

Young People and Seniors in Finnish 'Mobile Information Society'

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Abstract:

What is the significance of the mobile phone in the social relationships of young people and seniors? What kinds of informal and formal learning strategies do young people and seniors have in acquiring mobile phone and other ICT literacies? Young age groups have for long been the most active mobile phone users, but in the last few years the mobile phone use of over 60-year-olds has also been growing very rapidly in Finland and in other countries. This article presents research findings based on several research projects conducted at the University of Tampere on the use of mobile communication and the Internet among young people, families and seniors since the late 1990s. The research aims to explore the spread of mobile and Internet trends through study of communication and social networks among young people and seniors. The main methods have consisted of group discussions and thematic interviews among young people and seniors. By 2006, over 1500 Finns have participated in the study. The research indicates that for older generations, for whom it still constitutes a relatively new aspect in their personal histories and daily lives, the meaning of the mobile phone is highly different than for young people who have grown up into ICT citizens. Knowing the actual use contexts and user experiences of technology among different generations in their daily life can provide important insights on how to improve design and services associated with the technologies.

Keywords: mobile learning

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1 Introduction

Since the late 1990s, there has been increasing interest in how information and communication technologies (ICTs) such as the Internet and mobile phones in particular are used in our society by different age groups. Studies on these topics have often developed from an interest in how information technologies have changed young people's sociability and everyday life in different contexts, including school and family life (Livingstone 2002; Holloway & Valentine 2003). The studies have described young people as skilful and balanced information technology users (Drotner 2000; Suoranta & Lehtimäki 2003; Holloway & Valentine 2003), with the exception of those raising the possibility of a 'digital divide' arising between families with different opportunities to acquire new technologies for their children (Holloway & Valentine 2003, 30). In the world of the Internet and mobile communication, young people are seen as active subjects (see Livingstone 2002, 11–14; Suoranta & Lehtimäki 2003, 13–14) exerting their influence on the emergence, rules and character of social phenomena related to it. In general, research on mobile communication has focused on younger age groups who were among the first to adopt the use of the mobile phone and develop actual mobile communication culture.

As the use of the mobile phone has become more common and multifaceted, its significance as an instrument of the information society has increased among citizens of all ages. According to Statistics Finland, in 2004 only four out of a hundred 15–64-year-old Finns did not have the usage of a mobile phone (Statistics Finland, 2006). As the range of possible uses of mobile devices broadens, study of user experiences, user acceptance and use contexts becomes all the more crucial (see Kaasinen 2005). These issues relate also to mobile learning - how for example mobile devices can support different learning contexts (see Jones, Kukulska-Hulme & Mwanza, 2005) and how to design mobile technology that best supports different user needs for learning and teaching (Kynäslähti & Seppälä, 2003). In the context of learning, mobility introduces a number of benefits as people carry their mobile devices with them at all times, which makes them suitable for a variety of different uses. Such networked technologies allow people to communicate regardless of their location (Sharples et al 2005, 4). Mobile devices enable both informal and formal learning, including, for instance, learning for leisure purposes or science learning (Scanlon et al, 2005). On the other hand, the mobile phone is also used in situations where the user is immobile. Compared as a device to, for instance, the home computer whose use has to be often negotiated with other family members (Holloway & Valentine 2003, 102-103) a mobile device is above all a personal communication device and its key values include personally relevant and important content and communication (Kaasinen 2005, 116).

Mobile phones have exerted a great impact not only on the personal communication of citizens of all ages, but also on the infrastructure of the information society. In Finland, the information society has been a central topic of public discussion, with the development of mobile technology as an important focal point. Though alternative theories have been put

forward regarding the essence of the information society, often the information society is seen as a completely new society in which the production of information values is perceived as central and information technology is presented as the leading force determining the fundamental nature of the new society (Masuda, 1990, 3). Yet, some consider that the role of technology is overestimated as the primary cause for changes in society, whereas a more essential question may actually concern increased informationalization that has taken place on different levels of society (Webster 2002, 273). Some consequences of these developments can be identified in social polarization and social exclusion and the heightened significance of skills and the constant redefinition of these skills, as well as lifelong learning (Castells 1997, 12).

Moreover, the ubiquitous role of mobile technology (see Sharples et al 2005, 3), its presence as an increasingly integral and invisible part of the lives and social relationships of citizens of all ages and the increasing significance of wireless data transmission make the task of maintaining and learning new technology skills all the more challenging. In Finland, numerous projects have been launched to enhance the development of a wireless information society. For instance, Tampere University of Technology has developed a Neighborhood Server concept in connection with the Wireless Vuores project. The results are to be applied in a housing district, Vuores, to be built in Tampere and Lempäälä. New wireless services are currently being developed for the server. These include an electronic notice board for homes and owners' associations, casting of votes, monitoring electricity and water consumption, adjusting air conditioning, the acquisition of statistical information, ordering groceries through a server via the mobile phone, locating children and communication between home and school. The aim is for the resident to be able to make use of the services being developed through computer, remote control, PDA or mobile phone.

