

***Gender Differences and the Digital Divide in Norway – Is there really a Gendered Divide?***

Paper presented at the International Childhoods Conference: Children and Youth in Emerging and Transforming Societies, Oslo, Norway, 29.06-03.07.2005.

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This paper is available online on:

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## Abstract

*The digital divide has aroused a great deal of public interest lately. According to both international and Norwegian research, this issue represents one of the most important challenges facing the “communication knowledge” sector of society. UNESCO recognises in particular the gender divide as the most significant inequality to be amplified by the digital revolution. This paper describes in detail the gender differences or gender divide in the use of new media technologies among Norwegian children aged 7 to 12 years. Our findings demonstrate that mere access is not a sufficient condition for facilitating usage by children of digital media. Nearly all Norwegian children, regardless of gender, have access to new media such as the Internet and computers, but more boys than girls use media technologies. However, boys do have more access to new media in their own bedrooms. The boys do, in addition, spend more time on media compared to girls who actually use new media. The only technology girls use just as much as boys is the mobile telephone. Further, the findings show that boys and girls also differ in their purposes and content preferences. Boys tend towards a more entertainment related use and a more advanced type of media use compared to girls, who are mostly utility users. But existing research has not sufficiently documented the specific advantages of access to and different types of use of digital media; we therefore doubt previous research in documenting the gendered digital divide.*

## 1. Introduction

### 1.1 From information society to communication society

In the course of only a few years, information and communication technology (ICT) has changed from being a tool to solve clearly defined tasks to a medium for communication and co-activity (NOU, 2001). In general, there seems to have been effected a shift from information society to communication society (Wiberg, 2004), and from passive media consumption to active media participation, as illustrated in figure 1.

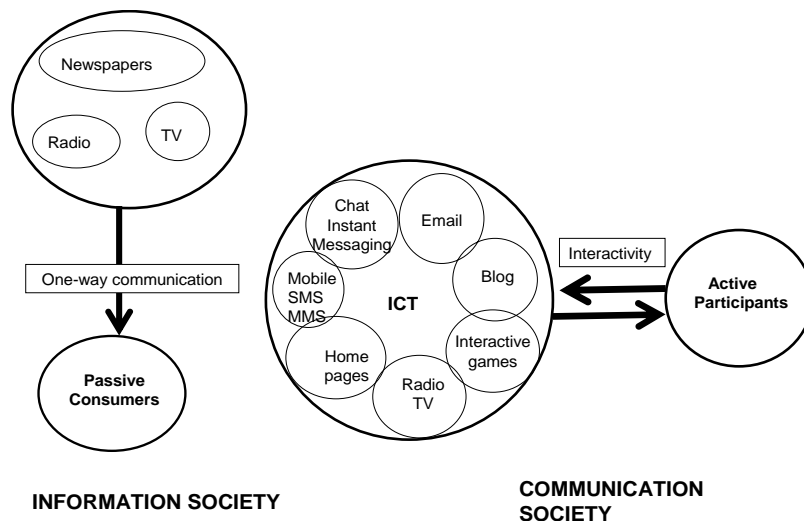


Figure 1. Differences between an information society and a communication society

ICT is now seen as the key factor in creating new forms of communicative relationships and friendships (Brandtzæg & Stav, 2004), as well as new opportunities for participation (Kanayama, 2003). ICT has the potential to increase the individual's flexibility, expand

opportunities for information retrieval and learning, and compensate for functional limitations such as reduced mobility, vision, hearing and cognitive abilities (eInclusion@EU, 2004). In addition, “some emerging studies indicate that ICTs could be tools for women’s active participation in improving their situation” (Huyer & Sikoska, 2003, p. 5).

## **1.2 A new notion of digital divide**

The significant role played by the digital media in the new communication society has lately aroused a great deal of public interest in the concept of the “digital divide.” According to both international (e.g. Servon, 2002; DiMaggio, Hargittai, Celeste & Shafer, 2004; Peters, 2001) and Norwegian research (e.g. Endestad, Brandtzæg, Heim, Torgersen & Kaare, 2004; Brandtzæg, Endestad, Heim, Kaare & Torgersen, 2004), it is important to lead, as well as respond to, an emerging set of digital practices capable of helping children and young people live in the digital age. While one of the aims of a transition to a digital communication society is to produce conditions for social inclusion, it may also involve a risk for individuals and communities of greater social marginalisation and digital exclusion (eInclusion@EU, 2004).

