oh My Gawd, I was sick from laughing!!! De tears wer streamin down my face with laughter!!! :L :L :L !!! I don't think I laughed as much in all my life!!! Oh God nt a gud idea Meghan, she'll **kill** ya!!! :L :L :L” (Female, 16 years old);

“Mayb dare wer mixed signals!:L oh yeah i get ya no...ah she cudn **kill** me she ways 2 small!:L :Lxxx” (Female, 16 years old);

“All I can say is dont **kill** me.please....” (Female, 16 years old).

### 4.8.3 Use of Phonetic Language

Phonetic language featured extensively throughout the entire research process. Unsurprisingly, many adolescents rarely spelt every word in a sentence correctly, opting instead to go for the shortened or phonetic word. In conducting a word frequency analysis of the entire cohort of comments, the most commonly used words were categorised according to their rank and outlined in Table 4.8.2.

The use of such phonetic language as denoted in Table 4.8.2, would suggest a *laissez-faire* approach to online communication. Such an approach to messaging may have originated as a result of character limitation through text messaging<sup>136</sup> and indeed has since transferred through to Social Network communication despite the lessened character limitations online. Interestingly, with many of the phonetically spoken words outlined, the addition of an extra character and the correct spelling of the originally used characters would render the original word being spelt correctly. This excessive use of phonetic language may bring forth a deterioration of grammatical ability in

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<sup>136</sup> On all phone networks in Ireland, the character limit is 160 characters per message composed.

years to come and anecdotal evidence has been quick to suggest its possible implications in the classroom (Prøysen, 2009). What is more, additional research has suggested that many young teenagers actively use informal writing styles instead of proper capitalisation and punctuation in their school assignments (Lenhart *et al.*, 2008). That being said, a considerable number of words spelt phonetically are also used correctly in the appropriately denoted word suggesting some resilience to phonetic word usage. However, as society becomes increasingly digitised day-by-day, it may not be long before this resilience begins to fade.

**Table 4.8.2 Phonetic Language Use in Communication**

<i>Use of English and Phonetic Wording</i>	
<b>British English Words</b>	<b>Rank</b>
i, ha, me, I'm, so, you, my, all, love, go	01 - 10
do, hey, ah, we, its, get, up, like, well, now	11 - 20
how, did, she, good, ye, don't, just, out, oh, have	21 - 30
any, say, much, day, he, your, yeah, got, can, sure	31 - 40
cant, back, eh, I'll, were, off, really, only, time, lad	41 - 50
some, know, one, give, didn't, am, aint, who, here, too	51 - 60
again, from, shit, yea, always, happy, her, bad, bit, god	61 - 70
new, same, friends, how's, best, fun, think, him, man, mean	71 - 80
an, had, last, make, ok, want, way, said, Bebo, see	81 - 90
down, hi, more, what, boy, even, grand, watch, leave, ever	91 - 100
<b>Phonetically Spoken Words</b>	<b>Rank</b>
d, u, ya, luv, 2, ur, wat, nd, dat, o	01 - 10
n, <b>ta</b> , 4, <b>de</b> , b, goin, <b>sum</b> , <b>wit</b> , wel, gud	11 - 20
1, r, jus, dis, <b>wen</b> , hav, <b>tho'</b> , <b>bout</b> , nt, <b>sur</b>	21 - 30
<b>den</b> , dnt, <b>ere</b> , tink, dats, er, lyk, y, wats, <b>hun</b>	31 - 40
nw, av, der, wer, kno, <b>al</b> , c, grl, bbe, ar	41 - 50
doin, bu, lik, wud, giv, lil, ou, reli, tanx, tat	51 - 60
k, mi, ny, ave, dey, yu, 3, <b>cos</b> , dem, e	61 - 70
<b>coz</b> , <b>mor</b> , wi, ppl, <b>com</b> , alri, tis, bou, hu, <b>cum</b>	71 - 80
notin, wa, wha, bak, nly, <b>doh</b> , wil, 2day, bk, bt	81 - 90
<b>cud</b> , jst, <b>ne</b> , nyway, bac, evn, shud, cuz, <b>doe</b> , frm	91 - 100

Note: Words in bold and italics are not necessarily phonetic words and do have a particular meaning, however, within the context which they were been used by adolescents within this research, they have been classed as phonetic language.

## 4.9 Image Portrayal

Richard, who is a very image conscious adolescent is extremely mindful of his appearance on SNSs and indeed in public. He is an adolescent who likes to be the centre of attention. In all, Richard boasts over nine hundred friends on his Social Network Site, but only actively socialises with a core group of about thirty. Richard also posts a number of pictures of himself online, sometimes posing with his top off. In order to allow people to get to know him, Richard openly posts personal information and will always leave his page as public so that people can find him.

Richards friend Emma is also very image conscious, but likewise craves attention. She like Richard boasts a large network of friends many of which she never communicates with. Emma posts a number of pictures of her and her friends on her site. This helps to reinforce her friendships. Emma however also posts pictures of herself posing and sometimes in a sexually provocative manner. She does this because she knows it will draw attention to her Social Network page. What is more, she will get more attention from boys in her local town.

As evidenced from the above narrative, SNSs facilitate identity creation in an online world, which is largely unregulated. Adolescents actively use such sites to boost their image status among their peers and furthermore enhance their self-esteem. What is more, teenagers have a very casual attitude and lack of regard for the personal information which they release online (Furnell, 2008). With this in mind, the current research recorded the personal information which adolescents post on their Social Network pages. Additionally, the researcher also categorised and recorded the number of pictures that adolescents have posted on their Social Network page. The result of this analysis illustrated that both males and females actively post pictures of themselves online. Females are however more inclined than males to do this. In addition, both genders are largely content with the personal information they provide on their Social Network page. This analysis shall be presented in more detail in the following sub-sections.

#### 4.9.1 Categorisation of Images Posted Online

For the purpose of image categorisation, the researcher created ten self-defined broad groups of categories<sup>137</sup>. However, even with such a breakdown, the researcher's interpretation of the picture may not be the true depiction as that understood by the individuals in the picture. Nevertheless, this broad categorisation undoubtedly provides ample evidence of the type of pictures adolescents present online despite their ambiguity.

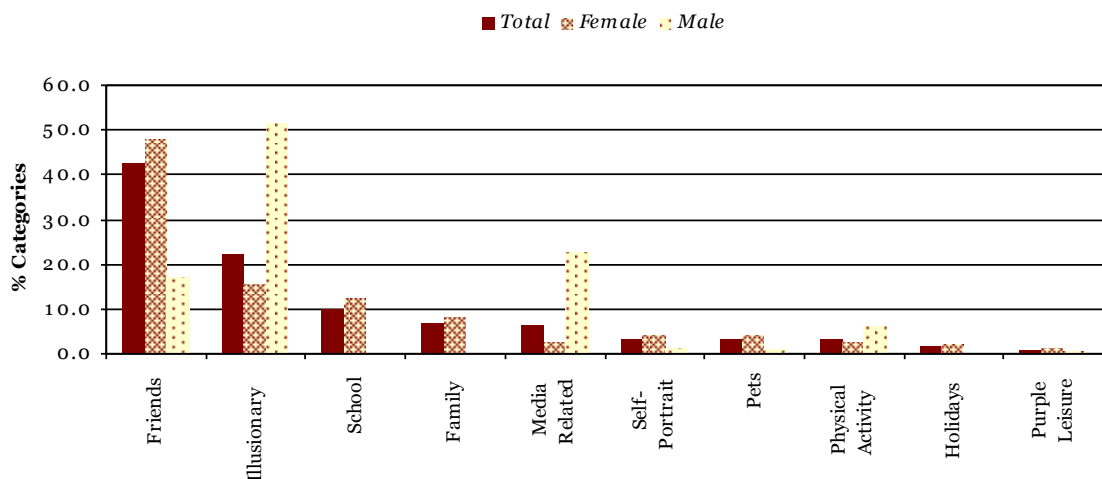
During the course of this research, a total of 10,316 pictures were categorised, averaging 245 pictures per Bebo site. Females were found to post more photos (Mean = 426.45, S.D. = 725.66) than males (Mean = 81.23, S.D. = 80.65) and furthermore, this difference was statistically significant (Independent Sample t-test, M.D. = -345.223,  $t = -2.219$ ,  $P = 0.048$ ). Figure 4.9.1 provides a clear insight into the type of pictures, which adolescents uploaded. As can be seen from this Figure, pictures of friends dominate the overall uploads. Following this was illusionary postings and then school photos. It is evident from Figure 4.9.1 that there is a clear disparity in the photo type which males and females upload onto their pages. Specifically, of the ten categories shown in Figure 4.9.1, five were found to have statistically significant gender differences. In particular, females were more likely to post a greater percentage of photos related to friends (Independent Sample t-test, M.D. = -31.181,  $t = -4.571$ ,  $P < 0.001$ ), family (Independent Sample t-test, M.D. = -2.800,  $t = -2.473$ ,  $P = 0.029$ ) and school (Independent Sample t-test, M.D. = -6.850,  $t = -3.649$ ,  $P = 0.003$ ) whereas males were statistically more likely to post a greater percentage of photos of an illusionary (Independent Sample t-test, M.D. = -24.140,  $t = 3.326$ ,  $P = 0.002$ ) and

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<sup>137</sup> Refer to Table 3.8.2 on page 202 for the full break down of image categories.

media related nature (Independent Sample t-test, M.D. = 14.654,  $t = 2.427$ ,  $P = 0.031$ ). Interestingly, self-portrait pictures or photos of the subjects by themselves only made up a small percentage of the overall values. However, of the self-portrait pictures found and in particular on female sites, a small quantity (1%) were posted in a sexually proactive manner. Males on the other hand tended to have more humour related poses. This is an important finding, particularly given the media attention that such form of Social Network Use has received in recent years (Revoir, 2008).

**Figure 4.9.1 Picture Upload Categorisation**



Added scrutiny of this data uncovered a number of notable correlations. Firstly, it was found that the number of months<sup>138</sup> in which an adolescent was a member of Bebo, was positively related with the number of media related ( $r = .326$ ,  $P = 0.035$ ) and illusionary photos ( $r = .465$ ,  $P = 0.002$ ) they had uploaded on their site. Secondly, the popularity of the subject's Bebo page, for example the number of views they had, was positively related with the number of pictures they had posted ( $r = .510$ ,  $P < 0.001$ ). Furthermore, the greater the number of views on their page, the more pictures they possessed of a self-portrait ( $r = .418$ ,  $P = 0.011$ ), media related ( $r = .434$ ,  $P = 0.008$ )

<sup>138</sup> This refers specifically to the time, which each subject was recorded as having been a member of Bebo at the time of the research.



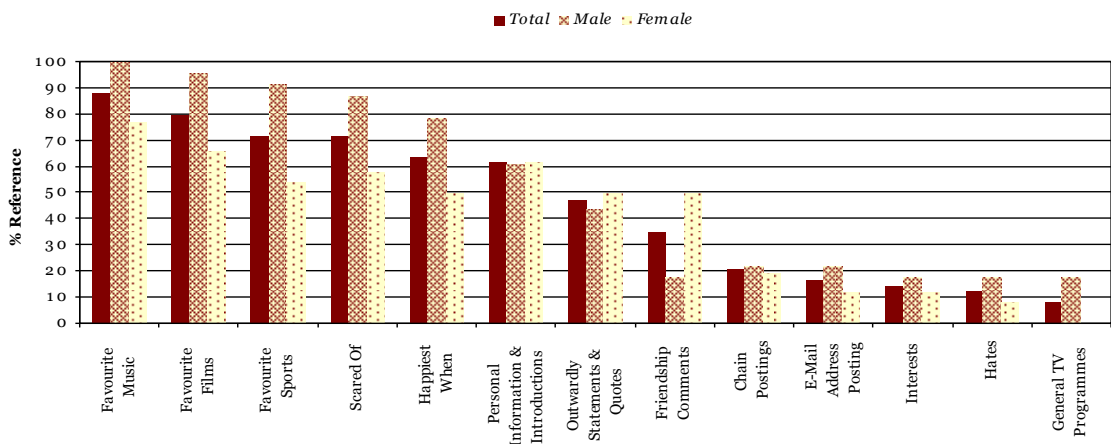
and illusionary nature ( $r = .613, P < 0.001$ ). While not entirely conclusive from the above findings, one could suggest that pictures posted of a sexually provocative manner may have been the reason for a positive relationship in the views per Bebo site. Nonetheless, without statistical evidence, it is not possible to arrive conclusively at this finding. What is more, the overall number of those found with sexually provocative pictures was quite small; therefore any statistical test conducted could be deemed invalid.

Commensurate with previous academic suggestions (Pempek, Yermolayeva and Calvert, 2009; Nosko, Wood and Molema, 2010), it comes as no surprise that teenagers actively post images of themselves online. What is more, it is unsurprising that females were more inclined to do this than males. Perhaps it could be insinuated that this could be a reflection of a greater interest among females in their appearance especially given the fact that a greater percentage of females were also found to post photos of a self-portrait nature. Undoubtedly, it would seem from the results of this research, that females actively seek to reinforce social bonds by enthusiastically posting photos of friends, family and school activities with class mates. As noted by Zhao, Grasmuck and Martin (2008), such pictures reinforce the ideal that the Social Network user is inferring 'look at me and know me by peers and family'. In this context, it could perhaps be insinuated that females actively utilise photographs as a means of reinforcing social relationships (Walther *et al.*, 2008) and their image (Peluchette and Karl, 2010). Furthermore, it would seem from the results found, that those females who post photos of a self-portrait nature, tend to gain more attention from their peers. In contrast to females' use of photographs, males tend not to be as obsessed with such image portrayal. Perhaps this is just a gender issue.

#### 4.9.2 “About Me” Information

Figure 4.9.2 illustrates the percentage of specific profile information, which adolescents posted on their Social Network page. As shown in the Figure, the majority of both males and females make reference to their favourite music (88%), favourite films (80%), favourite sports (71%) and what they are scared of (71%). On a whole, males were the more likely to make reference to information about themselves. Nevertheless, some aspects of information presented were more prominent among females. In particular, friendship comments and outwardly statements or quotes were more common amongst the female group. Interestingly, 16% of those surveyed had no problem in posting their e-mail address online and in some cases indicated how to find them on MSN<sup>139</sup>. None of the respondents posted their mobile phone number.

**Figure 4.9.2 Profile Information Displayed on Social Network Page**



In extending this analysis, a number of supplementary observations were performed during the ethnographic phase that are worthy of note. Firstly, some 78% ( $n = 38$ ) of those monitored ( $n = 49$ ) actively indicated their home place of residence. No gender difference was found with this variable with boys just as likely as girls to indicate this (Pearson Chi-Square = 2.203,  $df = 1$ ,  $P = 0.127$ ). In addition, 59% ( $n = 29$ ) of the

<sup>139</sup> As noted earlier, this is an instant messaging program.

subjects monitored indicated the type of relationship they were in at present<sup>140</sup>. Just 6% did not mention anything about their relationship status. The remaining 35% suggested they were married, down for whatever or engaged<sup>141</sup>. Again no statistically significant association between gender and relationship status was found (Pearson Chi-Square = 10.715,  $df = 6$ ,  $P = 0.098$ ).

Additional aspects of this type of information presentation were reviewed in the questionnaire survey in Phase Two. In some respects there is an overlap with findings mentioned already however, other aspects have yet to be addressed. Table 4.9.1 shows various types of information which adolescents admit to posting on their Social Network page. While the majority of the responses come as no surprise, given the findings that have previously been presented, there are some interesting results of note. Just close to 49% state which school they attend, while a further 33% state what date their birthday falls on. With a combination of the information presented, and an adolescents e-mail address and indeed in some cases as shown in the Table below, where they work, it would certainly be easy for a stranger to locate any of these adolescents.

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<sup>140</sup> On the Bebo website, there is a tool which allows users to indicate the status of their personal relationship with an individual. This group of individuals noted if they were single, seeing someone or in a relationship.

<sup>141</sup> The final three as mentioned are part of the seven options, which are available for selection on the site. It was presumed that any adolescent who noted they were engaged or married were joking about their relationship status. Given the age of adolescents surveyed, this was a reasonable assumption.

**Table 4.9.1 Information Type Provided Online**

<i>Information Type Outlined</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>	
	<i>Count</i>	<i>% Response</i>	<i>Count</i>	<i>% Response</i>	<i>Count</i>	<i>% Response</i>
<i>Favourite music</i>	63	78.8	32	84.2	31	73.8
<i>Relationship status</i>	62	77.5	32	84.2	30	71.4
<i>Hometown</i>	62	77.5	30	78.9	32	76.2
<i>Hobbies and interests</i>	60	75.0	33	86.8	27	64.3
<i>Favourite films</i>	57	71.3	28	73.7	29	69.0
<i>School</i>	39	48.8	19	50.0	20	47.6
<i>Birthday</i>	26	32.5	11	28.9	15	35.7
<i>Favourite TV Shows</i>	24	30.0	14	36.8	10	23.8
<i>Family</i>	5	6.3	2	5.3	3	7.1
<i>Favourite books</i>	3	3.8	1	2.6	2	4.8
<i>Location of workplace</i>	2	2.5	1	2.6	1	2.4

While such information is purely descriptive, it is clearly evident that many of those surveyed opted to provide such material. Interestingly, Zhao, Grasmuck and Martin (2008) identify that adolescents prefer to present an image of themselves through photos. They attest that a possible reason for such means of portrayal resounds in the fact that a picture paints a thousand words. That being said, they note that between 8-35% of those surveyed in their research still provided a self-descriptive profile. In fact, in contrast to this finding, close to 80% of those surveyed in the present research opted to do so. Such a contrast in percentages may in part be due to the fact that Zhao and his colleagues researched a different Social Network Site. Whatever the case may be, it is certainly evident that such means of image portrayal is clearly important to adolescents in Ireland and what is more, it is widely utilised. Having said this, it may be conceivable to suggest that teenagers have opted for this form of image portrayal, as they themselves may not be happy with their own photographic image.

## **4.10 Personal Safety When Using Bebo**

Ciara loves to socialise with people on her Social Network Site. For this reason she portrays a lot of personal information about herself online. What is more, she leaves her Social Network page as public so that people will visit her page. To gain attention, Ciara adds a lot of random strangers as her friend. To ensure they add her as a friend however, she posts some sexually provocative pictures of herself online. Ciara often makes contact with random people with whom she has never met before. However, she claims she is weary of complete strangers and will not talk to them if they are really weird. Yet, Ciara will still add them as a friend so as to boost her list of friends and in her eyes, positively affect her social status. Given the extent of Ciara's Social Network activities, it is somewhat surprising that her parents pay no heed to her online practices. She claims that they never monitor her Social Network Site use and the main reason for such neglect is because they do not know how to find her page, nor do they really know what a Social Network Site is.

The above narrative exemplifies some of the risk taking which some adolescents adopt in their Social Network use. The narrative illustrates how adolescents feel about portraying themselves online. What is more, it clearly details the typically dismissive attitude which some adolescents have towards risky behaviours on SNSs. While not entirely as extreme as the aforementioned narrative, the current findings highlight the potential for such risky behaviours online. The results find that many of those surveyed have an apparent lack of regard for the manner in which they communicate with people on SNSs. In addition to this, it would seem that parents in general, do not pay attention to their children's Social Network use and quite often fail to monitor their children's Internet activities. These results will now be presented.