According to Kopomaa, the mobile phone has played a pivotal role in the development of the contemporary Finnish information society. Kopomaa sees contemporary society as a 'Mobile Information Society' creating opportunities for ways of life based on either complete mobility or lack of it. The owner of a mobile phone has the potential to interact with the whole world (Kopomaa 2000, 4). The mobile information society can be perceived as a society where mobile technology has assumed a central role in social relations, information seeking, learning and, consequently, in people's attachment to social relationships and society at large. The mastering of mobile technology and knowledge of social uses of technologies are crucial from the viewpoint of the citizen of the mobile information society. Finland is sometimes claimed to be a country characterised by 'network sociality': life has assumed the characteristics of a project, in which information and communication technologies, especially mobile phones, play an important role in the formation of relationships as well as the maintenance of family relationships. (Suoranta & Lehtimäki 2003, 37). Learning computer skills is perceived as pivotal in society, and various courses and training have been organized in schools and in other institutions of society. Despite this, learning mobile phone skills has not been formally organised but is

left to families and individuals themselves. When assessing the educational challenges faced when using a mobile device as a tool for learning, it should be considered that their meaning for young people, who have grown up as ICT citizens, is very different than for older generations for whom it still constitutes a relatively new aspect in their personal histories and daily lives. This is why knowing the actual use contexts and usage patterns of technology in daily life is highly useful in many respects.

In the rest of the paper, I will examine more closely the ways in which young people and seniors have integrated the mobile phone into their everyday lives and explore the meanings that it has for people of different ages in Finland.

1.1 Research questions

To find out how people of different ages experience the mobile information society and the demands it poses for them, this article focuses on three main research themes:

- What was the significance of mobile phones in the societal relationships of young people and seniors;
- What were the informal and formal learning strategies that young people and seniors acquired when using mobile phones and other ICT?
- How did young people's and seniors' uses of mobile technologies in their daily life differ and what similarities were there?

The empirical data presented here is based mainly on a study carried out on the mobile communication of seniors and young people between 2002 and 2006. The aim of the study was to chart the use of the communication device in a socio-cultural context and to describe the daily use of wireless handsets and information technology, their meaning in the lives of seniors and young people as well as general attitudes to technology. During the period, a total of 400 seniors and young people participated in the study.

In the most recent project, Mobile Visuality, in 2005, the objective was to chart the practices of visual communication and value-added services in mobile and Internet environments and to understand the dimensions of user experiences through an examination of the use of third generation mobile devices in everyday life among certain key informants of young adults, families and senior citizens. The third generation mobile devices make higher transmission speeds and more and richer contents possible (Dunnewijk & Hultén 2006, 5). From the user's point of view this means some new kinds of services such as mobile videotelephony and higher speed for using of existing mobile services such as e-mail and news broadcasting.

In 2004, the research group carried out the 'Mobile and Internet Trends 2004' project at the Hypermedia Laboratory, University of Tampere. The study focused on recent trends in mobile communication, communities in the Internet and visual communication, especially

picture weblogs, usage of MMS and mobile video. The study was implemented in co-operation with TeliaSonera and the Information Society Institute of Tampere University. In 2003, the Hypermedia Laboratory at the University of Tampere implemented the 'Lifestages and Mobile Cultures' project in co-operation with TeliaSonera and Information Society Institute. The study focused on the adoption of MMS devices, new forms of Internet communication and consumer trends among young people and seniors. In 2002, the team implemented the 'Young People and Wireless Future' project in co-operation with Nokia Mobile Phones and Sonera Mobile Services as well as a study on seniors' mobile communication and Internet use financed by Sonera.

Tampere university was coordinator of the study called 'Wireless Kids: International Research on Mobile Cultures of Adolescents' in 2001-2003. It aimed to map some international variation in Finland, UK, Germany and Japan and to understand mobile phone behaviour amongst teenagers in these countries. The project observed the mobile communication of children under 12 years of age and teenagers between 13 and 18 years of age in the four different countries. One of the starting points for the project was that the use of mobile communication has become increasingly common among children and adolescents throughout the world. This did not mean, however, that the development would lead to a universal communication culture for children and teenagers: usage varies extensively depending, among other things, on the services on offer and the traditional models of socialisation prevalent in the countries. The project focused on social innovations that children and teenagers produce when adopting new communication devices.

The project was preceded by the 'Everyday Life and Mobile Communication of the Finnish Youth and Families with Children' project carried out in 2000 and the 'Mobile Phone Culture of Children and Youth in Finland' project implemented between 1998 and 1999. These projects were part of the 'Telecommunications: Creating a Global Village' (TLX) program by the Finnish National Technology Agency, and they were preceded by a pilot study examining the mobile communication of Finnish children and teenagers mostly in a family context financed by Nokia Mobile Phones and Telecom Finland.