### **4.10.1 People Contacted During Use**

Illustrated in Table 4.10.1, it can be seen that many adolescents have no problem accepting friends on their social site whom they have never met in person. Moreover, as outlined in the results below, two in every ten surveyed gave out private information regularly and furthermore, one in every ten state that they have met up

with someone they met on a Social Network Site whom they do not know<sup>142</sup>. Boys (20%) were more likely to do this; even so, this is not to take away from the fact that 8% ( $n = 14$ ) of females have also indulged in such behaviour. In comparing these activities against social class, no statistical associations were found.

**Table 4.10.1 Risk Behaviours and Social Network Use**

<i>Activity Related to Social Network Use</i>	<i>Total %</i>	<i>Male %</i>	<i>Female %</i>	<i>Pearson <math>\chi^2</math> Against Gender</i>
<i>Have friends on my Social Network page whom I've never before met</i>	54.3%	55.9%	52.7%	$X^2 = 0.365, df = 1, P = 0.309$
<i>Give out personal private information on my Social Network page</i>	20.2%	17.6%	23.1%	$X^2 = 1.687, df = 1, P = 0.122$
<i>Met up with someone that I had not known prior to meeting them on a Social Networking site</i>	14.6%	20.2%	8.3%	$X^2 = 10.177, df = 1, P < 0.001$

Many adolescents seem to have an apparent lack of regard for the way in which they utilise SNSs. This assumption seems to be upheld not only in the statistics presented, but also in the focus group interview process. Below are a number of comments detailing how adolescents interact with strangers in the public domain and how serious they take their social engagement:

“Yeah I’d accept people as a friend even if I didn’t know them... I wouldn’t reply to their comments though” (Male, 16 years old);

“When hot women ask me to be a friend, I’d definitely accept them but if it is a fella, I wouldn’t pay much attention to it” (Male, 15 years old);

“I would accept them as a friend if their profile looked ok...if it didn’t though I wouldn’t bother...just because I accept them doesn’t mean I’ll talk to them” (Female, 16 years old);

“No I’d never accept anyone unless I knew them...well...maybe if I knew of them but otherwise no” (Female, 16 years old).

There seems to be a mixed opinion between both genders in the comments noted as to how they would handle such a situation. Nevertheless, of the opinions shown above, three adolescents noted that they would accept a stranger as a friend. In looking at this

<sup>142</sup> Certainly it is conceivable that the person they had met may have been a friend of a friend. However, the point remains that the person they met, they have no prior knowledge of.

issue from another perspective, it was asked of respondents to detail how often they communicated with certain people. Specifically, respondents were provided with a four part likert scale question which sought to find out how often adolescents contacted close friends, friends, people they know, people they like (or were interested in) and finally strangers. Mann-Whitney U analysis first established that no statistically significant gender differences existed for either of the aforementioned people types. Following this, a series of Chi-Square Goodness of Fit tests, indicated the overall level of contact, which adolescents have with the aforesaid groups of people. The result of this analysis was unsurprising. Adolescents stated that they contacted their close friends every time they logged in (Chi-Square Goodness of Fit,  $P < 0.001$ ). Friends, people they know (Chi-Square Goodness of Fit,  $P < 0.001$ ) and people they liked (Chi-Square Goodness of Fit,  $P < 0.001$ ) were found to be contacted regularly, while contact with strangers was found statistically to never occur (Chi-Square Goodness of Fit,  $P < 0.001$ ). Having said this however, one hundred respondents suggested that they contact strangers rarely with a further twenty suggesting they make regular contact.

#### **4.10.2 Parental Restrictions on Bebo Use**

One in ten of those surveyed had restrictions placed on their Social Network use. More females than males had restrictions placed on their use, however no association was found between gender and Social Network restriction (Pearson Chi-Square = 2.967,  $df = 1$ ,  $P = 0.085$ ). Likewise no statistically significant association was found between social class and Social Network restrictions (Pearson Chi-Square = 4.404,  $df = 2$ ,  $P = 0.111$ ).

**Table 4.10.2 Restrictions Placed on Social Network Use by Gender**

<i>Restricted on Social Network Usage</i>	<i>Percent</i>	<i>Type of Restrictions</i>	<i>Number of Responses</i>	<i>Percent</i>
<b>Yes</b>	10.6	Must have private page	6	10.7
<b>No</b>	89.4	Only allowed use for set period of time	19	33.9
		Not allowed talk to strangers	12	21.5
<b>Yes</b>		No pictures allowed be uploaded to page	1	1.8
<i>Male</i>	8	Type of picture uploaded restricted	4	7.1
<i>Female</i>	13.6	Only allowed accept real friends	10	17.9
		Other	4	7.1
<b>No</b>				
<i>Male</i>	92			
<i>Female</i>	86.4			

Table 4.10.2 above illustrates the type and prominence of restriction types placed on Social Network usage. As seen in the Table, the time which adolescents use the device, is the most detailed restriction placed (Chi-Square Goodness of Fit,  $P < 0.001$ ). This was also found to be the case for males (Chi-Square Goodness of Fit,  $P = 0.003$ ). However, for females the variance in selection fell short of a statistically significant association (Chi-Square Goodness of Fit,  $P = 0.067$ ). Following time limitations, the next most common restriction was that of talking to strangers and after this, only being allowed to accept real friends. This was commonplace for both genders.

Binary logistic regression was carried out next on the data to establish whether certain characteristics predispose restrictions being placed on Social Network use. The test implemented sought to ascertain whether social class, gender, number of personal computers owned or having restrictions placed on other aspects of ICT use would relate to having restrictions placed on Social Network use. Not surprisingly, having restrictions placed on personal computer use was directly related to having Social Network restrictions ( $B = -1.328$ , S.E. = .454, Exp (B) = .265,  $P = 0.003$ ). In addition to this result, it was also found that those in the middle social class bracket were



significantly more likely to have restrictions placed on their Social Network use than any other social classes ( $B = -1.936$ ,  $S.E. = .852$ ,  $\text{Exp}(B) = .144$ ,  $P = 0.023$ )<sup>143</sup>.

#### **4.11 Hypothesis Testing – ICT Ownership and Use**

The purpose of this section is to evaluate the outcome of hypothesis one to three as outlined in the Methodology Chapter (3.3.1). Each of these hypotheses shall first be detailed and directly following this, tested to determine the validity of their supposition. Chi-Square Goodness of Fit, Spearman rho correlation, Kendall's tau-b correlation coefficient, Fisher's exact test and Pearson Chi-Square tests will be utilised to assess the credibility of these hypotheses. While some of the following hypotheses have already been tested and outlined in the findings of this Chapter, their result shall again be detailed for clarity and presentation purposes. The first hypothesis stated:

***H<sub>1a</sub>**: There will be an association between social class and personal computer ownership.*

This hypothesis was tested using a Kendall's tau-b coefficient. The Kendall's tau-b coefficient is used to measure the association between two ordinal variables. Based on the results shown in Table 4.11.1, this hypothesis may be accepted. The higher an individuals social class ranking, the more computers they are likely to own. Furthermore, this result is significant to the  $P < 0.001$  level.

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<sup>143</sup> This statistic appears to contradict the findings of a Pearson Chi-Square test conducted (p. 292) to measure the association between social class and Social Network Site restrictions. It must be noted that the Binary Logistic Regression test implemented is a more rigorous examination of the data, taking into account as it does a number of confounding variables. While the former test has been conducted correctly, for the purposes of rigor the latter finding is accepted in this case.

**Table 4.11.1 Kendall's tau-b Correlation Coefficient of PCs owned against Social Class**

<i>Kendall's tau-b Rank Correlation Coefficient</i>			
<b>Correlations</b>		<b>Socioeconomic Status</b>	<b>Personal Computers Owned</b>
<b>Socioeconomic Status</b>	<i>Correlation Coefficient</i>	1	0.559
	<i>Sig. (2-tailed)</i>	.	0.000
	<i>N</i>	407	407
<b>Personal Computers Owned</b>	<i>Correlation Coefficient</i>	0.559	1
	<i>Sig. (2-tailed)</i>	0.000	.
	<i>N</i>	407	409

The next hypothesis is a derivative of the latter hypothesis. By contrast however, given the nature of the variables involved in testing this assumption, a Spearman rho Correlation will instead be required. This hypothesis stated the following:

*H<sub>1b</sub>: There will be an association between social class and television ownership.*

As noted in the Methodology Chapter, the Spearman rho Correlation details the magnitude and direction of association between two variables, which are not normally distributed. Based on the results illustrated in Table 4.11.2, the latter hypothesis may be accepted. The higher an individual's social class, the more televisions they are likely to have in the home.

**Table 4.11.2 Spearman rho Correlation of Televisions Owned Against Social Class**

<i>Spearman rho Correlation</i>			
	<b>Correlations</b>	<b>Socioeconomic Status</b>	<b>Televisions Owned</b>
<b>Socioeconomic Status</b>	<i>Correlation Coefficient</i>	1	0.149
	<i>Sig. (2-tailed)</i>	.	0.003
	<i>N</i>	407	399
<b>Televisions Owned</b>	<i>Correlation Coefficient</i>	0.149	1
	<i>Sig. (2-tailed)</i>	0.003	.
	<i>N</i>	399	402

The nature of the second hypothesis required that it be tested using a Chi-Square Goodness of Fit test. This test measures if the observed frequencies found are different from what one would expect to find. This hypothesis proposed the following:

***H<sub>2</sub>:** There will be an association between the adolescent's purpose of Internet use and use of SNSs.*

In the question relating to this hypothesis, adolescents were requested to select from a list of popular Internet activities what it was they do most frequently online. Deriving from this question, the frequency of responses was recorded and from this, a Chi-Square Goodness of Fit test implemented. Table 4.11.3 clearly indicates that the above hypothesis is confirmed. The result of this test shows not only that using SNSs is the highest reported activity, but furthermore, that this difference in reported frequency is significant to the  $P < 0.001$  level.

**Table 4.11.3 Internet Activity Chi-Square Goodness of Fit Test**

<i>Internet Activities</i>	<i>Observed N</i>	<i>Expected N</i>	<i>Residual</i>
Homework Research	218	162.9	55.1
<b>Social Networks</b>	<b>278</b>	<b>162.9</b>	<b>115.1</b>
Chat Rooms	207	162.9	44.1
E-Mail	176	162.9	13.1
General Browsing	156	162.9	-6.9
Play Games	136	162.9	-26.9
Buying Items/Shopping	98	162.9	-64.9
Downloading Software/Music	176	162.9	13.1
Other	21	162.9	-141.9
Total	1466		
<b>Test Statistics</b>			
<i>Chi-Square</i>	<b>268.2251</b>		
<i>df</i>	<b>8</b>		
<i>Asymp. Sig.</i>	<b>0.000</b>		

0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 162.9.

The final hypothesis relating to this section of the presentation of results is broken down into two respective parts. The first of these hypotheses is tested using Fisher's exact test while the second is tested using a Pearson Chi-Square. The Fisher's exact test is used in place of the Pearson Chi-Square test when the table used has an expected frequency of less than five. These null hypotheses are as follows:

- H<sub>3a</sub>*: *There will be no association between social class and parental mediation of personal computer use;*
- H<sub>3b</sub>*: *There will be no association between gender and parental mediation of personal computer use.*

Table 4.11.4 and Table 4.11.5 both indicate that each of the aforesaid hypotheses may be accepted. Table 4.11.4 clearly shows that no statistically significant association exists between social class and parental mediation of personal computer use. Likewise,

no statistically significant association was found between gender and the same variable as detailed in Table 4.11.5.

**Table 4.11.4 Association between Social Class and Parental Mediation of Personal Computer Use**

<i>Chi-Square Tests</i>	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>	<i>Exact Sig. (2-sided)</i>	<i>Exact Sig. (1-sided)</i>
Pearson Chi-Square	2.421	1	0.120		
Continuity Correction	2.092	1	0.148		
Likelihood Ratio	2.418	1	0.120		
Fisher's Exact Test				0.127	0.074
Linear-by-Linear Association	2.414	1	0.120		
N of Valid Cases	380				

**Table 4.11.5 Association between Gender and Parental Mediation of Personal Computer Use**

<i>Chi-Square Tests</i>	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
Pearson Chi-Square	1.009	2	0.604
Likelihood Ratio	1.001	2	0.606
Linear-by-Linear Association	0.983	1	0.321
N of Valid Cases	377		

## **4.12 Hypothesis Testing – Social Network Use**

The intention of this section is to test hypothesis four to eight as outlined in the Methodology Chapter (3.3.1) by means of statistical analysis. This section shall first detail each hypothesis to be tested and following this, present the findings related to each proposition. Independent Samples t-tests, a Pearson Chi-Square test and Fisher's exact test will be utilised to calculate the validity of each of the hypotheses. While some of the following hypotheses have already been tested in this Chapter, their result shall again be deliberated upon for clarity and presentation purposes. To start with, hypothesis four was broken down into two parts as detailed:

*H<sub>4a</sub>*: There will be no association between gender and whether or not a Social Network personal page is left as public or private;

*H<sub>4b</sub>*: There will be no association between social class and whether or not a Social Network personal page is left as public or private.

The first of these hypotheses requires testing of results from both Phase One and Phase Two of the data. A Fisher's exact test was utilised to calculate the association between each of the variables in each data set. The result of these tests is displayed in Table 4.12.1 and Table 4.12.2 below. As can be seen from the Tables, the null hypothesis may be accepted on both accounts with each test detailing that no statistical association exists between gender and whether or not the adolescent had their page as public or private.

**Table 4.12.1 Association between Gender and Social Network Privacy Settings (Phase 1 Data Set)**

<i>Chi-Square Tests</i>	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>	<i>Exact Sig. (2-sided)</i>	<i>Exact Sig. (1-sided)</i>
Pearson Chi-Square	0.784	1	0.376		
Continuity Correction	0.549	1	0.459		
Likelihood Ratio	0.787	1	0.375		
Fisher's Exact Test				0.389	0.230
Linear-by-Linear Association	0.782	1	0.377		
N of Valid Cases	356				

**Table 4.12.2 Association between Gender and Social Network Privacy Settings (Phase 2 Data Set)**

<i>Chi-Square Tests</i>	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>	<i>Exact Sig. (2-sided)</i>	<i>Exact Sig. (1-sided)</i>
Pearson Chi-Square	0.016	1	0.899		
Continuity Correction	0	1	1		
Likelihood Ratio	0.016	1	0.899		
Fisher's Exact Test				1.000	0.541
Linear-by-Linear Association	0.016	1	0.900		
N of Valid Cases	80				

The second element of this hypothesis related directly to data deriving from Phase One of the data set. Unlike the previous two tests outlined, this hypothesis required that a Pearson Chi-Square test be conducted to test its validity due to the type of variables in the data set. The outcome of this statistical test shows that  $H_{4b}$  may be accepted as no statistical association was found between social class and whether or not an adolescent has their page as public or private. The result of this test is illustrated in Table 4.12.3.

**Table 4.12.3 Association between Social Class and Social Network Privacy Settings**

<i>Chi-Square Tests</i>	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
Pearson Chi-Square	0.310	2	0.857
Likelihood Ratio	0.306	2	0.858
Linear-by-Linear Association	0.302	1	0.583
N of Valid Cases	353		

The next null hypothesis sought to measure whether there was any statistically significant difference in the number of comments received between males and females per-day. Specifically, as outlined below, this hypothesis states:

***H<sub>5</sub>:*** *There will be no statistical difference in the number of comments received per-day between males and females.*

To test this theory, an Independent Samples t-test was conducted on the data set. This is a parametric procedure for comparing the mean scores of two groups within a given variable. The computations of this statistical test are shown in Table 4.12.4. The mean score for comments received was higher for females than it was for males. However, the null hypothesis may be accepted since the mean difference was found not to be statistically different.

**Table 4.12.4 T-Test on Number of Comments Received Per-Day against Gender**

<i>Group Statistics</i>				<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>	
<i>Gender</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (2-tailed)</i>
<b>Male</b>	23	1.52	1.951	EQA	0.118	-0.893	0.377
<b>Female</b>	26	2.01	1.888	EQNA		-0.891	0.378

Hypothesis number six sought to determine if a statistically significant difference existed in the use of psychological linguistic dimensions<sup>144</sup> between males and females. As detailed below, this hypothesis states:

*H<sub>0</sub>: There will be no statistical difference in the use of psychological linguistic dimensions between males and females.*

An Independent Samples t-test was used to test the assumption of this hypothesis. As shown Table 4.12.5, in all the linguistic dimensions except cognitive processes, males have a higher mean use of the linguistic dimensions. Perceptual processes are the only linguistic dimensions in which the variances are significantly different. Having said that, in all of the dimensions shown there is no statistically significant difference between males and females, thereby supporting the null hypothesis.

<sup>144</sup> Refer to page 201 for an explanation of these dimensions.



**Table 4.12.5 T-Test on Psychological Linguistic Dimensions against Gender**

Group Statistics				Levene's Test for Equality of Variances		t-test for Equality of Means		
Gender	N	Mean	Std. Deviation	F	Sig.	t	Sig. (2-tailed)	
<i>Social Processes</i>								
Male	23	9.700	3.836	EQA	0.050	0.825	0.463	0.646
Female	26	9.173	4.084	EQNA			0.465	0.644
<i>Affective Processes</i>								
Male	23	16.797	4.516	EQA	0.869	0.356	1.544	0.129
Female	26	14.897	4.097	EQNA			1.535	0.132
<i>Cognitive Processes</i>								
Male	23	15.663	6.132	EQA	0.044	0.835	0.046	0.963
Female	26	15.857	6.121	EQNA			0.046	0.963
<i>Perceptual Processes</i>								
Male	23	2.958	1.854	EQA	9.397	0.004	0.646	0.522
Female	26	2.675	1.173	EQNA			0.629	0.534
<i>Biological Processes</i>								
Male	23	4.812	3.024	EQA	3.576	0.065	1.483	0.145
Female	26	3.784	1.728	EQNA			1.436	0.160
<i>Relativity</i>								
Male	23	17.566	5.010	EQA	1.727	0.195	1.590	0.119
Female	26	15.498	4.085	EQNA			1.570	0.124

The seventh hypothesis has two dimensions which relate explicitly to the posting of pictures online. The two specific elements of this hypothesis state:

*H<sub>7a</sub>: There will be a statistical difference in the number of photos posted on Bebo between males and females;*

*H<sub>7b</sub>: There will be a statistical difference in the number of self-portrait photos posted on Bebo between males and females.*

In order to test each element of these hypotheses, an Independent Samples t-test was utilised. As evident from Table 4.12.6, it can be seen that the hypotheses outlined may be accepted as females post significantly more photos than males and more photos of a self-portrait nature.

**Table 4.12.6 T-Test on Photos Posted Online against Gender**

Group Statistics				Levene's Test for Equality of Variances		t-test for Equality of Means		
Gender	N	Mean	Std. Deviation	F	Sig.	t	Sig. (2-tailed)	
<i>Number of Photos Posted Online</i>								
<b>Male</b>	22	81.23	80.655	EQA	6.330	0.016	-2.219	0.032
<b>Female</b>	20	426.45	725.668	EQNA			-2.116	0.048
<i>Number of Photos Posted of a Self-Portrait Nature</i>								
<b>Male</b>	22	0.985	2.293	EQA	9.973	0.003	3.207	0.003
<b>Female</b>	20	16.132	16.132	EQNA			3.057	0.006

The final hypothesis is concerned with the difference in time which males and females spend using the Social Network Site Bebo weekly. The hypothesis states:

*H<sub>8</sub>: There will be no significant difference in the amount of time which males and females use Bebo weekly.*

Again, like the previous three hypotheses stated, this hypothesis will be tested using an Independent Samples t-test. As both a logbook and questionnaire was utilised to measure the time spent using the Social Network Site, each of the data sets retrieved from each methodology will be used to calculate whether a statistical difference existed. The result of this test is depicted in Table 4.7.4 on page 272. This table clearly shows that for both logbook (Independent Samples t-test, *M.D.* = 86.536, *t* = 1.384, *P* = 0.174) and questionnaire (Independent Samples t-test, *M.D.* = -20.516, *t* = -.472, *P* = 0.638), no statistically significant difference exists in the time spent using Bebo. Hence, the null hypothesis based on this result may be accepted.