1.2 A methodological approach to mobile meanings

According to theoretical frameworks of cultural studies of technology, technologies emerge out of processes of choice and flexibility, or the different meanings that various relevant social groups hold (Bijker, 1992). Rather than mere physical objects, technologies can be seen as a socially construed part of human action and information production (Bijker, Hughes & Pinch, 1987). Technology and its impacts are construed and defined culturally: technologies do not speak for themselves or have an impact outside of people's interpretations. The interpretations and meanings produced by people in social interaction occupy the most central position in the equation. In addition to their existence as material objects, communication technologies, such as mobile phones, can be seen from a viewpoint of symbolic articulation, as cultural meanings and interpretations. The semantic universe of

these symbolic meanings is generated in social processes, and they have a bearing on the ways in which people act in their everyday lives (Lie, 1996; Silverstone & Hirsch, 1994, 15–16). The perception of technology as a social construction refers here to the interpretations and meanings produced in social interaction between people: the ways in which mobile technology is seen and observed subjectively and the meaning that is given to these observations.

In order to understand and to bring out the social meanings and cultural practices related to mobile communication by different age groups, we have used a 'multi-method' approach in our projects. Various methods are combined in order to understand the significance of mobile communication to young people and seniors. The methods used include questionnaires, thematic interviews, field experiments, observation, collection of SMS and MMS messages, photography, picture collages and media diaries. The main methods have consisted of couple and group discussions and thematic interviews among young people and seniors. Our purpose was to ask people to explain the logic and rules of their own social environment so we met people in places familiar to them from their own everyday lives and pertaining to their 'natural living environment' (see Harré and Secord, 1972). The seniors' interviews were often held in their homes; sometimes also in coffee shops; and young people were interviewed in places popular among young people in general, such as fast food restaurants. The duration of the interviews was approximately two hours and they were carried out in all parts of Finland, both in urban and rural areas. The socio-economic position of the informants varied greatly.

We include citations from interviews that foreground the experiences of the researched in their own voice. Using a research design like this, it is important to remember that meanings are not produced by the researched alone, but they are also created by the researchers involved (Holstein & Gubrium, 1995; 4). Interpreting the material poses many challenges, and not all of the many meanings embedded in the responses can always be extracted from the data. The research interviews were either semi-structured or unstructured. All the interviews have been transcribed and thematically divided into subsections. As the research progressed, interesting themes arising from the data were raised as targets of analysis and were discussed in subsequent interviews with the informants. Comparisons were also made to findings from the group's study on the mobile communication of Finnish children, young people and their families initiated in 1997 and to a project, carried out in 1999, examining the mobile communication of seniors.

With this kind of research design, there is a tendency to avoid early hypotheses as they are often doomed to failure; instead the thematic interview generally begins with a set of very general questions (Silverman, 1994, 36). The researchers have followed a principle of 'active sampling': new focal groups can be introduced in the interviews as information about a studied phenomenon spreads and a need emerges to acquire additional information on a specific issue (see Holstein & Gubrium (1995; 74)).

For instance, in 2005 the interviews yielded information about MMS messaging having

become very popular among certain senior women. We therefore decided to interview a pair of female friends that actively use MMS in their communication between each other. The methodic principle of the study comes close to an approach used by Plant (2000) in her ethnographic study focusing on international mobile cultures. Plant introduces themes and anecdotal examples emerging from the data in further interviews thus enabling mutual exchange of information and ideas between the researchers and the researched. This kind of approach, to an extent, works towards breaking down the distinctions between the interviewees and the interviewers which can often compromise such ethnographic work. (Plant 2000, 25)

2 Young people and 'mobile literacy'

In Finland, the expansion of mobile phone use to younger age groups began in 1997. The rapid spread of the device between 1997 and 1998 can be described with the word explosion. The emergence of mobile communication culture in Finland and in other Nordic countries preceded the development in the rest of Europe. In 2002, over 90 percent of Finns aged 15 to 19 had the use of a mobile phone. For several years, Finnish mobile phone penetration rates were the highest in the world. In 2001, the situation in Finland was no longer unique: in Europe, in addition to the Nordic countries, the use of mobile phones was by this time equally active in Italy and in Austria. (Statistics Finland, 2002)

As mobile phones have become common in almost all age groups, knowing how to use the mobile phone is perceived as a general skill that everyone should master. We may consider whether mobile literacies have in fact become a separate category of citizens' most common media literacies. Terms such as 'media literacies' and 'new multiliteracy' are used to refer to knowledge, skills and competences necessary for the use and interpretation of media (Buckingham 2003, 36). Multiliteracy is not just about the capacity to make use of multiple modes of media and communication, such as the technical management of the mobile phone. It is also to do with the inherently social nature of literacy - with the diverse forms that literacy takes in different cultures (Buckingham 2003, 38). There is still disagreement about what to call this new literacy and how to integrate it to other learning environments. However most would agree that digital media literacy embodies the potential for non linear browsing, the random juxtaposition of content, interactivity and the manipulation of text, sound, image and the moving image (Tyner, 2003, 373). The mastery of mobile literacy also entails social skills that people use to become a part of mobile-mediated social networks and get linked to the distribution of information. Different contexts of use highlight different mobile media literacy needs, from technological literacy to social rules, such as mobile phone usage etiquette (Syvänen & Vainio, 2005, 2). The young people interviewed in Finland for this study said that they give quite a lot of thought to people present and the place or situation in which they find themselves when using the mobile phone. For example they switch their mobiles to mute, prefer text messaging and speak 'in a moderate tone of voice'.