### **4.13 Overall Discussion of Results**

The purpose of the following section is to present a discursive interpretation of the results found in the context of both current and emerging theory as outlined in the

Literature Review. Supporting data as presented in the first half of this Chapter will underpin the issues discussed.

#### **4.13.1 Irish Adolescents: A Vision of the Net Generation**

According to Livingstone (2008), adolescents today live utterly surrounded by technology. From early morning to late at night, the day-to-day tasks of young teens are shaped by technological innovation. Indeed, since technology has formed an important element of most adolescents' lives since their formative years, it comes as no surprise that the current generation of teenagers are often recognised as the most technologically advanced in history (Prensky, 2006; Tapscott, 2009). This generation of teens, sometimes known as the Net Generation (Tapscott, 1998; 2009) are recognised by their many technological characteristics and proficiencies. For instance, it has been widely acknowledged in academic circles (Prensky, 2001; 2006, Tapscott, 1998; 2009) that adolescents of the Net Generation are fluent technology users. They actively utilise multi-media applications for a variety of purposes such as school homework, online communication with friends and online gaming (Lorenzo and Dziuban, 2006) to name a few. Such is the nature of adolescents' use of technology, that quite often they multi-task for large periods of time utilising multiple ICT devices (Barnes, Marateo and Ferris, 2007), which are often located in their bedroom (Horst, 2010; Mesch and Talmud, 2010).

The aforementioned dimensions of the Net Generation were embedded in the results of this research. For instance, the ownership and creative use of ICTs were taken for granted regardless of demographic differences. In fact, the use of ICTs seemed in part, to supplement the daily social, leisure and work practices of many of those surveyed. For example, numerous adolescents actively utilised the Internet for school homework

purposes, but at the same time socialised with their peers online through instant messaging services. Several activities were often done in tandem with other ICT related practices such as watching television or listening to music on a MP3 player. Such actions seemed to exemplify the multi-tasking nature of adolescents ICT use, a point that is shared by various academics (Tapscott, 2009; Horst, 2010; Mesch and Talmud, 2010).

The notion of speed and innovation were characterised by Tapscott (2009) as key dimensions of the Net Generation. Tapscott (2009) advocates that for adolescents of the Net Generation, e-mail is far too facile a communication device due to its tardiness. As such, instant messaging and use of SNSs have thrived. To date, many academics have commented on the augmented nature of language use on these applications (Prensky, 2001; Thelwall, 2009) with particular reference to the use of phonetic language. Numerous scholars have attributed this augmentation in language use to alacrity (Merchant, 2001; Thelwall, 2009; Thelwall and Marvin, 2009). The premise of these suggestions appears to be predicated on the inherent characteristics of phonetic language use, which seems to reinforce the ideal that adolescents wish to communicate swiftly and innovatively. That is, the natural shortening of words would seem to reflect a desire for a faster form of word-processed communication. Hence, replicating the inherent desire for speed. This use of phonetic language was widespread in the current research. Most teens actively used the language in their daily commentary on the Social Network Site Bebo. What is more, teens innovatively used numbers, letters and number homophones, and abbreviations to establish the word they wished to portray in a phonetic and shortened version. Thus it is entirely

conceivable to suggest that such means of language use replicated the aforementioned dimensions put forward by Tapscott (2009).

In all, the extent of ICT use observed during the course of this research would appear to conform to the concept of the Net Generation. The various ICT related practices which adolescents engaged in, coupled with the access to and ownership of particular devices added credibility to that fact that adolescents in the current era seem to be technology savvy (Alch, 2000). Given the main parameters of the Net Generation which have not been examined in this research however, it is perhaps more accurate to identify that ICTs are undoubtedly present in the lives of adolescents and indeed embedded in their lives. In foresight, the very penetration of ICTs into the day-to-day behaviours of young teens will undoubtedly contribute to a knowledge based technological society in the future. Given that technology is set to advance further in years to come, one can but perhaps expect the next generation of teenagers to be more advanced than their parents before them.

#### **4.13.2 Irish Adolescents and the Digital Divide**

The notion of a digital divide has received consistent academic attention in recent years. Notwithstanding the multitude of definitions which have been postulated in this time, the term itself has come to be discussed in a variety of contexts (Kovačić and Vulmirović, 2008). From the traditional perspective, academics see the divide as merely the difference between those individuals who have and those who have not got access to various ICT related devices (Norris, 2001; Robertson, Soopramanien and Fildes, 2007a). Other academics such as Verdegem and Verhoest (2009) however, would contend that such a portrayal of the digital divide is no longer tenable given the basic characteristics of analysis. They further suggest that if we are to truly measure

the difference in ICT adoption, attention should instead be given to those who refuse to or simply cannot use new media technology.

Under the traditional perspective, much has been discussed in academic circles concerning people's adoption and use of ICT devices. In fact, much has been made in relation to how social class may impact on people's adoption and use of ICTs (De Hann, 2003; Martin and Robinson, 2007). These discussions however have tended to focus on the adoption of personal computers (Subrahmanyam, Greenfield and Gross, 2001; Selwyn, 2003; Robertson, Soopramanien and Fildes, 2007a) and have been inclined to ignore differences in other ICT related media. Of those studies that have focused their attention elsewhere, differing relationships between social class and the adoption of various ICT devices have been found (Masthoff, 2002; Livingstone and Bober, 2004; McPake *et al.*, 2005; Downie and Glazebrook, 2007). Interestingly, with the exception of personal computer ownership, Roberts (2000) argues that income and levels of parental education demonstrate subtle differences in household ICT availability. Based on the results of this research, this postulation is arguably upheld. Within the present findings, the only statistical relationship to social class found were related to the number of personal computers owned and the number of televisions owned. Otherwise, no direct relationship was found either with the time spent using ICT devices or their location in the home. In fact, it was found that those in the working classes were in general on a par with those in the professional classes in terms of ownership and access to ICT devices. In this case, it could be argued that there is in fact a narrowing of the digital divide in this context (Rideout, Foehr and Roberts, 2010) with most teenagers gaining access to the most predominant ICTs in some way or form.

In recent times, academic research has also moved towards a shift in the digital divide in respect of gender. For instance, many scholars have argued that the general use of ICTs and in particular personal computers, represent male dominant values (Wilson, Wallin and Reiser, 2003; Kennedy, Wellman and Klement, 2003; Losh, 2004). What is more, these scholars suggest that in general, males have more positive attitudes towards and greater experiences of computer related activities (Schumacher and Morahan-Martin, 2001). Certainly, while this point is acknowledged in scholastic discussions (DeBell and Chapman, 2006), many researcher's have been slow to accept this conclusion, or at least not to the same extent as the above referenced academics. More specifically, while certain scholars have alluded to a gender divide in computer related activities, they have been slow to comment on differences in respect of other ICT devices. For example, females have been found to be greater users of mobile phones (Rideout, Foehr, and Roberts, 2010). This however, seems to be the only exception with other research showing that males are more persistent users of both television (Wake, Hesketh and Waters, 2003; Todd and Currie, 2004) and games consoles (McMurray *et al.*, 2000; de Róiste and Dinneen, 2005; Brooks *et al.*, 2006; Downey, Hayes and O'Neill, 2007).

In comparing these outcomes against what was discovered in the present survey, one could not conclude for certain that a divide exists. As indicated earlier in Chapter Four, no evidence was found to support the notion of a gender divide in respect of time spent using personal computers, the Internet and television. However, as was found in previous studies (McMurray *et al.*, 2000; de Róiste and Dinneen, 2005; Brooks *et al.*, 2006; Downey, Hayes and O'Neill, 2007; Rideout, Foehr and Roberts, 2010) boys were more likely to spend more time using games consoles and likewise,

females were more persistent users of mobile phones. Reflecting on these findings, certainly one could not suggest for certain that a gender divide exists in relation to adolescents' use of ICTs. Having said this however, it may possibly be implied that a divide does exist, but at present is ICT specific. In either case, one could not conclude overall given the results of this research and of what has been found in other surveys that a gender divide exists in relation to ICT use.

Certainly, it would seem from the results of this research that the notion of a digital divide based on the traditional perspective is somewhat unfounded. While certain subtle differences exist, it could be argued that other factors such as those postulated under the notion of a digital decision (Thrane, 2003; Livingstone and Helsper, 2008) may have had a role to play. Undoubtedly, this matter is open to interpretation. Given the results of the present research, one could possibly relate to suggestions put forward by Sassi (2005). She suggests that the digital divide is not one-dimensional and is open to a variety of hypotheses. Under her weak hypothesis notion, she acknowledges that differences in ICT use will remain due to people's natural variances in attitudes and behaviours. Likewise, under the strong hypothesis, she notes that as society develops, old social cleavages will naturally be lessened and new ones created. This she states is the natural state of being. In the context of the present results, it would seem that the digital divide under the traditional notion has somewhat disappeared. Likewise, while gender disparities exist, these would seem to be reinforced by gender attitudinal norms, which seem to be lessening. Thus, given the limited nature of the overall cleavages exposed and the narrow gender differences uncovered in this research, this notion is somewhat unfounded. Having said this however, other factors



as proposed under modern conceptions may still be present, therefore perhaps conforming to Sassi's (2005) suggestions.

### **4.13.3 Social Network Sites and Irish Teens**

Social Network Sites epitomise the most significant change in Internet usage since the turn of the millennium. At present, people from all over the world actively use SNSs daily and it would appear that Irish adolescents are no different. The results of this research suggest that Irish teens actively engage in Social Network use daily. In fact, such is the extent of their usage, that it could be proposed that using SNSs is now an intrinsic part of adolescent leisure time. In addition to this, it would seem that the extensive use of these sites is also contributing to a change in how adolescents socialise on a day-to-day basis. Furthermore, it would also appear that SNSs are now providing an outlet for which social status and social norms are established. Indeed, many teens seem to augment or reinforce their image through the many features on the sites.

#### **4.13.3.1 *The Fascination of these Virtual Worlds***

It would appear from the results found, that adolescent's interest in SNSs is embedded in their curiosity in human relationships as suggested by Dunbar (1996). As widely purported in the literature (Lampe, Ellison and Steinfield, 2006; Joinson, 2008), adolescents typically joined or registered with the Social Network Site Bebo to facilitate communication with friends. Among the many reasons put forward in the present study, this was unanimously the most popular. However, in looking beyond this mutual response, a much broader motivation for registration and use was uncovered.

Dunbar (2004) for example, contends that approximately over two thirds of daily conversation time is devoted to topics which, come under the general label of gossip. According to Dunbar (1996), as humans, we inherently crave gossip about other individuals and because of this innate human instinct, it is contended that we utilise SNSs to facilitate this social grooming function (Dunbar, 2004; Tufekci, 2008a). Such a function appears to be represented in the current findings. For example, a sizeable proportion of those surveyed actively utilised their Social Networking page for surveillance functions such as looking at other people's profiles and photographs. Furthermore, a credible percentage of teens detailed that they utilise the site for information purposes. Such actions would seem to facilitate what Tufekci (2008a) described as a yearning to investigate and gossip about human relationships.

In addition to this, it would appear that a reasonable percentage of adolescents sought to utilise Bebo for social capital purposes. As outlined in Table 4.6.2 (page 263), just short of a third of those surveyed detailed that they utilise Bebo as a means of meeting new people, or getting to know individuals better. Certainly, as denoted by Joinson (2008), such actions allow people to build, invest and maintain ties with both new and distant friends. These actions he states, directly serve as a means of social capital building. Therefore, it would seem plausible to suggest that such functions appear to be served in the present findings. Adolescents actively sought to create friendships and furthermore build social bonds by actively posting pictures of their friends in their photo albums. In turn, these adolescents forged, invested and maintained social ties, which in effect could be construed as social capital building. Having said this, it must be noted that due to the methodology employed, it can but be hypothesised that this is case. For instance, the research approach used was not designed to measure social

capital formation online. Nevertheless, from the traits identified, it is entirely feasible to suggest that social capital formation (both bonding and bridging social capital) played some role in influencing the adolescents surveyed to use SNSs.

#### **4.13.3.2 Image Portrayal**

Zhao, Grasmuck and Martin (2008) contend that image portrayal on SNSs derive from three sources: firstly through visual mediums, secondly through enumerative cultural self-descriptions and thirdly through narrative statements. All three forms of image portrayal were evident in the current findings. According to Ellison, Heino and Gibbs (2006), using such forms of image portrayal in tandem with each other may serve to warrant or support claims made in different forms of impression management. For example, the use of photographs may often support claims made in textual or narrative statements. That being said, as photos are often staged performances, it may be hard to comprehend whether the image portrayed is representative of the individual or representative of the virtual self.

Nevertheless, there is compelling evidence to suggest both from the current research and other academic studies on SNSs (Strano, 2008; Zhao, Grasmuck and Martin, 2008; Siibak, 2009; Salimkhan, Mango and Greenfield, 2010) that photographs are the main form of image presentation in this online domain. Within the present findings, it would seem that females appear to be more concerned about their self-presentation online. Females were statistically more likely to post photos of friends, family and school activities. As denoted earlier, this appears to be derived from an innate female instinct to reinforce social bonds. For example, Strano (2008) proposes that females interest in posting photos of themselves accompanied by important others, could be associated with the female need to focus strongly on the construction of group identity

in online contexts. Though not statistically significant, females were also found to post more photos of a self-portrait nature. Siibak (2009) attests, that this may be because females self-beliefs, norms and values are associated with the traditional female character. Thus, more girls than boys will emphasise in their photos the need to look beautiful, hence reaffirming stereotypical gender roles. In some way conforming to these suggestions, it emerged from the results of this research that males appear to be laidback or unmoved about the image they portray on their Social Network Site, particularly in relation to the photographs which they upload. This according to Higgins (1991) is perhaps predicated on socialisation differences from an early age.

Undoubtedly, the visual image which adolescents portrayed on their Social Network Site, formed the backbone of the persona they wished to expose. Interestingly, the results confirmed that the more images an individual portrays, the more popular that individual's Social Network page will be. Likewise, those who posted more photos of a self-portrait nature in turn received more attention from their peers. In relation to this finding, Strano (2008) details that females are more likely to portray themselves in seductive poses. Perhaps this form of image portrayal may be employed to gain attention from adolescent males (OFCOM, 2008). Such image portrayal however, was only vaguely evident in the current findings. Nevertheless, many other indicators of seeking popularity or indicating popularity were evident. For instance, profile views, the number of friends and comments posted. While not conclusive from the results of this research, it would appear anecdotally that many adolescents actively utilised these functions to portray popularity. For instance, by commenting on someone else's page, one would expect a reply, therefore increasing comments on their page and increasing profile views. Additionally, adolescents seemed to add friends for the sake of having

them, regardless of the fact that few adolescents rarely contact their full network of friends (Mesch and Talmud, 2010). Furthermore, while only vaguely evident, by posting seductive pictures, it would appear that more people would visit their page. Henceforth, it would seem that some teens perhaps endeavoured to be viewed as popular and went to great lengths to portray this image.

Perhaps an interesting anomaly deriving from the above suggestions is that most research emphasises that the image you portray directly effects how people envisage you as a person (Lenhart and Madden, 2007; Siibak, 2009). Walther *et al.* (2008) on the other hand, contends that individuals who viewed attractive friends photos associated with an individual's page, rated the profile's owners page more attractive. Therefore, regardless of the image an individual presents on their own Social Network page, they may still be viewed positively or negatively based on the image their friend portrays. Thus, it is important to monitor the image that an individual's friend renders in so far as while having a lot of friends reflects positively on an individuals status (Mesch and Talmud, 2010), having friends with a poor image may result in an opposing effect.

In respect of the latter two of the three forms of image portrayal postulated by Zhao, Grasmuck and Martin (2008), the present findings found no predominant variance with that proposed in the literature. As denoted earlier, adolescents seemed content to utilise photographs as the main means of image construction. Perhaps as suggested by Zhao and colleagues, they believed the posting of photographs to be a more effective form of image portrayal. Having said this however, it would appear that adolescents actively supplemented one form of image portrayal with another. In fact, most actively

utilised all three. Therefore, it is conceivable to accept Ellison, Heino and Gibbs (2006) suggestion that using various forms of image portrayal in tandem with each other may support claims made in different forms of impression management.

#### **4.13.3.3      *Language Use Online***

According to Randall (2002), writing styles online come very close to everyday speech. That is he suggests, punctuation and grammar as well as other prescriptions of formal writing tend to get lost in the frenzy of typing. Henceforth, he suggests capitalisation tends to be non-existent and slang and abbreviations tend to flourish. Consistent with this suggestion, the present findings identified widespread use of phonetic language, which creatively utilised letter and number homophones and abbreviations to arrive at a shortened version of a particular word. These findings are consistent with earlier research on SNSs. Indeed results put forward by Thelwall (2009) in many ways mirror the results of the current study.

As detailed from the results of this research, it appears that many adolescents are trying to say as much as possible in the least possible number of characters. Therefore, they seem to be creatively re-arranging words and numbers and abbreviations to arrive at a shortened version of a word, which is also clearly understandable to their friends and peers. This is somewhat interesting as the original means for purposely restricting character use, derived from SMS on mobile phones (Thurlow, 2003). Given, that character limitations tend not to exist on SNSs, it is rather surprising that this means of language use continues to be utilised online. However, as speed seems to be the common motive in each medium, it could therefore be conceivable to suggest that such characteristics appeal to adolescents, hence the consistent and creative use of phonetic language. Furthermore, given that technological applications have become

much more efficient in the means in which they operate in recent years, perhaps it has come to be expected that communication practices online also need to be proficient.

Certainly, it is clear that many teenagers are playing an increasingly important role in the development of these new forms of linguistic innovation (Merchant, 2002). It is because of this, that academics have begun to query the extent to which such language use is affecting traditional linguistic forms (Paolillo, 1999). For the moment, it appears that no concrete evidence is available to suggest that phonetic language use is being transferred into the classroom. Nevertheless, the increased use of phonetic language among adolescents has brought with it many concerns from parents, educators and academics (Lenhart *et al.*, 2008; Plester, Wood and Bell, 2008). These concerns appear to be predicated on anecdotal evidence, which suggests that teenagers are adopting these linguistic dimensions as part of their assignments (Lenhart *et al.*, 2008). Certainly, more research would be required to confirm such assumptions. However, for the time being one must but accept that these new linguistic forms will continue to evolve well into the future. In fact, it is conceivable that in future years, such forms of linguistic innovation may be embraced by the education system.

In addition to analysing the use of phonetic language online, Thelwall (2009) also sought to explore the communication themes of comments posted by adolescents on SNSs. The current research found no anomalies with Thelwall's (2009) findings. In fact, aside from a slight difference in methodology, most of the commentary themed echoed Thelwall's results. As denoted earlier in this Chapter, it would appear that the commentary observed seemed to coincide with Dunbar's (1996) theory of gossip about human relationships. That is, there seemed to be an innate need for gossip about

friends and acquaintances. However, should such a proposition be surprising? After all, SNSs were created to facilitate social interaction between people. Therefore, one might expect people to gossip about human relationships (Dunbar, 1996; 2004).

Interestingly, it was discovered from the thematic and linguistic analysis, that the use of swear words was widespread throughout all the commentary observed. Thelwall and Marvin (2009) argue that this is a common characteristic of many adolescents daily CMC language. They contend that swearing is a normal rather than a deviant behaviour among youth and this appears to be no different for Irish adolescents (Hughes, 2007). In the context of the present research, swear words seem to supplement social derision among males. This derision as identified in 4.8.1, seemed not to act as a means of despondency, but instead to reinforce social bonds. Perhaps, such means of communication among males fortify social status. For instance, this social norm could possibly facilitate the ranking of adolescent males in their social group. At the same time however, no harm is intended from its use. For example, the use of such words and social derision appear to be embedded in the masculinity of males and their innate social norms (Giddens, 2001; Siibak, 2009).

#### **4.13.3.4 Moral Panics: Are they Justified?**

Since the early development of SNSs, much has been discussed in the media surrounding the type of information adolescents post online (Lenhart and Madden, 2007; Hasib, 2009), and how the posting of such information may leave teenagers susceptible to sexual solicitation, cyber stalkers (Rosen, Cheever and Carrier, 2008) and even identity theft (Donath and Boyd, 2004; Nosko, Wood and Molema, 2010). However, some have questioned the extent or nature of these moral panics, arguing instead that only a limited number of an otherwise global population have been left



vulnerable to such consequences and therefore suggesting such claims are exaggerated (Potter and Potter, 2001; Boyd and Ellison, 2008).

The results of this research would appear to support both the former and latter of these suggestions. Adolescents displayed little regard for the type of information they portrayed on their Social Network profile. Many accepted strangers as friends, while some went as far as meeting up with unknown people. In addition, most posted enough personal information to leave them susceptible to identity theft or cyber stalkers. However, in this context, it is perhaps conceivable that the notion of moral panics may be applied. For example, those who support the moral panic or hyperbole notion would argue that one may be just as likely to be stalked walking down the street. What is more, while evidence exists to suggest that teenagers have been targeted online for sexual solicitation, identity theft or even by cyber stalkers (Cusack, 2011), in many instances, the media and other bodies have often blown these individual cases out of proportion (Marwick, 2008). Nevertheless, this still does not mean that such occurrences will never happen and nor should they be disregarded, particularly since many teenagers display a clear lack of regard for the manner in which they conduct their online activities. For instance, Livingstone, Ólafsson and Staksrud (2011) found that one fifth of children with public profiles posted their home address and/or mobile phone number.

This research and indeed other research in the area (National Centre for Technology in Education, 2008; OFCOM, 2008; Rosen, Cheever and Carrier, 2008) have shown that the majority of teenagers leave their profile page as public. Many more actively engage in conversation with strangers online and willingly provide sensitive

information. Indeed, as was highlighted by the OFCOM (2008) report, most teenagers are not concerned with the dangers of online cyber stalkers. In fact, many find it amusing. Conceivably, it may be that teenagers perhaps agree with the notion of moral panics. For example, many denote in the OFCOM (2008) report that should they decide to meet a stranger in real life, they would mitigate any risks before meeting them. Nevertheless, many adolescents actively post pictures of themselves, their family and their friends online. Some were shown to post pictures of a sexually explicit nature (OFCOM, 2008; Walther *et al.*, 2008), which in effect may draw unnecessary attention from strangers. More worryingly, this research and other research in the area (Rosen, Cheever and Carrier, 2008; Mesch and Talmud, 2010) identified that parents are unaware of the behaviours of their children online.

In considering the findings of this research and other research in the area, it could be concluded that despite the moral panic argument, one must be concerned for the manner in which adolescents utilise the Internet and more specifically, SNSs. Certainly, while it is conceivable that overall, a small number of cyber stalkers exist in an otherwise global Social Network user base, the fact remains that these stalkers may still target and possibly abuse young children and teenagers. More worryingly, given the apparent knowledge gap between parents and children of the Net Generation in respect of Internet behaviour, one could expect that such behaviours will only become more pronounced in future years unless parents are otherwise educated on the potential dangers of online Social Networking. That being said, it must also be noted that recent research (O'Neill, Grehan and Ólafsson, 2011) has highlighted that Irish adolescents are becoming increasingly safety conscious on SNSs and are among the safest Social Network Site users in Europe. What is more, parents appear to be taking

better notice of their children's day-to-day Internet usage and mediating their children's activities online. Having said this however, Livingstone, Ólafsson and Staksrud (2011) contend that parental rules for SNSs when applied appear to be only partially effective.

#### **4.13.4 Socially Shaped or Socially Shaping**

“Technologies are designed constructed and used to do *particular* things. They are by definition...directed at achieving a particular end”

(Arnold, 2003, p231 – 232)

The above quote by Arnold (2003) holds that technology is designed to meet a certain need. It is created to facilitate human desires or social and economic demands. In recent years, scholastic discussion has begun to focus on the outcome of technological creations and its impact on societal social norms. This debate has come to question whether society is shaped by technology (technological determinism) or technology is socially shaped (social constructivism). Scholars in the many disciplines of the social sciences may choose to place themselves anywhere on the theoretical spectrum between technological determinism and social constructivism. Typically, technological determinists believe that technology itself exercises a causal influence on social practices, and with that induces change in social organisation and culture (Mesch and Talmud, 2010). Social constructivists argue that society differs in the extent of its access, use and attitudes towards technology and hence the meanings to which they associate with technology (Smith, 1985). Therefore, social constructivists reject the notion that ICTs influence people as homogeneous groups (Herring, 2007). According to Smith (1985), technologies can and do impact on society. However, technologies they state are also the social product of human creation (Smith, 1985). It would seem therefore that technology is both the subject of social change and societal

influence. That is to say, technology is both a means and symptom of social change (Martin, 2008).

The present findings would appear to conform to Martin's (2008) suggestions. On the one hand, the literature presented in Chapter Two clearly identifies that many of the ICTs studied during the course of this research were originally designed with a different use in mind. For example, SNSs were first devised to target those who were socially isolated in society (Boyd and Ellison, 2008). Likewise, personal computers were originally developed for military purposes (Winston, 1998). Despite the initial reason for their inception however, it would appear that today many ICT devices have become a conduit for social change. For example, under the Net Generation debate, Tapscott (2009) denotes that as children of this generation have grown up utterly surrounded by ICTs, their innate ability to use technology is much more advanced than that of their peers before them. What is more, Tapscott contends that as a result of this technological saturation, children of this generation have developed attitudinal norms, which differentiate them from other generations.

While deterministic in nature, the current research findings have to some extent fallen in line with Tapscott's suggestions. For example, the results appear to suggest that the use of SNSs in particular are developing a new means of socialisation and indeed changing societal boundaries. That is to say, social norms seem to be created among groups through Social Network Site usage (Donath and Boyd, 2004). Teens compete for social position among their peers and actively utilise SNSs as a means in which to fulfil this goal. This is often done through the manipulation of the many features, which exist on SNSs. There would also appear to be a move from traditional leisure

behaviours (Bovill and Livingstone, 2001; Bryce, 2001; Connor, 2003). For instance, more and more teenagers now possess various ICT devices many of which they use in their bedroom. This has in turn resulted in what is termed a bedroom culture (Haddon, 2004; Horst, 2010). What is more, it is suggested in the literature that the growing influence of ICTs on adolescents' lives is increasingly resulting in family conflicts (Livingstone, 2007; Ito *et al.*, 2010; Mesch and Talmud, 2010). This in part may be as a result of the growing penetration of ICTs into the lives of adolescents.

Certainly given the many influences which seem to derive from ICT use, one could adopt or even conform to the deterministic notion. Undoubtedly, the ways and means in which we go about using ICTs appear in some small part to affect the way in which we live our lives. That is to say, without a car, we would walk or even get a bus to work and vice versa. Likewise, in a time when games consoles and television did not exist, presumably adolescents would have found other activities to fulfil their leisure time. Nevertheless, for ICT related leisure behaviours to exist, the ICT device first had to be created. In this context, the social constructivist would argue that individuals in society in fact created these behaviours. Indeed, under this notion scholars are urged to look at the dynamics of technology change (Winner, 1993). That is to say, a technology's value is shaped by its social construction (Boyd, 2008b). As noted by Campbell and Russo (2003), how people live their lives is directly influenced by how they think about and use ICTs.

Undoubtedly, there would appear to be a number of examples both from the Literature Review and the results of the present research in which the social constructivist and technological determinist perspective perhaps may be applied.

Considering the literature and the findings put forward, one could possibly argue that either side of the spectrum is evident and indeed that both theories appear to be interlinked. For example, both technological determinism and social constructivism are two compatible theories of which each is perhaps necessary for the other to succeed. In this context, it could therefore be conceivable that for a deterministic perspective to be adopted, a technological device first had to be created by people in society. Likewise, from a social constructivist viewpoint, for a technology to be created, there initially has to be a desire within the social and economic realms of society for it to be designed. Therefore, it is the researcher's opinion that the results of this research appear to indicate interdependence on both sides of the socially shaped and social shaping argument. Technology is both the means and symptom of social change (Martin, 2008).

#### **4.14 Summary**

This Chapter has both presented and discussed the results of this research in terms of their significance in relation to Irish and International research. Having presented the findings, key issues relating to the themes identified in the Literature Review were discussed. The final chapter will now, having outlined and discussed these issues, reflect on the findings in terms of the significance to the overall aim of this research and more specifically, the research objectives and questions outlined both in the Introduction and Methodology Chapters.

*Chapter Five*

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*Conclusion*

## **5 Conclusion**

### ***5.1 Introduction***

This Chapter presents an overview of the research findings in terms of how they relate to the research questions of the study. The conclusions outlined, are predicated on the available literature and empirical data as well as data from the present research. Dominant themes threaded throughout the thesis are discussed. The chapter closes with future directions for research and policy recommendations. Furthermore, a critical reflection by the author on the research project will also be outlined.

### ***5.2 Overview of Findings in the Context of the Research***

#### ***Questions***

The aim of this research was to contribute to the understanding of Irish adolescents access to and use of ICTs and SNSs. To achieve this, the research utilised a method triangulation approach implemented over two separate Phases. The following sections reflect on the research objectives put forward in the Introduction Chapter and will identify the conclusions that have been arrived at as they relate to the research questions outlined. The research questions shall again be outlined for clarity purposes. These are as follows:

- What proportion of Irish adolescents, have access to ICTs and are registered with SNSs, and in particular Bebo?
- How do Irish adolescents utilise ICTs and the Social Network Site Bebo?
- What is the appeal of SNSs in general to Irish adolescents?



- Are Irish adolescents engaging in potentially dangerous activities on Bebo and other SNSs?
- Can the socio-demographic circumstances of an Irish adolescent influence his/her access to or use of ICTs and SNSs?
- To what extent do Irish parents monitor or mediate adolescent's use of ICTs and SNSs?

The examination of these research questions shall now be discussed as they relate to the literature examined in the Literature Review and the findings of this study.

### **5.2.1 Domestication of ICTs**

The research findings clearly indicate that the majority of adolescents have access to popular ICTs. For most adolescents, these devices appear to facilitate an important role in their daily social and leisure pursuits (Prensky, 2001; Livingstone, 2002; Tapscott, 2009; Mesch and Talmud, 2010). In some instances for example, adolescents were spending three hours or more per-day engaged with personal computers, games consoles and television combined<sup>145</sup>. However, it would seem from the observations of the research findings that adolescents utilised various ICTs sometimes intermittently throughout the day. In some cases adolescents may spend a prolonged period of time engaged with one device, but more often than not, they would find other activities to pursue and in many instances this may simply be a switch to another ICT device. Often adolescents may multi-task using a variety of ICTs at once. Tapscott (2009) argues that this generation of teenagers constantly need to be entertained. Therefore, multi-tasking with ICTs may be a means of alleviating this need for entertainment.

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<sup>145</sup> Time for Internet usage was not included in this calculation, as adolescents may have included this in their calculations in PC use.

Perhaps, it may also supplement a core social element to adolescents ICT use. For instance, the findings indicated that online communication was one of the most discernable uses of personal computers. Consequently, watching television at the same time, may allow adolescents to discuss a programme in real time, which in the past they may have discussed the following day.

It would appear from the findings of this research that ICTs have become a domesticated product in the typical family home and have been widely incorporated both into the arrangements of family living areas and adolescents daily social and leisure pursuits. Most of those surveyed had access to all of the ICTs in question. Furthermore, the majority had ICTs such as TVs and PCs located in their bedroom and indeed other family living areas. Conceivably, this may have consequences both for the meaning which adolescents attach to family living spaces and to the ICT being used. Livingstone (2002, p.67) for instance argues that:

“the diffusion and appropriation of media into the practices of everyday life plays such a key role in defining the home, in spatial terms, and daily life... that domestic media have become part of the infrastructure of family life. In other words...we might see the penetration of media throughout the home as establishing a certain set of expectations, practices and uses and hindering others”.

In elaborating on this point, Livingstone makes reference to how the television has acquired a central status in the homes of children. She notes that television is embedded in the sociality of daily life, invisibly supporting a variety of daily practices such as family time, meal time and bedtime. Television she explains, facilitates social conversation<sup>146</sup>, shared knowledge and humour and above all contributes to the construction of social identities. It embodies what it means to be a young person today. While Livingstone continues by arguing that the personal computer has not yet reached such a status, this supposition may be now a reality.

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<sup>146</sup> Similar to the reason proposed for why adolescent girls might watch television programs.

For example, the results of this research show a much greater ownership in personal computers than that reported previously. Livingstone (2002) argued then that parents and children struggled to use or understand the personal computer. Today however, this knowledge gap appears to have changed considerably both with personal computers and indeed with all of the ICTs surveyed. In keeping with Tapscott's (1998; 2009) suggestion of a 'Net Generation' for example, it would seem from the findings of this research that adolescents are both regular consumers and proficient users of personal computers and the Internet, games consoles and indeed mobile phones. Like television, these devices also facilitate social conversation, shared knowledge and contribute to the construction of social identities. Furthermore, the clear domination of PC related pursuits such as doing school homework, in addition to games console and mobile phone activities, serves to suggest that these ICT devices have in fact become a part of domestic infrastructure in recent years and supplement adolescents daily social and leisure routines.

Overall, the research found a high concentration of ICTs in most adolescents' homes. Most of those surveyed had access to a desktop computer, which in many cases may be supplemented with a laptop, perhaps owned by a parent or older brother or sister. Many more had access to a number of televisions and games consoles. The increased concentration of ICTs, particularly PCs and TVs, appeared in many instances to be located in the bedroom areas. As noted, the inherent focus of ICTs in an adolescent's bedroom may change how adolescents view this room. The presence of a personal computer in an adolescent's bedroom for example, may allow an adolescent to engage in other activities, which they would have otherwise not associated with this room. That is to say, in introducing a PC to the bedroom, the room is no longer an area for

sleeping and getting changed, but instead may become a hub for online communication. In addition to this, the notion of the bedroom culture may also be further exacerbated. While research is unclear of the consequences of the bedroom culture, numerous studies have indicated that those who have ICTs located in their bedroom will spend more time using the devices (Owens *et al.*, 1999; Dennison, Erb and Jenkins, 2002; Gentile and Walsh, 2002; Livingstone, 2002; Van den Bulck, 2004; Mesch and Talmud, 2010; Rideout, Foehr and Roberts, 2010). This in turn raises questions of a displacement effect on time spent with family and friends and other health and social related activities (Wartella and Jennings, 2000). It also raises questions on the ability of parents to monitor their children's use of the Internet and what they watch on television.

Conceivably however, it may also be proposed that such practices may be beneficial to adolescents social and leisure pursuits. It is plausible as suggested for example, that adolescents are utilising many of these devices intermittently and still engaging with family and friends whilst maintaining their interest in other related activities. For instance, while adolescents may spend vast periods of time utilising the Internet in their bedroom, this time would seem to be spent communicating online via SNSs and instant messaging services. In addition, females may watch soaps on TV such as Greys Anatomy not only because they like the show, but also because what happened in the TV series may be a topic of conversation among their friends. Likewise, males might play games on personal computers and games consoles to facilitate a similar function, all of which may be done in the adolescent's bedroom, and not necessarily by himself or herself.

In summation, the research questioned the means in which ICTs have influenced adolescents' lives. The findings illustrate that ICTs have become a domesticated structure in the daily social and leisure patterns of adolescents. A sizeable percentage of those studied had access to all of the ICTs surveyed, and what is more, the majority actively utilised these devices on a regular and consistent basis for a noteworthy period of time. Certainly, it would appear that the influence of ICTs on adolescents social and leisure pursuits is established. In fact, much of the practices observed seemed to replicate the notion of a Net Generation. Nevertheless, the extent to which ICTs cause change is as yet unknown. This research can but acknowledge that an influence is present and appears important at this period of time. The nature of this influence however, perhaps needs to be further explored.

### **5.2.2 Social Network Sites: Adolescents Enthralled in a Virtual World**

Social Network Sites also appear to hold a central role in adolescents' daily social and leisure pursuits with the majority of those surveyed actively engaging with SNSs on a daily basis. While Bebo was found to be the most prominent Social Network Site, it would appear that in the last year of this research, adolescents have since moved to Facebook. Nevertheless, both the Bebo and Facebook Social Networking Site are characterised by Thelwall and Marvin (2009) as socialising SNSs. This essentially implies that the characteristics that make up the dynamics of each site are similar and therefore comparable. Despite reasoned evidence towards extensive registration with and use of SNSs, many students still opted not to engage with these web domains<sup>147</sup>. Various reasons could be attributed to this. For example, it would appear that many

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<sup>147</sup> In Phase One, 13% of students did not have a Social Network page. In Phase Two, 26% noted that they did not have a Bebo Social Network page.

adolescents lost interest after an initial craze, while others were simply not interested both with SNSs and with technology in general.

Notwithstanding this noted disinterest in SNSs, it would appear from the results of this research, that SNSs like Bebo were extremely popular among adolescents perhaps because such sites have numerous desirable attributes. This attraction to Social Network Site usage differed from person to person, however there was one resounding interest commonly associated with most of those surveyed. This was an innate desire to find out information about past acquaintances, friends, peers, ex-romantic relationships and people in general. As denoted in both the Literature Review and Presentation and Discussion of Results, humans have an in-built interest in and desire to gossip about human relationships (Dunbar, 1996). This appears to be grounded in what the researcher believes to be a '*Social Snooping*' like function.

Under the term Social Snooping, the researcher holds that adolescents and individuals in general, utilise SNSs to find out information about fellow Social Network users. Individuals seek out other people on SNSs whom they may or may not know so that they can uncover information for the purpose of gossip with their current set of friends or to satisfy their own harmless pursuits<sup>148</sup>. While this information is sought secretively, they mean no harm by the ways and means in which they go about their surveillance or by what they want to find out. For example, many adolescent males may, having seen or met a girl through inter-school projects seek to find out information about her personal life through her Social Network page. As noted, they meant no harm by engaging in these practices. They simply wished to make friends if

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<sup>148</sup> These pursuits pose no harm to the individual, which they observe. They simply fulfill a desire by the Social Snoopers to find out information, which will not be used, in any harmful context.

the circumstances prevailed<sup>149</sup> or find out information about her (such as common interests) so they could make conversation if a future meeting were to occur. Likewise, females may view boys Social Network pages to see if they are in a relationship and if so who is she? What does she look like? Is she better looking than me? Where is she from? And who is she friends with? Below are some quotes relating to such behaviour:

“Sometimes I look for gossip...if something happened in school like, then I would go have a look at other peoples pages and look for pictures” (Female, 16 years old);

“I go looking at other peoples pages a lot...like when I go on it, I could be on it like for two hours...I only go on it at night...just looking at it and pictures and stuff” (Female, 16 years old);

“Usually, id have a look at peoples profiles, pictures and commenting people...I’d have to be decently dressed in me Bebo pictures too” (Female, 16 years old);

“Ah id check out the women a bit too...you know yourself...the lacs...I’d be nosey as well to see if someone is taken or not...” (Male, 16 years old).