For young people, the context of leisure is important in gaining a whole body of knowledge, skills and competencies as consumers and users of digital multimedia (Sefton-Green & Buckingham 2003; 64). The same is true with mobile telephony. For teenagers, the most common strategies for learning mobile phone skills were peer group influence and 'trying things out'. Generally, rather than browsing handset manuals, young people learn the use of new functions through watching their friends and trying out the functions of the phone. An 11-year-old girl talks about how she learned to use SMS:

I still don't know how to use everything in it. But I've tried. I browsed it a lot, and it took me a couple of years to learn to send text messages and things like that. I just tried things out.

In our study, with the spread of mobile telephony, the parents in particular were under the impression that teenagers had high mastery of the technical side of mobile phone use. Parents explained that even teens who do not own a mobile phone nearly always know how to use one; children, too, often have several years of user experience. However, the research also showed that adults may sometimes overestimate children's technical and communication 'mobile literacy' skills (Oksman & Rautiainen, 2002). Surprises could occur for instance when the child was not able to leave a message on the voicemail or had not known to charge the phone's battery.

According to the data, young people consider mobile literacy and other ICT skills as important for citizens of the information society. The phenomenon is connected with a strong norm of mastering technology among younger age groups: in order to do well in studies and succeed at work, the individual must master and acquire the most recent technology. Young people perceive the development of technology as an automatic, self-governed phenomenon, and see young people and seniors as existing in separate realities in which technology has entirely different meanings:

R: How do you feel about the general development in technology?

I: You can't help it, it just keeps on going forward. You have to keep up really if you want to succeed in this world. There's people of course, older people, they don't have the need for them, they don't have a computer, just an old TV, and that's enough. They don't need it. They live in a different world, they don't live in an information society or where everything has to be shiny and as technological and expensive as possible. (Boy, 18)

Young people often create their own media usage cultures outside formal education (Sefton-Green & Buckingham 2003, 64). Particularly with mobile communication, young people's own communication culture, often concealed from adults, has been strong; the focus of communication is in the creation and maintenance of peer group relationships.

3 Young people's self-presentation

The mobile has become an instrument that teens use to define their personal space in relationship to friends and parents. Teens struggling between independence and dependence on parents may not always appreciate parents' attempts to be part of their social space (see Oksman & Turtiainen, 2004, 325). In general mobile communication becomes interesting around the age of 10 to 12 as children's social networks expand. Mobile communication unites friends and affords an opportunity to explore new relationships. Young people have acted as developers and pioneers of SMS culture. Part of the SMS communication is private, part shared, collective. Spoken language expressions and plays on words are common in text messaging (Kasesniemi & Rautiainen, 2003, 171–180). Text messaging may be one strategy for teenagers also to present their more courageous selves. A 16-year-old girl discusses the downsides of SMS relationships in her media diary:

A boy from our old school kept asking me out, but I told him that if he wants to meet me, he'll have to call. He promised to call me the next week. I expect he is summoning his courage. All the same, I won't be starting any SMS relationships. I had one once: the beeping of the phone is not all that stirring in the long run – and it costs you money, too. Another boy from the same school also emailed me that he misses me. It's easy to be open in a text message but yesterday, when I went to say hello to him, he was as shy as ever. (Girl, 16 years, extract from media diary)

Based on the Wireless Kids project and other case studies, teenagers' mobile communication cultures in different countries incorporate more similarities than national differences. The following features can be identified in Europe, Russia, the United States and Japan: the central position of text messaging, teens' own subculture of SMS expression and focus on communication between friends (see Lorente, 2002). Yet, everyday mobile communication in different countries also contains variation. For example in Japan, the 'privacy' aspect of mobile communication is valued more than 'mobility'. This is likely to be due to the fact that in Japan, young people have little private space: Japanese urban homes are usually quite small, and teens generally share a room with a sibling or a parent (Ito, 2001). In Finland, however, teenagers valued the mobility aspect as it increased their sense of freedom: being able to reach them through the mobile, parents allowed their children to spend more time out with their friends.