In each case, these forms of surveillance generally facilitate conversation with friends. They discuss what they have found and ponder on future actions depending of course on the outcome of the surveillance. These activities are examples of the concept of Social Snooping.

In considering this concept however, it must be questioned if SNSs like Facebook and Bebo were to show users who have been monitoring their pages, would people be discouraged from using these sites? That is to say, this research found resounding evidence towards surveillance and as denoted a Social Snooping like function. Therefore, presumably, if people knew that the individuals whose pages they were viewing knew they had looked at their page<sup>150</sup>, then surely they may not visit their page in the first place. Likewise, it would be interesting to gain the perspective of an individual whose page had been monitored by an individual on a number of occasions.

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<sup>149</sup> If she was single, they may approach, but if she had a boyfriend, they may be more cautious.

<sup>150</sup> For example, if a user was monitoring their ex-boyfriend or girlfriends page.

In these circumstances, would they concur with the concept of Social Snooping despite the fact that they most likely engaged in similar practices? Perhaps, this may be the reason why SNSs have been slow to adopt such an application for fear of losing members.

Conceivably, despite how widespread the act of Social Network surveillance is, it may in fact be an issue for apprehension among many teens, especially considering that many individuals may snoop on people's pages for more negative purposes<sup>151</sup>. In this context, the individual snooping may not be viewed as a Social Snooper, as now they are conducting surveillance for a deleterious purpose. For those however, who are wholly concerned about such acts, they do have an option to privatise their Social Network page, thus eliminating any concerns. Nevertheless, despite having this option, this research would seem to infer a strong preference for public Social Network pages, hence allowing open access from any member of the public. In addition to this, most teens disclosed a lot of personal information, actively outlining where they are from, where they work and what their key interests are. This however seemed to be the norm and is reflected in a number of studies both internationally and in Ireland (Acquisti and Gross, 2006; Ellison, Steinfield and Lampe, 2007; Carverlee and Webb, 2008; Hinduja and Patchin, 2008; National Centre for Technology in Education, 2008; Zhao, Grasmuck and Martin, 2008; Fogel and Nehmad, 2009). Perhaps, adolescents leave their page as public because they want to be noticed or meet new people. Conversely, increases in page views may provide an adolescent with a sense of popularity and therefore, they actively market their page so as to increase

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<sup>151</sup> For instance, people may view peoples Social Network page for bullying purposes. Alternatively, people may constantly view their ex-boyfriend or girlfriends page with a view to cause trouble. In this context, the surveillance may be seen as negative and no longer social snooping.



their profile views. In addition, the publication of private details may possibly aid in conversing with previously unknown people online.

In many respects, it could be suggested that both the lack of monitoring functions available on SNSs and the ease of access to many Social Network pages, promote Social Network Site use. In turn, perhaps because of the lack of monitoring utilities and popularity of public Social Network pages, adolescents may sub-consciously become weary of the image they present on their page. Individuals may for example fabricate an identity of themselves that they wish to be portrayed, perhaps sub-consciously reacting to the concept of Social Snooping. Conversely, it may also be that they wished to be viewed positively among their core inner circle of friends especially given that image is becoming increasingly important to adolescents. In any case, constructing a positive image appeared to form an important aspect of Social Network Site use for many teens. Many of those surveyed clearly sought to gain attention from their peers by the image they portrayed. Adolescent girls often posted numerous pictures of themselves with their family and friends. In fact, females seemed to purposely post pictures of those close to them, almost to say, “know me by my friends” (Zhao, Grasmuck and Martin, 2008). Such actions seemed to reinforce social bonds among friends and strengthen relationships. Males also participated in comparable behaviours. While they appeared less concerned with pictures, they actively mocked each other socially and often discussed topics common to their cohort of friends.

Overall, both genders actively sought attention through the various actions or pictures they portrayed. Those who gained the most attention sought to maintain the notice

they received by actively commenting on other people's pages possibly in the hope that they would comment back and in turn, increase their profile views and thus their perceived popularity. As denoted both in the Literature Review and Presentation and Discussion of Results, many teens actively added friends perhaps to portray a popular image. Indeed, pictures depicting purple leisure behaviours and sexually explicit poses were sometimes displayed. Furthermore, males utilised foul language on a regular basis. Conceivably such social conduct is pursued to increase their social status amongst peers. The status afforded to a teen is in turn reflected in the profile views and friendships they have established on their Social Network page. It is on these Social Network pages where new social norms may conceivably be established.

It must be noted however that not all teens engaged in these practices. A certain proportion of the research sample opted not to leave their page as public (16% Phase One; 38% Phase Two), perhaps in direct response to an invasion of privacy. Furthermore, many Social Network pages surveyed displayed little in the way of searching for attention. In fact, some teens posted only a limited number of pictures on their page and rarely visited their Social Network Site. This user type seemed in no way concerned with the image they portrayed to their peers. They simply used the site possibly to keep in touch with social norms or to keep in contact with friends. Perhaps they believed that their time could be better spent interacting with their friends in person and did not see the need for SNSs or conforming to social conduct. That being said, these users may on the other hand be socially inept when it comes to communicating online, or perhaps may have no social contacts to maintain friendships with. For example, one student stated:

"I just don't like social networks... I'm just a bit afraid that I would not understand something that was said on it" (Male, 16 Years Old).

Certainly, while the Social Network environment is believed to facilitate social interaction and creation of friendships, in some instances it appeared from observations during this research that some teens may still be socially excluded.

As denoted in the Presentation and Discussion of Results Chapter, most adolescents often posted comments on SNSs on a daily basis or alternatively communicated via instant messaging services. Having conducted both a linguistic and thematic analysis of the data retrieved from this research, two conclusions have been arrived at as they relate to language and communication practices online. Firstly, adolescents extensively utilised phonetic language in the comments they posted on SNSs. The popularity of this communicative practice may be attributable to the immediate properties it holds. As yet, research has not established conclusively whether such language use will have adverse consequences on adolescents academic and language capabilities. However, given the sheer popularity of such language use observed, it is conceivable that in future years, this consistent form of communication may lead to deterioration in grammatical ability. Alternatively, such language use may be embraced and enforced in the education system. Secondly, there appeared to be a difference in how males and females communicated online. Male adolescents for example were fond of social derision practices. Often they would use derogatory and disparaging language to mock another friend publically online. Initially this seemed to be a form of bullying<sup>152</sup>. As it transpired however, this behaviour appeared to be the social norm and was widely supported on Social Network pages<sup>153</sup>. Female commentary on the other hand served to suggest that they were more overtly

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<sup>152</sup> Students were mocking each other in a manner befitting a form of bullying.

<sup>153</sup> Certainly while this appeared to be the case, this is the researcher's interpretation of the commentary. Therefore, it must be acknowledged that those on the receiving end of the disparaging language may have had a different interpretation. For example, O'Neill, Grehan and Ólafsson (2011) found that 24% of Irish teens aged 15-16 years have been bullied online or offline in the past twelve months.

supportive to their friends. In fact, a sizable percentage of their comments were of a friendship maintenance type nature. This however is perhaps a reflection of the female social norms.

Having considered the issues discussed thus far, should one consider the use of SNSs an opportunity or risk? To date, much has been discussed in newspapers and academic articles (Spitzberg and Hoobler, 2002; Alexy *et al.*, 2005) surrounding Cyber Stalkers, the inherent risks associated with public pages and publication of personal private information online. Equally, some academics have snubbed these statements, instead arguing a sense of moral panic in society. In the context of the current study, it would appear that there is evidence to support either case. Many adolescents for example conveyed that they had made friends with strangers online whom they have never met. What is more, fifteen per cent of those surveyed admitted meeting up with these people in person. In addition to this, a sizeable percentage<sup>154</sup> of adolescents purposely left their Social Network page open for public access and at the same time provided a wealth of personal private information. Certainly, considering the context of these results, perhaps there is genuine reason for concern. Anyone who wished to track or find these teens would have no problem both locating or getting in contact with them under a false identity. What is more, those individuals who provide key personal information may also leave themselves susceptible to identity theft, bullying or indeed worse.

That being said, some teenagers outlined that they do take appropriate measures when dealing with strangers. In fact, it must be noted that some teenagers choose not to

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<sup>154</sup> In Phase One 84%, while in Phase Two 61%.

leave their page as public, while others noted that having been approached by a stranger online, they would block them from their Social Network page. In addition, according to O'Neill, Grehan and Ólafsson (2011), while there is much to be explored in terms of adolescents' use of the Internet and SNSs, it would appear Irish children's conduct online is less adventurous and more conservative than that of their European counterparts. Having said this however, there certainly appears to be an inherent risk with Social Network Site usage. Nevertheless, with most risk, there is an opportunity to limit the possibility of an unpleasant outcome. In this context, it must be acknowledged that there appeared to be a distinct lack of parental influence in adolescents Social Network Site use. Furthermore, adolescents were not educated on the risks of online information disclosure. Therefore, perhaps educating both parents and adolescents on the risks associated with Social Network Site usage may negate some of the risks involved, or at least alleviate them to some extent.

To summarise, SNSs are an extremely popular social and leisure pursuit among adolescents. Most adolescents surveyed were registered with at least one Social Network Site, the most popular of which at the time of this research was Bebo. These sites appear to fulfil a number of roles in adolescents' daily pursuits, the most important of which appears to be a Social Snooping like function. Perhaps as a direct response to this popular function, adolescents go to great lengths to fabricate and maintain an image, which they deem as appropriate within their social circle. Teens who wish to seek attention utilise many of the functions available to them on SNSs in order to illustrate this. Most for example leave their page open to the public, perhaps to give an image of popularity with page views or so that they can attract interest from other individuals. That being said, many refuse to leave their page as public for fear of

privacy breaches. In all, the findings on Social Network Site use provide a valuable insight into the context of adolescents' social conduct online. Despite the thorough evidence provided, more research is needed given the paucity of literature available on the topic in Ireland and indeed the swiftness of Social Network Site development. For now, these findings can but contribute to the body of knowledge available.

### **5.2.3 ICTs and SNSs: The Influence of Socio-Demographics**

In recent years, there has been an increase in academic attention surrounding the notion of a digital divide. As outlined in the Literature Review, there are a number of components to this concept. The traditional component questions whether differences exist in people's access to and use of ICTs. More recent interpretations however, question people's attitudes towards ICTs and more specifically, their interest in and ability to use technological devices. Whilst not disregarding the latter components outlined, the principal focus of this research was to question whether differences existed in adolescents ownership and use of ICTs and SNSs based on gender and social class background, thus querying the traditional view of this conception.

The research initially sought to establish whether a digital divide existed in terms of social class background. Based on the conclusions from this investigation, it would appear that no such divide exists. While the findings found a positive relationship between the number of personal computers and televisions owned and social class, no other statistical relationship was found with any of the other variables surveyed. The only exception to this however, is that it was established that those in the middle social class bracket were more likely to have Social Network restrictions. Nevertheless, the majority of those surveyed had access to ICTs and although a statistical relationship was found between the number of televisions and personal computers owned, it would

appear that this had no bearing on the time which adolescents spent using these devices or their general access to them. In fact, even those who came from less affluent families, still had access to the majority of ICTs surveyed. Therefore overall, it could be argued that a digital divide appears to be non-existent in this context.

Conceivably, the affluence of families during the Celtic Tiger years in Ireland may have had a profound influence on this outcome. In addition, the reductions available in the price of personal computers and televisions at this time, perhaps contributed to the increased spending on these devices. Given that Ireland went into recession during the course of this research, it would perhaps be interesting to see whether a digital divide could establish itself in Irish society ten years down the road. Therefore, while this research has established that at present no divide exists, in the future, perhaps more research will be required to re-examine this finding.

The latter topic explored under the traditional notion of the digital divide sought to examine if certain differences between males and females existed in their use of ICTs. As indicated in the previous Chapter, no evidence was found to support the notion of a gender divide in respect of the time spent using personal computers, the Internet and television. However, as indicated in previous studies (de Róiste and Dinneen, 2005; Rideout, Foehr and Roberts, 2010), boys were statistically more likely to spend more time using games consoles than females and likewise, females were more persistent users of mobile phones. Certainly, while one could not conclude from these findings that a gender divide exists in relation to adolescents' use of ICTs, conceivably, it could be suggested however that there may be a divide, which is ICT specific. Perhaps the reasoning for an ICT specific divide is grounded in interest discrepancies between

males and females. For example, the reasoning for males statistically spending more time using games consoles than females may be due to an innate interest in computer games perhaps due to their competitive nature (Bryce and Rutter, 2003a). Likewise, perhaps females more persistent use of mobile phones and indeed their greater engagement with SNSs is predicated on their interest in social communication (Levin and Arluke, 1985; McAndrew, Bell and Garcia, 2007). For instance, females statistically left more comments on SNSs than males and appeared to be more overtly supportive to their friends in the comments they posted. Similarly, they statistically sent more text messages on their mobile phone per-day and used more credit on a weekly basis.

Having taken into consideration the outlined gender differences in ICT use, perhaps the argument of a gender divide is somewhat contradictory. That is to say, surely if males and females choose to use ICTs based on their interest in them, can this be classed as a divide? Certainly, while technology in general is not specifically gender tailored, it would appear that there are parameters of ICT usage, which may suit different genders. Therefore, it could perhaps be concluded from the findings of this research, that the time spent using ICTs is somewhat significant. However, the time which either males or females use specific ICTs appears to be offset by their interest in an ICT device and the uses it provides.

To sum up, divisions in society centred on the traditional notion of the digital divide appear to be non-existent based on the results of this research. While a statistical difference was found between the number of televisions and personal computers owned and social class, this variance appeared to be offset by the fact that no



statistical difference was found between the time spent using either of the devices. Similarly, in respect of gender dissimilarities and ICT use, it was found that while certain differences existed in the time spent using different ICTs, this time appeared to reflect a taste and interest characteristic amongst males and females. Therefore, having considered the results found, it would be hard to support the traditional notion of the digital divide. Nevertheless, it is conceivable that more modern conceptions may still apply, particularly in respect of attitudinal norms.

#### **5.2.4 Parental Mediation of ICT and Social Network Site Use**

Undoubtedly, the results of this research demonstrate a clear interest in and widespread use of ICTs and SNSs. It would appear however, that for most adolescents surveyed, parents interfered little with their use of each of the ICTs studied and indeed with their use of SNSs. While some restrictions were imposed on certain aspects of ICT use, for the most part, there was limited implementation of these mediation strategies. Certainly, this lack of parental influence could be attributable to a number of factors. For example, an adolescent's parent may have grown up in an era of less technological influence. Therefore, their knowledge of the potentially harmful affects of ICTs may be limited. To date, there has been limited academic attention towards parents and their mediation of adolescents ICT and Social Network Site use. Therefore, it is hard to draw concrete inferences from the data received from this research. However, having considered the apparent parental disregard displayed, perhaps it may be worthwhile for the Government to consider implementing policy which seeks to educate both parents and children on both the positive and harmful affects of over exposure to ICTs and neglectful use of SNSs.

### **5.2.5 Summary**

Having considered the outcomes and conclusions of this localised study, there would appear to be a number of emergent trends in relation to Irish adolescents' use of SNSs and ICTs. Both ICTs and SNSs play a central role in adolescents' daily social and leisure pursuits. This role is perhaps facilitated by a number of factors. For example, the research findings served to suggest that there is a domestication of ICTs in most adolescents' homes. ICTs were ubiquitous in the typical adolescent household, and in many instances were focal instruments in the infrastructure of adolescents' bedrooms. In addition to this, access to and use of the Internet appeared to be widespread amongst the sample, which in turn supplemented the popular use of SNSs, namely Bebo. The use of Bebo supported a number of social functions, many of which perhaps contribute to an adolescent's well-being. The majority of those surveyed appeared to use Bebo for a Social Snooping like function. The comments posted on the Bebo Social Network Site portrayed a strong preference for phonetic language use. In addition, the themes identified in the commentary observed reflected both the male and female character. Overall, no clear difference both in terms of access to and use of ICTs and SNSs was evident in respect of social class. Likewise, any gender differences in the use ICTs and SNSs appear to be grounded in male and female persona disparities and not in a disadvantageous context. Parental mediation of online behaviour on SNSs and use of ICTs appeared to be lacking. This is especially relevant, taking into consideration the behaviour of adolescents on SNSs and the time spent using ICTs daily.

### **5.3 Contributions of Research**

This research paints a general picture of how adolescents engage with and use ICTs and SNSs. It also demonstrates the central role of technological paraphernalia in adolescents' social and leisure pursuits. Currently, adolescents have widespread access to a range of ICTs and regularly utilise these devices as part of their normal day-to-day behaviours. Likewise, they frequently log on to and utilise their Social Network Site to socialise with their friends and search for gossip and information. Such findings have implications for how adolescents learn, how they search for information, how they socialise, how they communicate and how they behave on a day-to-day basis. For example, the manner in which adolescents post comments on SNSs or instant messaging programs has practical implications for educators. In a similar vein, the means in which adolescents portray themselves on SNSs coupled with the personal information they actively publish online has consequences for both policy makers and parents.

Undoubtedly, it is evident from the current study that ICTs and SNSs play an important role in adolescents' day-to-day activities. Thus, a number of organisations and individuals involved in adolescents' lives could benefit from this research. It is anticipated for example, that this study could make parents aware of the key issues that surround adolescents' use of ICTs and SNSs in addition to the risks and benefits associated with ICT and Social Network Site usage. In turn, these findings could alter their conceptions of their children's technological practices and make them more vigilant of their online practices. Likewise, youth organisations could utilise this research to better understand adolescents use of technology and perhaps use this information to target adolescents on SNSs for reasons that may be beneficial to their

overall well-being. This is of course provided that all ethical concerns are managed. Policy makers in particular could utilise the outcomes of this study as a benchmark in which to implement policy dealing with adolescents' lives. In recent years, there has been a growing awareness of the need to implement policy that can in effect educate parents and children on the safe and appropriate use of ICTs and SNSs. This research could provide a guideline for areas where policy needs to address.

Academics and students could benefit the most from the outcomes of this investigation. For those students studying modules related to media studies or adolescents' lives, these findings may provide a greater understanding of the means in which adolescents approach their social and leisure pursuits in addition to delivering an understanding of the context of ICT and Social Network Site use. While some of these issues have been addressed in an international context, it is important for Irish students to understand trends in Ireland. Such information is also important for those conducting research on adolescents or studying areas similar to the topic of this thesis for a number of reasons. Firstly, the methodological approach used in this research provides a benchmark for which further research in this area can be approached. Secondly, this research should contribute to the limited body of knowledge available on Irish adolescents technological practices and therefore should aid in the direction of future research. Thirdly, the conclusions arrived at from this research; provide areas in which future research may be guided.

To conclude, this study has shed light on a number of issues related to adolescents' use of ICTs and SNSs. It is expected that many of the findings uncovered will have practical implications for those interested in adolescents' lives. Having taken into

consideration some of the contributions of this research, the research limitations will now be outlined. Following this, recommendations for future research and policy will be put forward and following this a concluding statement will be detailed.

#### **5.4 Research Limitations**

There are a number of limitations implicit within the present research. Many of these issues have already been addressed in the previous Chapters and in particular, the Methodology Chapter. However, as this thesis now draws to close, this presents an opportune moment for these limitations to be reiterated:

- The author was ultimately responsible for the undertaking of this research. Thus the study was subject to time and resource constraints. In addition, during the course of this research, the researcher implemented a new and relatively untested methodology in the form of digital ethnography. While studies to the level of PhD are generally regarded as training for the researcher, in this context the researcher's inexperience is acknowledged as a limitation to the implementation of the study;
- The research sample for both Phases of the research was not nationally representative. Therefore, the scope of the findings is thus limited and subjective only to the South-East of Ireland. Additionally, despite the practical benefits of convenience sampling utilised in Phase Two of the research, it does affect the quality of the data and adds to the likelihood of selection bias. Nevertheless, the purpose of this sampling procedure is to produce a valid data set, which is largely symptomatic of the area from which it is drawn;

- The observational element of this research holds a number of limitations. The researcher's interpretation of the observations is largely based on what he can observe. His interpretation of pictures and comments posted on the Social Network Site Bebo for example may not be a true reflection of what is actually being portrayed. Despite the best efforts to alleviate this limitation, there was still an inherent risk of observer bias;
- The reliability of the questionnaires used in Phase One and Phase Two of this research may have limited the research on the basis of social desirability (Bechhofer and Paterson, 2000). For instance, perhaps some of the respondents answered questions based on what they thought the researcher wanted as an answer. Comparably, the logbooks utilised in Phase One suffered from a process of attrition during the period of their completion. Nevertheless, the implementation of the both methodologies provided a rich data set;
- In relation to informal focus group interviews, there is an inherent threat of respondent bias. Despite the best efforts of the researcher to manage the interview process, there remains a possibility that respondents answered incorrectly for fear of the focus groups reaction. Additionally, the subjects may have felt uncomfortable with the interviewer or the context of the interview;
- The scope of this research is limited based on the speed of technological change in society. For instance, in the period in which this research was conducted, the Apple iPhone was released. Since its initial release in 2007, three new models have being introduced into the market, each more powerful

and more advanced than the next. Therefore, it must be noted that the findings of this research must be viewed in context. That being said, the contribution of the findings to academia should not be disregarded.

- The notion of digital skills forms an important basis for modern arguments on the digital divide. This research is somewhat limited by the fact that this issue was not explored. To study any meaningful association or relationship between this issue and the digital divide, a more specific survey would be required.

Despite the overall limitations imposed on this research methodology, the data unearthed and the findings uncovered, contribute to the understanding of Irish adolescents access to and use of ICTs and SNSs. Furthermore, the results of this research and the means in which these results were obtained provide relevant precedence for directing future studies.

## ***5.5 Research Recommendations***

A number of recommendations for policy and further research have emerged from this examination of adolescents technology use. Those recommendations aimed at policy, address the wider context of both ICT and Social Network Site use amongst adolescents in Ireland. Those directed at future research consider the existing state of literature in Ireland and the conclusions arrived at from this study. Having taken this into consideration, the following are the recommendations of this research:

- Considering the rate of technology change yearly, ideally the Irish Government should commission regular research, perhaps on a bi-annual or even a yearly basis to study the technological habits of Irish children. While questions on

technology use have been incorporated both into CSO and the National Longitudinal Study of Children in Ireland survey, a more comprehensive approach to this topic is perhaps required;

- The regularity of Internet usage by Irish teenagers allied to the casual attitude towards SNSs raises many questions of safety online. Currently the Office for Internet Safety aims to address these issues. In addition to this work however, perhaps the Irish Government could incorporate education on the benefits and vulnerabilities of ICT and Social Network Site use in both primary and post-primary Irish schools. Indeed, the capacity of the Irish Government to educate parents on the safe and appropriate use of ICTs and SNSs should also be exploited;
- Whilst this research found no clear evidence of a digital divide based on the traditional understanding of the term, it did reveal a possible taste and interest disparity between males and females and their use of ICTs and SNSs. In order to garner a more comprehensive understanding of whether a digital divide exists in Irish society, perhaps future research should be conducted to examine more modern conceptions of this notion. Furthermore, more research should perhaps be initiated to gain a more comprehensive understanding of why males and females hold different interests in ICTs;
- The methodology employed in this research addressed a number of key issues relating to adolescents Social Network Site usage. However, the research sample used was not a representative one. Therefore, further research on a



national scale should be conducted on the issues explored in this study, querying more concisely the conclusions that have been arrived at in this research;

- The social context of ICT and Social Network Site usage imaginably provides many benefits for those involved. The existing literature has yet to explore this issue comprehensively. Therefore, more research should be conducted to understand the possible benefits involved. Likewise, any perceived negative affects should also be given due regard;
- There is scope within the current literature in Ireland to explore adolescents' use of personal computers more comprehensively. This would be particularly relevant considering the advancements in personal computers in recent years. In a similar vein, the advancements in the other ICT's studied may bring about similar research questions.

## **5.6 Concluding Statement**

The aim of this thesis is to contribute to the understanding of Irish adolescents access to and use of ICTs and SNSs and in particular Bebo. This aim was achieved via a binary phased methodology. The findings as discussed in the latter Chapters shed light on a relatively untouched topic in Irish academic literature. The conclusions arrived at from this investigation appear to suggest that Irish adolescents are undergoing a major cultural shift in terms of the means in which they socialise and communicate on a daily basis. What is more, the leisure activities adolescents pursue are increasingly becoming more technologically focused. Both ICTs and SNSs appear to have a space

and place in many adolescents' lives and offer huge potential for adolescents' development socially, intellectually and indeed in many other aspects of their lives.

The emerging research in Ireland is still in relatively uncharted waters concerning the influence of ICTs and in particular SNSs on Irish adolescents well-being. This research while localised in its approach, offers constructive information of the realities of Irish adolescents access to and use of ICTs and SNSs. It is hoped that this information will help broaden academic perspectives on the social and leisure pursuits of Irish teens and direct future research towards an understanding of the uses of technology in adolescents' daily social and leisure practices. Similarly, the relevance of this thesis to policy implementation both at a national and European level is immense. The findings outlined fill gaps in the evidence base in Ireland. In addition, they provide solid information in a number of key areas, namely risk and safety online, parental mediation, the use of media applications and finally the use of SNSs. According to De Haan and Livingstone (2009), such matters are increasingly influential in policy matters both in Europe and indeed in Ireland.

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## Appendix A

Waterford Institute of Technology,  
Cork Road,  
Waterford,  
Co. Waterford.  
22 September 2011

Dear Chairperson,

I am currently embarking on a Master's degree by research within Waterford Institute of Technology studying the technological leisure behaviours of adolescents in the South East region in Ireland. An examination of factors such as socialising patterns, and more importantly, the use of ICTs (Information and Communication Technologies) will constitute the main part of my research. To have an adequate cohort of adolescents for this study I will need an overall sample of approximately five hundred transition year students of mixed gender from the South East region of Ireland.

It is therefore with this in mind that I am seeking permission from the board of management to pass a decision as to whether it is possible to carry out research using a questionnaire/time log recall within your school with a select group of teenagers. Upon completion of the questionnaires, a very small sample (approximately six students) will be required to participate in a focus group study from some of the schools. The data collection can be organised to fit in with your student's school timetable and commitments. I can assure you that all information received from the study will be kept confidential and will only be accessible to myself. At no stage will the school or students be mentioned in the publication of this study and total privacy will be maintained at all times.

When the study is completed, if the board of management so wishes, I can present the results found with particular reference to your own school if you wish to find out the leisure and lifestyle patterns of the adolescents attending. I would be grateful if you would consider my request.

Yours truly,

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Patrick Delaney,  
BA (Honours).

## Appendix B

Waterford Institute of Technology,  
Cork Road,  
Waterford,  
Co. Waterford.  
22 September 2011

Dear Principal,

I am currently embarking on a Master's degree by research within Waterford Institute of Technology studying the technological leisure behaviours of adolescents in the South East region in Ireland. An examination of factors such as socialising patterns, and more importantly, the use of ICTs (Information and Communication Technologies) will constitute the main part of my research. To have an adequate cohort of adolescents for this study I will need an overall sample of approximately five hundred transition year students of mixed gender from the South East region of Ireland.

With this in mind, I am therefore asking your permission to carry out part of this research within your school. I understand that parental permission will be required for such a study and perhaps board of management approval. A copy of the questionnaire/time log recall and letters that will be issued to both can be found attached to this letter. The questionnaire takes on average one class period to complete and I will organise to distribute the questionnaires at times that fit in with your schools timetable. Upon completion of the questionnaires, a very small sample (approximately six students) will be required to participate in a focus group study from some of the schools. Again, this should only take up one class period (if required) and can be organised to fit in with your student's school timetable and commitments.

I assure you that the confidentiality of each person surveyed/interviewed and the schools identity will be upheld and all data received from the study will be stored securely and password protected. I am therefore hoping that you will allow me to distribute the questionnaires to a select group of adolescents within your school. I will phone you during the week and should you have any queries or need to get in contact with myself before then, my contact details are outlined at the end of this page.

Yours truly,

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Patrick Delaney,  
BA (Honours).

## Appendix C

Waterford Institute of Technology,  
Cork Road,  
Waterford City,  
Co. Waterford.  
22 September 2011

Dear Principal,

I am currently embarking on a Doctoral degree within Waterford Institute of Technology studying the technological social and leisure behaviours of adolescents in the South East region of Ireland. Within this research, I will be examining new and developing technologies and how these are affecting social interaction, particularly in relation to evolving rules of engagement within the leisure activities of adolescents. This is an integral part of the Doctoral dissertation and will constitute the second phase of my research. To have an adequate cohort of adolescents for this study, I will need a sample group of one hundred transition year students of mixed gender from the South East region in Ireland.

With this in mind, I am therefore asking your permission to carry out part of this research within your school. I understand that parental permission will be required for such a study and perhaps board of management approval. The study itself initially requires the students to complete a short questionnaire. Following this, for a period of one month, a thorough analysis of the selected participant's Social Network Sites such as Bebo and MySpace will be completed. To conclude, the research participants will be required to participate in a focus group interview following an analysis of their Social Network Sites. This Social Network review will allow for an analysis of how adolescents are defining themselves in the digital world. Supplement to this, the focus group interviews will provide for a thorough review of various leisure activities that adolescents involve themselves in over a selected period of time.

I assure you that the confidentiality of each person surveyed/interviewed and the schools identity will be upheld at all times and all data received from the study will be stored securely and password protected. In addition, only Social Network Sites, which are open for public access, will be reviewed. I understand that you may have some questions relating to the implementation of this research for which I will be glad to address with you personally. I shall call your school within the week to find out your decision on the matter. I would like to thank you for your time and patience in reviewing this letter and look forward to hearing from you in the near future.

Yours truly,

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Patrick Delaney,  
BA (Honours) in Recreation & Leisure.

## Appendix D

Waterford Institute of Technology,  
Cork Road,  
Waterford,  
Co. Waterford.  
22 September 2011

Dear Parent(s),

I am currently embarking on a Master's degree by research within Waterford Institute of Technology studying the technological leisure behaviours of adolescents in the South East region in Ireland. An examination of factors such as socialising patterns, and more importantly, the use of ICTs (Information and Communication Technologies) will constitute the main part of my research.

Your son/daughter has been selected to answer a questionnaire that will take one class period to fill out. He/she will also be issued a 7-day logbook that will take a week to fill out at different periods of the day. The school principal has approved this questionnaire/time log recall and I would be grateful if you would sign the following consent form allowing your son/daughter to participate in this study. I can fully assure you that all the data received within this study will be entirely confidential and your son/daughters name will never appear within the document. Should you have any queries about this research I would be happy to answer any questions that you may have. My contact details can be found at the end of the page.

Yours truly,

\_\_\_\_\_  
Patrick Delaney,  
BA (Honours).

-----  
**Parental Consent Form**

**Name of Student:** \_\_\_\_\_

**Class:** \_\_\_\_\_

I give permission for my son/daughter to complete the stated questionnaire/time log recall on the school premises.

**Signature of Parent/Guardian:** \_\_\_\_\_

## Appendix E

Waterford Institute of Technology,  
Cork Road,  
Waterford,  
Co. Waterford.  
22 September 2011

Dear Student,

I am currently embarking on a Master's degree by research within Waterford Institute of Technology studying the technological leisure behaviours of adolescents in the South East region in Ireland. An examination of factors such as socialising patterns, and more importantly, the use of ICTs (Information and Communication Technologies) will constitute the main part of my research.

You have been selected to answer a questionnaire/time log recall that will take one class period to finish. The school principal has approved this questionnaire/time log recall and I would be grateful if you would sign the following form consenting to participate in this study. I can fully assure you that all the data received within this study will be entirely confidential. Should you have any queries about this research I would be happy to answer any questions that you may have. My contact details can be found at the end of the page.

Yours truly,

\_\_\_\_\_  
Patrick Delaney,  
BA (Honours).

-----  
**Student Consent Form**

**Name of Student:** \_\_\_\_\_

**Class:** \_\_\_\_\_

I hereby consent to participate in the above study within my own school.

**Signature of Student:** \_\_\_\_\_

## Appendix F

Waterford Institute of Technology,  
Cork Road,  
Waterford,  
Co. Waterford.  
22 September 2011

Dear Student,

I am currently embarking on a Doctoral degree within Waterford Institute of Technology studying the technological social and leisure behaviours of adolescents in the South East region of Ireland. Within this research, I will be examining new and developing technologies and how these are affecting social interaction, particularly in relation to evolving rules of engagement within the leisure activities of adolescents. This is an integral part of the Doctoral dissertation and will constitute the second phase of my research.

You have been selected to complete a questionnaire that will take one class period to fill out. In addition to this, you have been selected to part take in a focus group interview at a later date. The school principal has approved this questionnaire and focus group interview. I would be grateful if you would sign the following form consenting to participate in this study. I can fully assure you that all the data received within this study will be entirely confidential. Should you have any queries about this research I would be happy to answer any questions that you may have. My contact details can be found at the end of the page.

Yours truly,

\_\_\_\_\_

Patrick Delaney,  
BA (Honours).

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**Student Consent Form**

**Name of Student:** \_\_\_\_\_

**Class:** \_\_\_\_\_

I hereby consent to participate in the above study within my own school.

**Signature of Student:** \_\_\_\_\_

## Appendix G

Waterford Institute of Technology,  
Cork Road,  
Waterford,  
Co. Waterford.  
22 September 2011

Dear Parent(s),

I am currently embarking on a Doctoral degree within Waterford Institute of Technology studying the technological social and leisure behaviours of adolescents in the South East region of Ireland. Within this research, I will be examining new and developing technologies and how these are affecting social interaction, particularly in relation to evolving rules of engagement within the leisure activities of adolescents. This is an integral part of the Doctoral dissertation and will constitute the second phase of my research.

Your son/daughter has been selected to complete a questionnaire that will take one class period to fill out. He/she will also be requested to part take in a focus group interview at a later date. The school principal has approved this questionnaire and focus group interview. I would be grateful if you would sign the following consent form allowing your son/daughter to participate in this study. I can fully assure you that all the data received within this study will be entirely confidential and your son/daughters name will never appear within the document. Should you have any queries about this research I would be happy to answer any questions that you may have. My contact details can be found at the end of the page.

Yours truly,

\_\_\_\_\_

Patrick Delaney,  
BA (Honours).

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**Parental Consent Form**

**Name of Student:** \_\_\_\_\_

**Class:** \_\_\_\_\_

I give permission for my son/daughter to complete the stated questionnaire/time log recall on the school premises.

**Signature of Parent/Guardian:** \_\_\_\_\_

# Appendix H



Waterford Institute of Technology  
INSTITIÚID TEICNEOLAÍOCHTA PHORT LAIRGE

## *An Investigation into the Technological Leisure Patterns of Adolescents*

**Please read the following notes before filling in this questionnaire.**

The purpose of this questionnaire is to study the technological leisure patterns of adolescents. Thank you for your time in filling out this questionnaire. Please answer all questions as honestly as you can and if you have any questions at all, please do not be afraid to ask. All answers that you give in this questionnaire are confidential and will only be seen by the researcher. Please answer questions specific to your own situation. Thank you.

Please tick the boxes that relate to your answer. If there is a written answer, please write it in **BLOCK CAPITALS**. Please take your time and answer all questions fully. This questionnaire should take one class period to complete.

### *Section A – General Information*

Name: \_\_\_\_\_ Age: \_\_\_\_\_ Gender: \_\_\_\_\_

Name of School: \_\_\_\_\_ Nationality: \_\_\_\_\_

1. During the past 12 months, how many times did you travel away on holiday with your **family or friends** for **one week or more**? (not including school tours).

Not at all  Twice

Once  More than twice

2. How many personal computers including laptops does your **family own** who currently **live with you at home** that is not more than **3 years old**?

None  Two

One  More than two

3. Do you have your own bedroom for yourself?

No  Yes

4. Does your family own a car, van or truck?

No  Yes, two or more

Yes

5. Do you currently work in a part-time job?

Yes  No

If yes, how many **hours per-week** do you work on **average**? \_\_\_\_\_

\* **If you do not currently work in a part-time job, please skip to question 7.**

6. How much money do you earn a **week on average**? \_\_\_\_\_



7. Do your parents give you any pocket money to spend on things? Yes  No

If yes, how much each week? \_\_\_\_\_

\* **If you do not receive pocket money or work in a part-time job, please skip to question 9.**

8. Please list in the table below what items that you spend most of your pocket money on.

<i>1</i>	
<i>2</i>	
<i>3</i>	

9. Currently at the present moment, what is your most common method of travel to school each week?

Bus  Car  Taxi

Cycle  Walk  Other

10. Roughly, what distance do you live from your school?

Under 1 Mile  1 – 3 Miles  3 – 6 Miles

6 – 9 Miles  9 – 12 Miles  12 + Miles

***Section B – Information and Communication Technologies***

\* **If you own a personal computer as asked in question 2 or a personal computer more than 3 years old, please answer the next few questions.**

\* **If you do not own a personal computer, please skip to question 18.**

11. Who purchased the computer(s)/laptop(s) in your house? (Tick **boxes** which are relevant).

Mother  Present from someone  Uncle/Aunt

Father  Brother  Myself

Sister  Guardian  Other

If other, please detail: \_\_\_\_\_

12. Do you currently have a broadband/dial up connection to the Internet in your home?

Yes  No

13. Do you use your personal computer/laptop at home for any purposes?

Yes  No

If yes, please list the top three purposes that you use your personal computer for.

<i>1</i>	
<i>2</i>	
<i>3</i>	

14. Where in your house is the main personal computer/laptop you use located (in case of laptops please indicate which room would normally use it in)? Please tick **boxes** as appropriate.

- |                 |                          |                        |                          |             |                          |
|-----------------|--------------------------|------------------------|--------------------------|-------------|--------------------------|
| Sitting room    | <input type="checkbox"/> | Utility room           | <input type="checkbox"/> | Kitchen     | <input type="checkbox"/> |
| Your bedroom    | <input type="checkbox"/> | Garage                 | <input type="checkbox"/> | Dining room | <input type="checkbox"/> |
| Parents bedroom | <input type="checkbox"/> | Brother/Sister bedroom | <input type="checkbox"/> | Other       | <input type="checkbox"/> |

\* **If you do not use your personal computer, please skip to question 18.**

15. From the following list of Internet activities, please tick **boxes** of which activities you would do most often on the Internet.