According to the Wireless Kids project, in the UK, teenagers see the Internet as highly useful for acquiring information, but preferred the mobile to the Internet in basic communication: *I can take my mobile anywhere I want, unlike the Internet you have to go there and sit down*. Most teenagers are emotionally, personally and psychologically attached to their mobile phones. In 2002, the interviewed teens in the UK had 1 to 2 years' experience of using a mobile phone. Most teenagers considered the mobile phone as important in their lives, girls more than boys. The word 'need' occurs in over 75 percent of the responses. When the word need is not there, the word 'life' is. (Chivhanga & Nicholas,

2002, 39)

'I feel it is a very big part of my life', (12-year-old girl, UK);

'It's a part of my everyday life, I need it', (19-year-old boy, UK);

'It's my life', (18-year-old boy, UK);

'It's my lifeline', (17-year-old girl, UK);

'It's crucial to social life', (17-year-old girl, UK);

UK teenagers used mobile phones to contact friends and family and felt that the device added to their personal security. In the Wireless Kids studies carried out in Finland, Japan and Germany, young people's need for security did not emerge as strongly as in the British study. Young people in the United Kingdom considered the mobile phone as a more humane technology than the Internet, which seemed to be further removed from their daily lives (Chivhanga & Nicholas, 2002, 40-45):

'My mobile is important to me because it keeps me safe. I think it keeps me safe because when I am out my mum can ring me and tell me anything or ask me anything. It is also good because it gives me a chance to contact my friends in a different way. Instead of ringing my mates I can text them. I think that texting is much better than ringing people. It is much cheaper and easier. There are also more things on a phone like games, taking photos, listening to the radio and going on the Internet. I would be lost without my phone.' (Boy, 12, extract from media diary, UK)

In the years of the study, for young Finns, the mobile phone has become such an integral part of the teens' person that in everyday speech it is often referred to through a metaphor of a body part (see Oksman & Rautiainen, 2002). Earlier, in the 1990s, the mobile phone involved certain status value for young people: it was carried conspicuously with a belt clip and the personalisation of phone models through colour covers or even nail varnish was common. In the 2000s, the mobile phone has become a less glamorous aspect of everyday life: it has perhaps become more 'transparent technology', more invisible, primarily seen as a means to access various kinds of interesting content (see Livingstone 2002, 70). As a result, the mobile is no longer constantly visible: it is carried in a pocket, as close and as easily accessible as possible. In 2002, the interviewed teens had approximately seven years' experience of owning a mobile phone. Even though over the years the mobile phone has turned into a multimedia device enabling activities such as surfing the Internet, gaming, listening to music as well as the use of multimedia services, its most important function for most still remains maintaining contact to one's social network, friends and family:

The mobile is really important for me and I take really good care of it. It's like my whole life in the palm of my hand. I save all the important messages. My dad sent me a text message three minutes into the New Year. I often bomb call my parents

and then they call me back. I don't see my dad so often, but he sometimes gives me a call just to ask how I'm doing. My big brother sometimes sends me funny messages that we get a good laugh from, especially if I'm with my friends. And I'm in contact through the mobile with my half big sister a lot. (Girl, 15, Finland)

Mobile communication has become rooted in the everyday communication practices of the immediate environment of young people. New situations inside the family such as divorce, one-parent families and the forming of stepfamilies place demands on the organizing of everyday life. 10-year-old children owning a mobile phone are no longer seen as an unusual phenomenon that requires explanation. Nowadays grandparents, too, communicate with their grandchildren via mobile phones. In addition to voice calls, they may also use SMS or MMS (in 2005, the 'Mobile Visuality' project studied MMS communication within families, using methods such as video call testing).

4 Seniors and mobile communication

Seniors' mobile communication network usually consists of family members: children and grandchildren. However in recent years, communication between friends and acquaintances has also increased. As to the Internet, many expressed a wish for more of their fellow seniors to become active users and start frequenting chat rooms, for instance. The seniors in the study were relatively versatile in their use of the computer, but their use of the Internet still often remained relatively narrow. The seniors interviewed also saw wireless and information technology as an essential part of future systems in services for the elderly. On the one hand, technology engendered horror scenarios of loss of human contact in healthcare, but on the other hand it was also seen as a part of a self-help system for still active seniors, enabling them to live independently in their home environment for longer.

In 2002 some 70 percent of 60- to 70-year-old Finns owned a mobile phone. Earlier (in 1999), seniors had many negative opinions on mobile communication: 'The mobile phone enslaves you, ties you down'; the mobile phone was also perceived as 'summer cabin phone', which meant that it was used in special circumstances alone. Since then, the attitudes have changed and mobile usage has become a daily occurrence. Mobile communication has more than fulfilled the expectations directed towards it by the age group of seniors.

The age cohort of Finnish seniors aged 60 and up have witnessed an enormous technological and societal transition in their lifetime. According to Roos (1985), the elders of the age group, those born before 1925, represent the generation of war and scarcity. Those born in 1925-1930 belong to the generation of reconstruction: they have spent their childhood in an era where everything was scarce, but their youth has been characterised by increasing prosperity and their experience of their generation has been identified with a strong belief in progress. (Roos, 1985, 54-55.)