- |                       |                          |                             |                          |                     |                          |
|-----------------------|--------------------------|-----------------------------|--------------------------|---------------------|--------------------------|
| Homework research     | <input type="checkbox"/> | Social Networks (e.g. Bebo) | <input type="checkbox"/> | Chat rooms/MSN etc. | <input type="checkbox"/> |
| E – mail              | <input type="checkbox"/> | General browsing            | <input type="checkbox"/> | Play games          | <input type="checkbox"/> |
| Buying items/shopping | <input type="checkbox"/> | Download software/Music     | <input type="checkbox"/> | Other               | <input type="checkbox"/> |

If other, please detail: \_\_\_\_\_

16. Do you use your personal computer/laptop to play games?

- Yes  No

If yes, please list in the table below the top three games that you play.

1	
2	
3	

17. Do your parents/guardians place any restrictions on you using the personal computer that is in your house?

- Yes  No

If yes, please tick the **boxes** from the following list that relate to the restrictions that your parents place on your computer usage?

- |                        |                          |                                       |                          |                                      |                          |
|------------------------|--------------------------|---------------------------------------|--------------------------|--------------------------------------|--------------------------|
| Specific times of use  | <input type="checkbox"/> | How long you can use the computer for | <input type="checkbox"/> | Type of usage i.e. just for homework | <input type="checkbox"/> |
| Restricted on Internet | <input type="checkbox"/> | Not allowed play games                | <input type="checkbox"/> | Other                                | <input type="checkbox"/> |

If other, please detail: \_\_\_\_\_

18. Do you currently have a BEBO, MySpace, Facebook, Friendster, Hi 5 or any other similar Social Network account online?

- Yes  No

\* **If no, please skip to question 27.**

19. Please tick the **boxes** of which Social Networks you currently have an account with.

- |         |                          |            |                          |          |                          |
|---------|--------------------------|------------|--------------------------|----------|--------------------------|
| BEBO    | <input type="checkbox"/> | Friendster | <input type="checkbox"/> | Facebook | <input type="checkbox"/> |
| MySpace | <input type="checkbox"/> | Hi 5       | <input type="checkbox"/> | Other    | <input type="checkbox"/> |

20. What would be the main reason for you using these Social Network sites? Please tick **boxes** as appropriate from the selection below.

- Interact online with friends  See what other people are up to  To meet other people
- Look at other peoples profiles  Organise events  Other

If other, please detail: \_\_\_\_\_

21. Of the friends that you have on your Social Network, are there any with which you have **never** met in person before?

- Yes  No

22. Is your Social Network page public (anyone can look at it) or restricted (only friends can access it)?

- Public  Restricted

23. Do you give out private personal information on your Social Networking site?

- Yes  No

24. Have you ever met up with someone that you had not known previously which you came across from a Social Network off line?

- Yes  No

25. Do your parents place any restrictions on your usage of your Social Network site(s)?

- Yes  They don't know I have one
- No

If yes, what kind of restrictions do your parents place on your usage? Please tick the **boxes** below that relate to your parent's restrictions.

- Must have private page  Only allowed use for a set amount of time  Not allowed talk to strangers
- No pictures allowed to be uploaded on to page  Type of pictures uploaded restricted  Only allowed accept real friends
- Other  If other, please detail: \_\_\_\_\_

26. Please circle the number underneath the statement that relates how often you would contact the people that are stated. (e.g. if you contact friends **every time you log in** to your Social Network, please circle **1**)

	<i>Every time I log in</i>	<i>Regularly</i>	<i>Rarely</i>	<i>Never</i>
Close friends	1	2	3	4
Friends	1	2	3	4
People you know	1	2	3	4
People you like	1	2	3	4
Strangers	1	2	3	4

27. Do you currently have a Playstation, Xbox, Nintendo or any other version of these game stations in your household?

Yes  No

\* **If no, please skip to question 32.**

28. Which of the following game stations do you currently have in your household (Tick the **boxes** of items that you own)?

Playstation®  Xbox®  NINTENDO GAMECUBE™   
 Playstation®2  Game Boy Advance™  Xbox 360™   
 PSP™  Game Boy™ Color  Playstation®3   
 Wii™  Nintendo DS™

29. Please list the top three games that you would play and on which game station. Please also specify whether you play these games more often than not with friends, alone or both?

	Game	Game station	Alone, with friends or both
1			
2			
3			

30. Do your parents place any restrictions on your game station use?

Yes  No

If yes, please tick the **boxes** from the selection below which, indicate what restrictions your parents place on your game station usage.

Amount of time spent using game station  Type of game played  Sit certain distance from television   
 Not allowed play at certain time in day  Homework must be done first  Other

If other, please detail: \_\_\_\_\_

31. Who purchased the game station(s) that you use most often in your house? Please tick the relevant **boxes**.

Mother  Present from someone  Uncle/Aunt   
 Father  Brother  Myself   
 Sister  Guardian  Other

If other, please detail: \_\_\_\_\_

32. How many televisions do you have in your home? \_\_\_\_\_

\* **If you do not own a television, please skip to question 36.**

33. Which of the following set ups do you have on the main television set in your house? (Please tick **boxes** as appropriate)

- |                                |                          |                                |                          |  |                          |
|--------------------------------|--------------------------|--------------------------------|--------------------------|--|--------------------------|
| Digital television             | <input type="checkbox"/> | Cable television               | <input type="checkbox"/> | Standard channels (RTE1, NET2, TV3, TG4) | <input type="checkbox"/> |
| Sky Digital Sports mix package | <input type="checkbox"/> | Sky Digital Movies mix package | <input type="checkbox"/> | Other                                    | <input type="checkbox"/> |

If other, please detail: \_\_\_\_\_

34. Please tick the **boxes** of the answers that relate to where you have a television located in your house.

- |                 |                          |                        |                          |              |                          |
|-----------------|--------------------------|------------------------|--------------------------|--------------|--------------------------|
| Sitting room    | <input type="checkbox"/> | Utility room           | <input type="checkbox"/> | Kitchen      | <input type="checkbox"/> |
| Your bedroom    | <input type="checkbox"/> | Garage                 | <input type="checkbox"/> | Dinning room | <input type="checkbox"/> |
| Parents bedroom | <input type="checkbox"/> | Brother/Sister bedroom | <input type="checkbox"/> | Other        | <input type="checkbox"/> |

35. Do your parents place any restrictions on you watching television?

- Yes  No

If yes, please tick the following **boxes** below which relate to what restrictions your parents place on you watching television.

- |                        |                          |                    |                          |                       |                          |
|------------------------|--------------------------|--------------------|--------------------------|-----------------------|--------------------------|
| Time spent watching TV | <input type="checkbox"/> | Programmes watched | <input type="checkbox"/> | When you can watch TV | <input type="checkbox"/> |
| Films/DVD's watched    | <input type="checkbox"/> | Channels watched   | <input type="checkbox"/> | Other                 | <input type="checkbox"/> |

If other, please detail: \_\_\_\_\_

36. Do you currently own a mobile phone?

- Yes  No

\* **If no, please skip to question 41.**

37. Please state, which type phone you have? Bill phone  Pay as you go

If **pay as you go phone**, how much credit would you spend each **week** (Monday – Sunday) on **average**? \_\_\_\_\_

If **bill phone**, how much is your average bill? \_\_\_\_\_

38. How many text messages (not including web texts) would you send on average in a **day**? \_\_\_\_\_

39. What would be the main purpose of your mobile phone usage? (please tick **one box only**)

- |                           |                          |              |                          |             |                          |
|---------------------------|--------------------------|--------------|--------------------------|-------------|--------------------------|
| Text friends              | <input type="checkbox"/> | Convenience  | <input type="checkbox"/> | Socialising | <input type="checkbox"/> |
| Text family               | <input type="checkbox"/> | Safety       | <input type="checkbox"/> | Call Family | <input type="checkbox"/> |
| Text boyfriend/girlfriend | <input type="checkbox"/> | Call friends | <input type="checkbox"/> | Other       | <input type="checkbox"/> |

If other, please detail: \_\_\_\_\_

40. Who purchased the mobile phone that you currently use? (please tick the relevant **box**).

Mother	<input type="checkbox"/>	Present from someone	<input type="checkbox"/>	Uncle/Aunt	<input type="checkbox"/>
Father	<input type="checkbox"/>	Brother	<input type="checkbox"/>	Myself	<input type="checkbox"/>
Sister	<input type="checkbox"/>	Guardian	<input type="checkbox"/>	Other	<input type="checkbox"/>

If other, please detail: \_\_\_\_\_

**Section C – Time at Particular Activities**

41. In the following table below, please indicate which of these activities you typically participated in from **Monday** through to **Friday of last week**? Please tick the box related to **yes** or **no** beside the **activities** that are listed. Then list the number of days starting from **Monday** of **last week**, which you did this activity and finally list the number of minutes on each of the respective days with which you spent doing this activity on average.

Activity	Have you done this activity between Monday – Friday of last week		Number of days between Monday - Friday	Minutes per-day on average
	Yes	No	Days	Time
<b>ICTs &amp; Homework</b>				
Personal computer				
Internet				
Social Networks e.g. Bebo, MySpace				
Video game stations (e.g. playstation, XBOX)				
Television or DVD watching				
Talking on the phone				
Homework, studying				
<b>Other (specify):</b>				
<b>Other (specify):</b>				
<b>Leisure activities</b>				
Hanging around with friends				
Going to the cinema				
Playing board games/card games				
Drinking alcohol socially (pubs/nightclubs etc.)				
Listening to music				
Spectating at sporting events				
Going to the park				
Going to see what is in the shops				
Reading				
<b>Other (specify):</b>				
<b>Other (specify):</b>				

42. In the following table below, please indicate which of these activities you typically participated in from **Saturday** through to **Sunday of last week**? Please tick the box related to **yes** or **no** beside the **activities** that are listed. Then list the number of days starting from **Saturday of last week**, which you did this activity and finally list the number of minutes on each of the respective days with which you spent doing this activity on average.

<i>Activity</i>	<i>Have you done this activity between Saturday – Sunday of last week</i>		<i>Number of days between Saturday - Sunday</i>	<i>Minutes per-day on average</i>
	<i>Yes</i>	<i>No</i>	<i>Days</i>	<i>Time</i>
<b>ICTs &amp; Homework</b>				
Personal computer				
Internet				
Social Networks				
Video game stations (e.g. playstation, XBOX)				
Television or DVD watching				
Talking on the phone				
Homework, studying				
<b>Other (specify):</b>				
<b>Other (specify):</b>				
<b>Leisure activities</b>				
Hanging around with friends				
Going to the cinema				
Playing board games/card games				
Drinking alcohol socially (pubs/nightclubs etc.)				
Listening to music				
Spectating at sporting events				
Going to the park				
Going to see what is in the shops				
Reading				
<b>Other (specify):</b>				
<b>Other (specify):</b>				

**Questionnaire is now complete.**

**Thank you very much for your time and patience in filling out this questionnaire.**

# Appendix I

## *An Investigation into the Technological Leisure Patterns of Adolescents*

**Please read the following notes before you begin to fill out the logbook.**

The purpose of this logbook is to receive a detailed analysis the technological leisure patterns of adolescents. All the information that you give in this logbook is essential for this research. Please fill in this logbook as honestly and accurately as you possibly can. All information that you present will be entirely confidential and once the information that you present has been analysed, this logbook will be destroyed.

Before beginning to fill out this logbook, please look at the sample logbook day sheet for both a weekday and a weekend day to see which way to properly fill in any information. On each respective day, the logbook is divided into morning, afternoon and evening slots. If possible, to ensure accuracy, please detail in the logbook what you did on each particular weekday at snack time in school, when you come home from school and before you go to bed on each weekday. On a weekend day, please if possible fill out your logbook at 12 noon, 6pm in the evening and finally before you go to bed at night. Please fill in logbook in **BLOCK CAPITALS**.

**Note:** where an evening activity involves socialising or hanging around with friends, please state where appropriate whether or not this involves drinking soft drinks, alcohol or smoking.

**Important:** Before beginning this logbook, please set a **reminder alarm** on your mobile phone to remind you to fill in the logbook each day at three different specific times. i.e. set a **reminder alarm** at your **snack time**, **evening time** around 6pm and finally **before you go to bed** at night around 11pm. This alarm should be set to go off on each of the seven days. On weekend days set the alarm in the **morning** for when you wake up to remind you of what you did on the previous night **should you have been out**. On a Sunday, there could essentially be **four reminder alarms**. One in the morning, when you wake up, afternoon, evening and before you go to bed at night.

Name: \_\_\_\_\_ Age: \_\_\_\_\_ Gender: \_\_\_\_\_

Name of School: \_\_\_\_\_ Nationality: \_\_\_\_\_

### *Sample Logbook Weekday*

<i>Time of Activity</i>	<i>Name of activity and breakdown of time spent participating</i>	<i>Participated in activity because you choose to (if no, indicate why?)</i>	<i>Office use only</i>
<b>8.00 – 8.30am</b>	Wake up @ 8.15 am Shower 10 Min Get changed 5 Min	√ (indicates if activity was my own choice) √ √ √	
<b>8.30 – 9.00am</b>	Breakfast 10 Min Brush Teeth 5 Min Walk to School 15 Min	√ √ √	
<b>9.00 – 9.30am</b>	School/Class	Compulsory	



<b>9.30 – 10.00am</b>	School/Class	Compulsory	
<b>10.00 – 10.30am</b>	School/Class	Compulsory	
<b>10.30 – 11.00am</b>	School/Class	Compulsory	
<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>
<b>11.00 – 11.30am</b>	<b><i>REMINDER ALARM!!!</i></b> Eat snack and socialise with friends 15 Min School/Class 15 Min	√ Compulsory	
<b>11.30 – 12.00pm</b>	School/Class	Compulsory	
<b>12.00 – 12.30pm</b>	School/Class	Compulsory	
<b>12.30 – 1.00pm</b>	School/Class	Compulsory	
<b>1.00 – 1.30pm</b>	Walk to shop and get lunch 20 Min Play soccer match in the yard with classmates 10 Min	√ Friends asked me to play.	
<b>1.30 – 2.00pm</b>	Play soccer match in yard with classmates	Friends asked me to play.	

2.00 – 2.30pm	Get changed for PE 5 Min PE 25 Min	Compulsory Compulsory	
2.30 – 3.00pm	PE	Compulsory	
3.00 – 3.30pm	PE 15 Min Get changed 5 Min School/Class 10 Min	Compulsory Compulsory Compulsory	
3.30 – 4.00pm	School/Class	Compulsory	
4.00 – 4.30pm	<b><i>Finished School</i></b> Socialise with friends 15 Min Walk home from school 15 Min	√ √	
4.30 – 5.00pm	Eat dinner whilst watching ‘Deal or no Deal’ on TV 15 Min Watch ‘Deal or no ‘Deal’ 15 Min	√ √	
5.00 – 5.30pm	Do Homework	Mother encouraged me!	
5.30 – 6.00pm	Do Homework	Mother encouraged me!	
<b><i>Evening</i></b>	<b><i>Evening</i></b>	<b><i>Evening</i></b>	<b><i>Evening</i></b>
6.00 – 6.30pm	<b><i>REMINDER ALARM!!!</i></b> Watch the ‘Simpsons’ on television in my bedroom	√	

<b>6.30 – 7.00pm</b>	Head outside and hang around with my friends 20 Min Get my gear ready for Rugby training 10 Min	√ √	
<b>7.00 – 7.30pm</b>	Get lift to Rugby training 5 Min Get ready for training 10 Min Training 15 Min	√ √ √	
<b>7.30 – 8.00pm</b>	Rugby Training	√	
<b>8.00 – 8.30pm</b>	Rugby Training	√	
<b>8.30 – 9.00pm</b>	Shower and get changed 15 Min Get lift home 5 Min Sit down, eat a small snack and play 'Tiger Woods 2007' on the Playstation®2 10 Min	√	
<b>9.00 – 9.30pm</b>	Play 'Tiger Woods 2007' on the Playstation®2	√	
<b>9.30 – 10.00pm</b>	Play 'Tiger Woods 2007' on the Playstation®2	√	
<b>10.00 – 10.30pm</b>	Listen to music on my ipod whilst texting my friends	√	
<b>10.30 – 11.00pm</b>	Call friend on the mobile phone 15 Min Watch film in bed, 'the good the bad and the ugly' 15 Min	√	
<b>11.00 – 11.30pm</b>	Watch film in bed, 'the good the bad and the ugly'	√	

<b>11.30 – 12.00am</b>	Turn on computer and surf the Internet 15 Min Log onto 'Bebo' page and talk to people while also having MSN on in the background 15 Min	√ √	
<b>12.00 – 12.30am</b>	<b>REMINDER ALARM!!!</b> Use 'Bebo' and also talk to friends on MSN	√	
<b>12.30 – 3.00am</b>	Sleep	√	

*Sample Logbook Weekend*

<i>Time of Activity</i>	<i>Name of activity and time spent participating</i>	<i>Participated in activity because you choose to (if no, indicate why?)</i>	<i>Office use only</i>
<b>8.00 – 8.30am</b>	Sleep	√	
<b>8.30 – 9.00am</b>	Sleep	√	
<b>9.00 – 9.30am</b>	Sleep	√	
<b>9.30 – 10.00am</b>	Sleep	√	
<b>10.00 – 10.30am</b>	Wake up – get shower 15 Min Get breakfast 10 Min Brush teeth 5 Min	√ √ √	

<b>10.30 – 11.00am</b>	<b><i>REMINDER ALARM!!!</i></b> Walk over town 5 Min Hang around with friends (involved smoking a cigarette) 20 Min Walk to work 5 Min	√ Didn't want a cigarette but friend encouraged to me have one. √	
<b>11.00 – 11.30am</b>	Work	√	
<b>11.30 – 12.00pm</b>	Work	√	
<i>Afternoon</i>	<i>Afternoon</i>	<i>Afternoon</i>	<i>Afternoon</i>
<b>12.00 – 12.30pm</b>	Work	√	
<b>12.30 – 1.00pm</b>	Work	√	
<b>1.00 – 1.30pm</b>	Work	√	
<b>1.30 – 2.00pm</b>	Work	√	
<b>2.00 – 2.30pm</b>	Eat lunch and socialise with workmates (involved smoking 2 cigarettes outside workplace)	√	
<b>2.30 – 3.00pm</b>	Work	√	

3.00 – 3.30pm	Work	√	
3.30 – 4.00pm	Work	√	
4.00 – 4.30pm	Finish Work – Walk home 5 Min Get light snack 10 Min Get gear ready to go to Rugby Match 15 Min	√ √ √	
4.30 – 5.00pm	Get lift to match (call friend on mobile while on the way to the pitch) 15 Min Get changed and togged for match 15 Min	√ √	
5.00 – 5.30pm	Play Rugby match	√	
5.30 – 6.00pm	Play Rugby match	√	
<i>Evening</i>	<i>Evening</i>	<i>Evening</i>	<i>Evening</i>
6.00 – 6.30pm	Play Rugby match	√	
6.30 – 7.00pm	<b>REMINDER ALARM!!!</b> Have shower and get changed 15 Min Walk to girlfriends house 15 Min	√ √	
7.00 – 7.30pm	Hang around with girlfriend and her friends	√	

<b>7.30 – 8.00pm</b>	Hang around with girlfriend and her friends	√	
<b>8.00 – 8.30pm</b>	Walk to friends house 10 Min Mess around in a soccer game 20 Min	√ My friends wanted me to play a small soccer match.	
<b>8.30 – 9.00pm</b>	Walk home 15 Min Log on and check 'Bebo' page 15 Min	√ √	
<b>9.00 – 9.30pm</b>	Get shower and dressed up	√	
<b>9.30 – 10.00pm</b>	Get lift to town park 10 Min Socialise with friends (involved smoking 1 cigarette and drinking Dutch Gold) 20 Min	√ √	
<b>10.00 – 10.30pm</b>	Socialise with friends (involved smoking 1 cigarette and drinking Dutch Gold)	√ √	
<b>10.30 – 11.00pm</b>	Socialise with friends (involved drinking Dutch gold)	√	
<b>11.00 – 11.30pm</b>	Get a lift to a country pub 10 Min Hang around with girlfriend outside pub (involved smoking 1 cigarette) 20 Min	√ √	
<b>11.30 – 12.00am</b>	Socialise with friends (involved the consumption of Heineken and shots of 'mickey finns')	√	
<b>12.00 – 12.30am</b>	Socialise with friends (involved the consumption of Heineken)	√	

<b>12.30 – 1.00am</b>	Socialise with friends (involved the consumption of Heineken)	√	
<b>1.00 – 1.30am</b>	Socialise with friends (involved the consumption of Heineken)	√	
<b>1.30 – 2.00am</b>	Socialise with friends (involved the consumption of Heineken)	√	
<b>2.00 – 2.30am</b>	Get taxi back to town 10 Min Get chips in chipper 15 Min Socialise with friends on the street 5 Min	√ √ √	
<b>2.30 – 3.00am</b>	Walk home 15 Min Sleep <b><i>HAVE REMINDER ALARM SET FOR SUNDAY MORNING TO FILL IN DETAILS FROM THIS NIGHT!!!</i></b>	√	

**Monday**

<b><i>Time of Activity</i></b>	<b><i>Name of activity and time spent participating</i></b>	<b><i>Participated in activity because you choose to (if no, indicate why?)</i></b>	<b><i>Office use only</i></b>
<b>8.00 – 8.30am</b>			
<b>8.30 – 9.00am</b>			
<b>9.00 – 9.30am</b>			



<b>9.30 – 10.00am</b>			
<b>10.00 – 10.30am</b>			
<b>10.30 – 11.00am</b>			
<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>
<b>11.00 – 11.30am</b>	<b>REMINDER ALARM!!!</b>		
<b>11.30 – 12.00pm</b>			
<b>12.00 – 12.30pm</b>			
<b>12.30 – 1.00pm</b>			
<b>1.00 – 1.30pm</b>			
<b>1.30 – 2.00pm</b>			

2.00 – 2.30pm			
2.30 – 3.00pm			
3.00 – 3.30pm			
3.30 – 4.00pm			
4.00 – 4.30pm			
4.30 – 5.00pm			
5.00 – 5.30pm			
5.30 – 6.00pm			
<i>Evening</i>	<i>Evening</i>	<i>Evening</i>	<i>Evening</i>
6.00 – 6.30pm	<b>REMINDER ALARM!!!</b>		

<b>6.30 – 7.00pm</b>			
<b>7.00 – 7.30pm</b>			
<b>7.30 – 8.00pm</b>			
<b>8.00 – 8.30pm</b>			
<b>8.30 – 9.00pm</b>			
<b>9.00 – 9.30pm</b>			
<b>9.30 – 10.00pm</b>			
<b>10.00 – 10.30pm</b>			
<b>10.30 – 11.00pm</b>			
<b>11.00 – 11.30pm</b>			

11.30 – 12.00am			
12.00 – 12.30am	<i>REMINDER ALARM!!!</i>		
12.30 – 3.00am			

*Tuesday*

<i>Time of Activity</i>	<i>Name of activity and time spent participating</i>	<i>Participated in activity because you choose to (if no, indicate why?)</i>	<i>Office use only</i>
8.00 – 8.30am			
8.30 – 9.00am			
9.00 – 9.30am			
9.30 – 10.00am			
10.00 – 10.30am			
10.30 – 11.00am			

<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>
<b>11.00 – 11.30am</b>	<b>REMINDER ALARM!!!</b>		
<b>11.30 – 12.00pm</b>			
<b>12.00 – 12.30pm</b>			
<b>12.30 – 1.00pm</b>			
<b>1.00 – 1.30pm</b>			
<b>1.30 – 2.00pm</b>			
<b>2.00 – 2.30pm</b>			
<b>2.30 – 3.00pm</b>			
<b>3.00 – 3.30pm</b>			

<b>3.30 – 4.00pm</b>			
<b>4.00 – 4.30pm</b>			
<b>4.30 – 5.00pm</b>			
<b>5.00 – 5.30pm</b>			
<b>5.30 – 6.00pm</b>			
<i>Evening</i>	<i>Evening</i>	<i>Evening</i>	<i>Evening</i>
<b>6.00 – 6.30pm</b>	<b>REMINDER ALARM!!!</b>		
<b>6.30 – 7.00pm</b>			
<b>7.00 – 7.30pm</b>			
<b>7.30 – 8.00pm</b>			

<b>8.00 – 8.30pm</b>			
<b>8.30 – 9.00pm</b>			
<b>9.00 – 9.30pm</b>			
<b>9.30 – 10.00pm</b>			
<b>10.00 – 10.30pm</b>			
<b>10.30 – 11.00pm</b>			
<b>11.00 – 11.30pm</b>			
<b>11.30 – 12.00am</b>			
<b>12.00 – 12.30am</b>	<i><b>REMINDER ALARM!!!</b></i>		
<b>12.30 – 3.00am</b>			

*Wednesday*

<i>Time of Activity</i>	<i>Name of activity and time spent participating</i>	<i>Participated in activity because you choose to (if no, indicate why?)</i>	<i>Office use only</i>
8.00 – 8.30am			
8.30 – 9.00am			
9.00 – 9.30am			
9.30 – 10.00am			
10.00 – 10.30am			
10.30 – 11.00am			
<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>
11.00 – 11.30am	<i>REMINDER ALARM!!!</i>		
11.30 – 12.00pm			



<b>12.00 – 12.30pm</b>			
<b>12.30 – 1.00pm</b>			
<b>1.00 – 1.30pm</b>			
<b>1.30 – 2.00pm</b>			
<b>2.00 – 2.30pm</b>			
<b>2.30 – 3.00pm</b>			
<b>3.00 – 3.30pm</b>			
<b>3.30 – 4.00pm</b>			
<b>4.00 – 4.30pm</b>			
<b>4.30 – 5.00pm</b>			

5.00 – 5.30pm			
5.30 – 6.00pm			
<i>Evening</i>	<i>Evening</i>	<i>Evening</i>	<i>Evening</i>
6.00 – 6.30pm	<b>REMINDER ALARM!!!</b>		
6.30 – 7.00pm			
7.00 – 7.30pm			
7.30 – 8.00pm			
8.00 – 8.30pm			
8.30 – 9.00pm			
9.00 – 9.30pm			

9.30 – 10.00pm			
10.00 – 10.30pm			
10.30 – 11.00pm			
11.00 – 11.30pm			
11.30 – 12.00am			
12.00 – 12.30am	<i>REMINDER ALARM!!!</i>		
12.30 – 3.00am			

*Thursday*

<i>Time of Activity</i>	<i>Name of activity and time spent participating</i>	<i>Participated in activity because you choose to (if no, indicate why?)</i>	<i>Office use only</i>
8.00 – 8.30am			
8.30 – 9.00am			

<b>9.00 – 9.30am</b>			
<b>9.30 – 10.00am</b>			
<b>10.00 – 10.30am</b>			
<b>10.30 – 11.00am</b>			
<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>
<b>11.00 – 11.30am</b>	<b>REMINDER ALARM!!!</b>		
<b>11.30 – 12.00pm</b>			
<b>12.00 – 12.30pm</b>			
<b>12.30 – 1.00pm</b>			
<b>1.00 – 1.30pm</b>			

<b>1.30 – 2.00pm</b>			
<b>2.00 – 2.30pm</b>			
<b>2.30 – 3.00pm</b>			
<b>3.00 – 3.30pm</b>			
<b>3.30 – 4.00pm</b>			
<b>4.00 – 4.30pm</b>			
<b>4.30 – 5.00pm</b>			
<b>5.00 – 5.30pm</b>			
<b>5.30 – 6.00pm</b>			
<i>Evening</i>	<i>Evening</i>	<i>Evening</i>	<i>Evening</i>

	<i><b>REMINDER ALARM!!!</b></i>		
<b>6.00 – 6.30pm</b>			
<b>6.30 – 7.00pm</b>			
<b>7.00 – 7.30pm</b>			
<b>7.30 – 8.00pm</b>			
<b>8.00 – 8.30pm</b>			
<b>8.30 – 9.00pm</b>			
<b>9.00 – 9.30pm</b>			
<b>9.30 – 10.00pm</b>			
<b>10.00 – 10.30pm</b>			
<b>10.30 – 11.00pm</b>			

11.00 – 11.30pm			
11.30 – 12.00am			
12.00 – 12.30am	<i>REMINDER ALARM!!!</i>		
12.30 – 3.00am			

*Friday*

<i>Time of Activity</i>	<i>Name of activity and time spent participating</i>	<i>Participated in activity because you choose to (if no, indicate why?)</i>	<i>Office use only</i>
8.00 – 8.30am			
8.30 – 9.00am			
9.00 – 9.30am			
9.30 – 10.00am			
10.00 – 10.30am			

<b>10.30 – 11.00am</b>			
<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>	<i>Snack Time</i>
<b>11.00 – 11.30am</b>	<b>REMINDER ALARM!!!</b>		
<b>11.30 – 12.00pm</b>			
<b>12.00 – 12.30pm</b>			
<b>12.30 – 1.00pm</b>			
<b>1.00 – 1.30pm</b>			
<b>1.30 – 2.00pm</b>			
<b>2.00 – 2.30pm</b>			
<b>2.30 – 3.00pm</b>			



<b>3.00 – 3.30pm</b>			
<b>3.30 – 4.00pm</b>			
<b>4.00 – 4.30pm</b>			
<b>4.30 – 5.00pm</b>			
<b>5.00 – 5.30pm</b>			
<b>5.30 – 6.00pm</b>			
<i>Evening</i>	<i>Evening</i>	<i>Evening</i>	<i>Evening</i>
<b>6.00 – 6.30pm</b>	<b><i>REMINDER ALARM!!!</i></b>		
<b>6.30 – 7.00pm</b>			
<b>7.00 – 7.30pm</b>			

<b>7.30 – 8.00pm</b>			
<b>8.00 – 8.30pm</b>			
<b>8.30 – 9.00pm</b>			
<b>9.00 – 9.30pm</b>			
<b>9.30 – 10.00pm</b>			
<b>10.00 – 10.30pm</b>			
<b>10.30 – 11.00pm</b>			
<b>11.00 – 11.30pm</b>			
<b>11.30 – 12.00am</b>			
<b>12.00 – 12.30am</b>	<b><i>REMINDER ALARM!!!</i></b>		

12.30 – 3.00am			
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*Saturday*

<i>Time of Activity</i>	<i>Name of activity and time spent participating</i>	<i>Participated in activity because you choose to (if no, indicate why?)</i>	<i>Office use only</i>
8.00 – 8.30am			
8.30 – 9.00am			
9.00 – 9.30am			
9.30 – 10.00am			
10.00 – 10.30am			
10.30 – 11.00am			
11.00 – 11.30am			

11.30 – 12.00pm			
<i>Afternoon</i>	<i>Afternoon</i>	<i>Afternoon</i>	<i>Afternoon</i>
12.00 – 12.30pm	<b>REMINDER ALARM!!!</b>		
12.30 – 1.00pm			
1.00 – 1.30pm			
1.30 – 2.00pm			
2.00 – 2.30pm			
2.30 – 3.00pm			
3.00 – 3.30pm			
3.30 – 4.00pm			

<b>4.00 – 4.30pm</b>			
<b>4.30 – 5.00pm</b>			
<b>5.00 – 5.30pm</b>			
<b>5.30 – 6.00pm</b>			
<i>Evening</i>	<i>Evening</i>	<i>Evening</i>	<i>Evening</i>
<b>6.00 – 6.30pm</b>	<b>REMINDER ALARM!!!</b>		
<b>6.30 – 7.00pm</b>			
<b>7.00 – 7.30pm</b>			
<b>7.30 – 8.00pm</b>			
<b>8.00 – 8.30pm</b>			

<b>8.30 – 9.00pm</b>			
<b>9.00 – 9.30pm</b>			
<b>9.30 – 10.00pm</b>			
<b>10.00 – 10.30pm</b>			
<b>10.30 – 11.00pm</b>			
<b>11.00 – 11.30pm</b>			
<b>11.30 – 12.00am</b>			
<b>12.00 – 12.30am</b>	<b><i>SET REMINDER ALARM IF YOU ARE NOT GOING OUT TONIGHT!!!</i></b>		
<b>12.30 – 1.00am</b>			
<b>1.00 – 1.30am</b>			

1.30 – 2.00am			
2.00 – 2.30am			
2.30 – 3.00am			

*Sunday*

<i>Time of Activity</i>	<i>Name of activity and time spent participating</i>	<i>Participated in activity because you choose to (if no, indicate why?)</i>	<i>Office use only</i>
8.00 – 8.30am			
8.30 – 9.00am			
9.00 – 9.30am			
9.30 – 10.00am			
10.00 – 10.30am	<b>SET REMINDER ALARM IF YOU WERE OUT ON SATURDAY NIGHT!!!</b>		
10.30 – 11.00am			

11.00 – 11.30am			
11.30 – 12.00pm			
<i>Afternoon</i>	<i>Afternoon</i>	<i>Afternoon</i>	<i>Afternoon</i>
12.00 – 12.30pm	<b>REMINDER ALARM!!!</b>		
12.30 – 1.00pm			
1.00 – 1.30pm			
1.30 – 2.00pm			
2.00 – 2.30pm			
2.30 – 3.00pm			
3.00 – 3.30pm			



<b>3.30 – 4.00pm</b>			
<b>4.00 – 4.30pm</b>			
<b>4.30 – 5.00pm</b>			
<b>5.00 – 5.30pm</b>			
<b>5.30 – 6.00pm</b>			
<i>Evening</i>	<i>Evening</i>	<i>Evening</i>	<i>Evening</i>
<b>6.00 – 6.30pm</b>	<b>REMINDER ALARM!!!</b>		
<b>6.30 – 7.00pm</b>			
<b>7.00 – 7.30pm</b>			
<b>7.30 – 8.00pm</b>			

<b>8.00 – 8.30pm</b>			
<b>8.30 – 9.00pm</b>			
<b>9.00 – 9.30pm</b>			
<b>9.30 – 10.00pm</b>			
<b>10.00 – 10.30pm</b>			
<b>10.30 – 11.00pm</b>			
<b>11.00 – 11.30pm</b>			
<b>11.30 – 12.00am</b>			
<b>12.00 – 12.30am</b>	<i><b>REMINDER ALARM!!!</b></i>		
<b>12.30 – 1.00am</b>			

<b>1.00 – 1.30am</b>			
<b>1.30 – 2.00am</b>			
<b>2.00 – 2.30am</b>			
<b>2.30 – 3.00am</b>			

*Thank you very much for your time and co – operation. You will now be entered into a draw to win €100 which your year head will announce in the next few weeks*

# Appendix J

*ICTs and Social Network's: The New Leisure Phenomenon of the 21<sup>st</sup> Century*

**Please read the following notes before filling in this questionnaire.**

The purpose of this questionnaire is to research adolescents' online usage of the Social Network site Bebo. Thank you for your time in filling out this questionnaire. Please answer all questions as honestly as you can and if you have any queries at all, please do not be afraid to ask. All answers that you give in this questionnaire are confidential and will only be seen by the researcher. Please answer questions specific to your own situation. Thank you.

Please tick the boxes that relate to your answer. If there is a written answer, please write it in **BLOCK CAPITALS**. Please take your time and answer all questions fully. This questionnaire should take ten minutes to complete.

## *Section A – General Information*

Name: \_\_\_\_\_ Age: \_\_\_\_\_ Gender: \_\_\_\_\_

Name of School: \_\_\_\_\_ Nationality: \_\_\_\_\_

## *Section B – Social Network Information*

1. Do you currently have a Bebo page? Yes  No

If **no**, please explain why you do not have a Bebo page?

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\* **If you do not have a Bebo page, it is no longer necessary for you to participate in this survey. Thank you very much for your time.**

2. What is your current Bebo username? \_\_\_\_\_

3. Is there any particular reason for the use of this username? Yes  No

If **yes**, please explain your reason?

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4. What is the main reason why you use Bebo? Please tick **boxes** as appropriate.

- |                                   |                          |  |                          |
|-----------------------------------|--------------------------|--|--------------------------|
| Communicate with friends          | <input type="checkbox"/> | Communicate with rarely seen friends         | <input type="checkbox"/> |
| Looking at or posting photos      | <input type="checkbox"/> | Entertainment (pass time, boredom)           | <input type="checkbox"/> |
| Send or receive private messages  | <input type="checkbox"/> | Find out about events                        | <input type="checkbox"/> |
| Post and/or read peoples comments | <input type="checkbox"/> | Meet new people or get to know people better | <input type="checkbox"/> |
| Look at other peoples pages       | <input type="checkbox"/> | Find out information about certain people    | <input type="checkbox"/> |

5. Is your Bebo page public (e.g. **anyone can look at it**) or restricted (e.g. **only friends can access it**)?

Public  Restricted

6. What type of information do you present on your Bebo page? Please tick **boxes** as appropriate.

Favourite music  "About me" (e.g. **personal facts**)  Favourite films   
 Favourite books  Hobbies and interests  Hometown   
 Relationship status  School  Favourite TV shows   
 Family details  Birthday  Location of workplace

7. Which of the following best describes your interest in Bebo? Please tick **boxes** as appropriate.

Ability to reconnect with people (e.g. **finding friends from the past, primary school or other past events**)   
 Ability to learn new information (e.g. **getting to know friends or people I do not know better**)   
 Networking ability (e.g. **form new connections with people from all parts of the world including Ireland**)   
 Self-presentation (e.g. **the ability to control what image I project of myself online to other people**)   
 Lack of care about privacy (e.g. **the ability to view personal information about other people**)   
 Popularity of Bebo (e.g. **most of my friends had a Bebo page so I saw it as necessary to have one**)

8. Please indicate how often you do each of the activities detailed during a typical week? (e.g. circle **1** if you look at or read or peoples profiles, likewise circle **2** if you only do this activity sometimes)

	<i>Often</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
Looking at/reading other peoples profiles	1	2	3	4
Looking at photos	1	2	3	4
Reading comments on your page	1	2	3	4
Reading comments on others' pages	1	2	3	4
Posting comments on peoples' pages	1	2	3	4
Reading private messages from others	1	2	3	4
Sending private messages	1	2	3	4
Looking at group pages i.e. bands, football clubs	1	2	3	4
Responding to/reviewing events/invitations	1	2	3	4
Adding or removing friends	1	2	3	4
Changing/editing profile	1	2	3	4
Posting photos on your page	1	2	3	4
Creating events and sending invitations	1	2	3	4
Looking at video links in others' profiles	1	2	3	4
Posting videos on your page	1	2	3	4