The seniors interviewed for the study (Lifestages and Mobile Cultures project) had an

active and independent way of life, and they emphasised the ability to control their own lives and express themselves for instance through hobbies. The seniors in the study were still healthy and capable of leading independent lives. Many of the seniors in the sample were at a lifestage where they had just retired or were planning their retirement in the near future. Most had grown children and, after the children had left home, had found themselves with a lot of time on their hands for activities such as new hobbies, travelling and learning new things. Many had been using the mobile phone for several years already and were familiar with information and communication technologies from working life. This stage of life following working life and preceding old age has frequently been termed the 'Third Age'. It can be seen as an era of personal fulfilment characterised by a search for new experiences, realisation of dreams and the learning of new and interesting things (Blaikie 1999, 68–71).

5 From safety device to a tool for fun communication

According to Ling and Haddon (2002, 246–247), there are several motives associated with the adoption of the mobile phone, and generation also creates a factor in this. These motives include accessibility, display, coordination, and safety or security. The accessibility and display issues are pronounced among teens and young adults. The use of the mobile phone for micro-coordination is the most noticeable in families with children. Issues connected with safety and security are emphasised with older users. In our study (Lifestages and Mobile Cultures project), despite their active and mobile lifestyle, the most common reason for mobile phone acquisition among seniors remained the security aspect.

In our study, Finnish seniors' attitudes to the mobile phone differed from those of young people, for whom it was mostly a tool for constant and immediate social communication between peers (Oksman & Rautiainen 2002; Oksman & Turtiainen 2004, Kasesniemi and Rautiainen 2003). For seniors, the mobile phone constitutes a device for communication between family members, and the interviewees' stories highlight the relative significance of health and security aspects (Oksman & Malinen, 2004). Interestingly, even though the possible radiation hazard caused by the mobile phone has been widely discussed, Finns are not largely concerned about it (see also Kopomaa 2003). In 1999, when the mobile phone was still a new device, some seniors were under the impression that all electronic appliances (e.g. laser printers and microwave ovens) would prove health hazards. Some had purchased a hands-free device with the aim of minimizing the health risks. Also, the health risks were not perceived as a major problem in this age group because of the fact that seniors use mobile phones less than the younger age groups (see also Kopomaa 2003).

Certain aspects of Finnish culture can be used to explain the proliferation of mobile phones among seniors. Many wanted to purchase a mobile phone to increase security while staying at their summer cabins or to replace costly fixed-line phones there. The mobile phone was acquired as a safety tool for outdoors activities: berry and mushroom-picking, hiking and

camping. Often, the mere fact of carrying a mobile phone was said to significantly improve security. Seniors acknowledged the risks involved in their leisure activities. It was commonly thought that the mobile phone would enable fast action in the various unpredictable situations of daily life. Driving was mentioned as one situation where the presence of the mobile phone 'just in case' might prove crucial. A woman tells about the use of her mobile phone as a safety tool in her leisure activities:

I always have it with me at the stables or when I'm driving, I feel that here in the country I could easily end up somewhere by the side of the road if I don't have a phone on me. Then, when I'm riding out in the terrain, since I always ride alone, so I always carry the phone, for if something happens I can call someone, to ask them to collect me. I don't like going out with a horse without a phone, even though I am awfully brave as a person, but I'm not quite that reckless. (Woman, 58, secretary, still working)

The interviews highlighted the notion of learning new things in connection with mastering the use of the mobile phone, computers and other new technology. The senior users found pleasure in their continuing ability to still learn something entirely new. For some, their interest in technology also served as a type of substitute of time that before was spent at work: activities such as mobile phone courses or computer classes served to structure daily life, and the work done aimed at a specific goal. This enhanced a feeling of belonging to society, particularly the much talked-about information society. Yet, seniors see a difference in their level of participation in comparison to younger people: their participation is entirely voluntary by nature and not determined by an external demand to keep up with the latest trends of technology. Generally, Finnish seniors have been active participants in information society related education. In Finland, opportunities for open education have been fairly widely available, most visibly at Universities of the Third Age (part of Open Universities). The Finnish 'senior universities' are part of an international network (Universities of the Third Age, Universités du Troisième Age). Teaching, including courses related to ICTs, is currently provided by nine Finnish universities. Seniors' own ICT associations (e.g. Enter and Mukanetti) organise computer and mobile phone classes. Even in small municipalities many village associations organise a wide range of courses in information technology.

6 The use of mobile phones by seniors

The data gathered indicates that many seniors still carry mobiles only in special circumstances and do not stress the need for constant accessibility and 'online' presence in the same way as the younger age groups do. Yet, the significance of the mobile phone as a personal communication device has increased. In 2002, it was increasingly common for both spouses to have their own phone (cf. 1999, when one phone per couple was considered sufficient). A 65-year-old man interviewed for the study talks about the necessity to have

separate mobile phones for him and his wife:

I: You wanted to get one for both, in order for people to reach . . . ?

R: Sharing a phone these days is a bit like sharing a toothbrush, so . . . we both need our own. (Man 65, manager, retired)

Our data from 2002 shows that usage immediately after purchasing a mobile phone is characterised by caution. Inexperience as a mobile user is manifested for example in how the owner, rather than wearing the mobile phone at all times, only carries it on special occasions (the summer cabin phone phenomenon). Often, the user is not familiar with the mute option but will choose to have the phone turned off in public. Later, the mobile phone is assimilated into the activities of everyday life and the people are more inclined to take it with them as they leave the house. Still, the data features instances of online culture that are somewhat dissimilar to that of teenagers. Older people may for example feel more uneasy about the blurring of public and private spheres in mobile communication. For example some felt irritated about people discussing their private affairs on their mobiles in public places:

R: Nowadays people blabber all about their love life and health information and all their private experiences on the street. That's absolutely unintelligent.

I: You are not used to it even though it has been like that already for ten years or so?

R: No... I would rather go to speak to some quiet place with no traffic noise and people around me. (Man, 68, building contractor, retired)

Text messaging in particular has become a new way to stay in touch with grandchildren. With some respondents, text messaging actually constitutes the main use of the mobile phone. A retired Latin teacher related using text messages to send Latin sentences:

R: This mobile phone is a marvellous gadget, you can send short and concise messages in Latin and my ex-students answer me and they have asked me to correct their mistakes. So I've also sent out corrections through SMS. It is really very educational, you have to learn to formulate your message very briefly and concisely, without compromising the style. Quite unexpectedly, you could almost say this has become one of my most important hobbies in my retirement. (Man, 70, university teacher, retired)

According to the data, changes in life situations are likely to accelerate seniors' use of mobile communication. After the pressures of working life, contacts with friends and family often become more frequent. With the increased leisure time, hobbies and hobby-related relationships may also increase communication. The widowed informants talked about increased use of the mobile phone: they wanted to share their loneliness and anxiety with others who had gone through the same or other people close to them. In addition, the

mobile now functions more often as an instrument of fun communication. Some of the seniors were also inspired by MMS communication. In 2005 two woman friends were interviewed for the Mobile Visuality study. They discussed MMS communication between friends and family members. Both women were still actively working and had become grandmothers within the past year. One of the women had a son living abroad with his family with whom she maintains contact mostly through the mobile phone. In the extract, she contemplates the relationship between text and image.

Text alone doesn't do that much for me. Image is a different story. It brings real content, it brings the person close to you. When you see your grandchild in the picture it's completely different to them just writing to you that the baby is doing fine. I don't necessarily need pictures of my son or my daughter-in-law (laughter), but it would be great to get images of my grandchild every day for my phone. (Woman, journalist, 62, still working)

Young people have often been considered as pioneers of mobile phone and Internet use, as the age group that is the first to adopt the most recent mobile technologies and uses, with senior citizens following a few steps behind. According to the study, however, some seniors adopted the new solutions simultaneously with the young innovators, for example buying their first camera phones and beginning to use MMS at the same time as them (see Oksman, 2005).

The age group of seniors thus often has its own innovators who have an important social role in their circle of friends in the spread of new mobile devices and their uses. They are often mediators of information connected with mobile phones and computers: advice in the purchase of devices and in the choice of operator. Most do 'mobile and IT consulting' as volunteer work, teach the use of the mobile phone, the computer and the Internet to other people their age and, for instance, manage the affairs of elderly people. Seniors' ICT associations have networks of tutors and peer counsellors. The mobile peer counsellors make house calls, appear at fairs and provide phone assistance. Women in particular experience helping others as their responsibility. A 65-year-old mobile phone peer counsellor had this to say:

One lonely 80-year-old half-blind old lady called me and told me that she lives in a house in the middle of snow. The neighbours have bought her a computer and she uses it sometimes to write letters to her sisters, one of whom is living in Canada. Now, even though she presses 'save' and then 'print' she only gets blank paper. She is so sad because she can hardly see anymore and she can't be in contact with her sisters. It was such a sad story, so I began to arrange some help for her. (Woman, 65, music teacher, retired)

7 Life experience and technology

R: I suppose someone might ask me, why did I get the mobile or the computer or

the Internet. They're all technological gadgets that I've spent most of my life hating. Now it's an important hobby for me. I have noticed that this hobby takes up a bigger and bigger share of my time. I have sometimes wondered how six years ago I managed to have time for the duties of my position at the university. And I have come to the conclusion that at that time I did not have a mobile phone and a computer. I only had a word processor, which actually started my hobby with these electronic gadgets. (Man 70, university teacher, retired)

Life experiences often lead the seniors to conclude: 'You tended to think you were not going to have any use for such and such novelty, but many times I've ended up using the thing myself.' Seniors had generally got the mobile phone and computer after retirement and began learning it with no previous experience. The seniors see the Internet as a new and exciting world that they wanted to learn more about. According to the prevalent logic, 'It keeps your mind alert and helps to ward off dementia, when you keep your mind active.'

In general, seniors had acquired a computer with an Internet connection to their home 1) after a computer course (they wanted to learn about computers in general) or 2) inspired by a hobby (e.g. genealogy) (the expectancy of the computer and the Internet to serve as a tool in pursuing the hobby). The seniors wished for easier and more practical public administration service solutions for the mobile and the Internet. The development of technology has generated much material wealth in Finland; improvement in the general standard of living has had a positive effect on the age group's attitude to new technology. Most recently, the success story of Nokia has promoted a positive attitude to mobile phones. According to Castells and Himanen (2001, 89), Finland has been an exceptionally technology-optimistic country that has been among the first in the world to adopt the use of all things technological from the electric light to the telephone. The struggle to survive has been characteristic of the Finnish history. Technology has been seen as facilitating work and survival in a severe climate. The Finns' attitude to technology has been labelled highly practical: if a new technology has proved useful, it has been adopted without too much hesitation, which, in contrast, has often been strong in older and more favourably located European cultures (Castells & Himanen 2001, 89, 141–142; 148). Seniors have learned that various tools can make daily life easier:

Initially I thought, what are they thinking, a computer at a pharmacy: what use could it possibly be there? It would serve no purpose whatsoever. And now it's absolutely vital. Times change. I couldn't manage without it anymore, no question about it. (Woman, 60, pharmacist, still working)

The seniors did, however, express criticism of the means of constructing the Finnish information society. According to them, the emphasis has been on the quantity rather than the quality and content of the technologies. The services provided by companies were seen as too expensive and too busy: for instance, the person sent to install the computer or the Internet connection did not have the time to discuss the seniors' questions. The informants also criticised the state authorities' boasting about high mobile phone penetration levels and

Internet connection statistics while lacking both the means and the willingness to invest in an information society that would also function well at the grass-root level, in people's daily lives. The interviewees saw information technology as an essential part of the future elderly care system, mainly as a part of a self-help system for still active seniors, helping them to cope on their own for longer. However, the aspect of technology-mediation is also seen as a threat: health care loses the warmth of human contact if online consultation is to become more frequent:

R: There will be a time when I will need some kind of home care service, when I won't be able to get the shopping home myself. I will have to arrange for home care service. I don't want to mobilise my daughters to something like that. So in that sense it's good to learn to use these technologies in good time, so when the time comes, it will be easy to order the services. (Man 70, entrepreneur, retired)

Seniors have their particular wishes concerning both mobile services and the features of devices. New information on seniors also introduces new challenges for product development with regard to devices, for example concerning the size of the display, keypad and the device itself. According to Aula (2005), designers should always explicitly involve older members of the population in the design process. Different methodologies can be used when involving seniors in the design process: focus groups, questionnaires, interviews, observational studies. Devices and services used by seniors should be clearer and simpler to use, but what is actually meant by clarity and simplicity in this context is best determined observing seniors' actual use of the devices. For instance, senior citizens' most typical problems with web browsers are associated with their lack of knowledge about related terminology or confusion associated with information seeking. Simplifying the user interfaces of services makes them easier to use for younger as well as older users (Aula 2005, 184).

The seniors who participated in the study required services that were necessary and suitable for them. However, today's seniors are not interested in products that carry a reference to their age (see also Östlund 1995; Östlund 1999). The age label of certain mobile services (e.g. the reminder) is not compatible with the modern image of the 'active senior': people remain capable of managing their affairs and pursuing an independent life long after retirement from working life. Instead, seniors are interested in services that promote their physical and mental well-being thus providing opportunities for a longer and healthier independent life.

8 Conclusion

The research has shown that even though the mobile use of young people and seniors displays some similarities, mobile communication still has a very different significance in the daily lives of the two age groups. With young people in Finland, the communicative use of the device is highlighted, whereas seniors, at least in the early stages of mobile usage, appreciated the significance of the mobile phone as a tool to increase security. With both

age groups, friends and peer counsellors have proved to be good teachers of mobile use, as they are able to teach at a pace and with the methods best suited for the age group in question. As seniors are interested in the use of mobile services offered by various institutions of society, the significance of training in the use of technology increases, in order for the services to be available to as many people as possible. Training in mobile skills would also benefit many younger age groups as well.

9 Future directions

As the population of industrial countries continues to age, the need for supporting independent living arrangements, a sense of community and life management increases. Wireless technologies related to care giving and support may offer a variety of different benefits in people's daily lives.

Learning the use of technology and the educational use of mobile technology are also essentially linked to questions of acceptability - mobile technologies must be such that people experience them as easy to use, useful and see them as producing additional value. In the future, mobile learning may incorporate an increasing amount of game-like features - in this way, the entertainment value and aesthetic advances of other mobile services may serve to enhance the production of more appealing solutions for mobile learning.

Aside from questions of mobile learning, the ambient and omnipresent technology of tomorrow makes it necessary to study ethical questions regarding how, to what extent and what kinds of wireless technologies users are willing to accept as part of their daily lives.

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