The digital divide has traditionally been conceptualised in general as the split between the “haves” and “have nots” of new media. The old notion of digital divide may be a misleading one, because it suggests a one-dimensional divide (Hargittai, 2004). A central focus of most recent research on the digital divide is therefore a question of “digital literacy” rather than of access (O’Connor & al., 2004), centred on “quality of use” (Livingstone & Bober, 2004). According to Ofcom (the independent regulatory body for the UK communications industry), digital literacy (or media literacy) is the ability to “access, understand and create” communication in a variety of contexts (Buckingham & Others, 2005; Livingstone, Van Couvering, & Thumim, 2005). The level and development of these skills are believed to have major implications for the individual, the education system and society in general.

This new notion of digital divide is of particular relevance to wealthy countries such as Norway, Finland, Denmark, Sweden, Iceland, etc., where saturation points for baseline technologies such as personal computers (PCs) have been reached in almost all sectors or levels of society. Frønes (2002) describes Norwegian society as a “digital society” in his book *Digitale Skiller (Digital Divides)*. Thus, according to Hargittai (2004) divides exist in multiple dimensions – access to technology, social support, skills and types of use. These user variations may therefore refer to a state of “digital inequalities” rather than digital divide. It is therefore increasingly important to specify in any study what researchers mean by “new media use.”

## **1.3 A gender divide?**

In recent years, a number of surveys have been made of boys’ and girls’ access to and use of new media, both in Europe and the USA. Among the most important of these is the American study, “Kids and media @ the new millennium” (Rideout, Roberts & Mollyann, 1999), based on a representative sample of more than 3 000 children aged 2 to 18 that focused on their use of television, the cinema, PCs, games, music and reading. In the European context, the study “Children, young people and the changing media environment,” is important. Its subject is the relationship between children’s (aged 6 to 16) use of the media and the importance of the media in both school and leisure contexts (Bovill & Livingstone, 2001). Of the Nordic countries, Sweden, Denmark and Finland took part in this project, but Norway did not. Knowledge of Norwegian conditions has thus remained sparse.

All of the abovementioned international research projects show a large and consistent gender difference in computer use that begins as early as ages 3 to 4 (e.g. Huston, Wright, Marquis & Green, 1999; Wartella, Lee & Caplovitz, 2002). A significant pattern is that boys use computers and the Internet more than girls do, particularly to play games and for other entertainment. But girls are more likely to use mobile telephones and short message service (SMS) than boys (e.g. Drotner, 2001). This is consistent with other research, which finds girls to be more frequent users of communication technology for social activities like chat and emailing (Wartella et al., 2002). While girls are more likely to use communication technologies for emotional purposes, boys use it more for instrumental purposes (Brandtzæg & Stav, 2004). However, a national survey in the USA conducted by the National School Boards Foundation (NSBF) found that boys and girls ages 2 to 17 are equally involved in using the Internet, but they use it in different ways. Girls use the Internet for utility purposes such as information seeking and schoolwork, while boys use the Internet for entertainment and games (Foundation, 2000).

A recent report from the “UK Children Go Online” project by Livingstone and Bober (2004) finds some differences, although some key similarities too. Boys spend more time online per day, have been online for longer in years and have higher levels of online skills and self-efficacy. Girls on the other hand encounter less pornography online, but are more likely to experience contact risks and meetings with people from the Internet. Further, the study finds no differences in the taking up of opportunities for online activities and no differences in parental rules and practices between boys and girls.

In any case, the United Nations Education, Scientific and Cultural Organisation (UNESCO) recognises the gender divide as “the most significant inequality to be amplified by the digital revolution” (Primo, 2003). Despite this, the digital divide, or digital inequalities, and how it separates girls and boys in a “modern knowledge” society such as Norway is unclear. There is in addition, according to Livingstone and Bober (2004), a growing debate over whether a gender divide continues to exist now that the Internet has become widely available. An equitable and inclusive knowledge society must be based on the principles of gender equality, non-discrimination and female empowerment, but is it so? And are the studies so far dealing with the right questions to question the digital divide?

## **2. Research questions**

As shown in the introduction, the digital divide exists in multiple dimensions – access to technology, social support, skills and types of use. Therefore, the present study addresses in general what kind of user variations may exist between boys and girls aged 7 to 12 in Norway. More specific research questions include: How are gender inequalities related to

- *Access to media technologies among girls and boys?*
- *Frequency of media use among girls and boys?*
- *How skilful boys and girls rate themselves in Internet use?*
- *How and to what purposes boys and girls use media technologies?*

### **2.1 The present study**

The present study builds directly upon research performed in the project “A Digital Childhood” 2002-2004 (for more information look at our project website: [www.sintef.no/digitalbarndom](http://www.sintef.no/digitalbarndom)), financed by the Research Council of Norway’s Welfare Programme. “A Digital Childhood” is the most wide-ranging project ever carried out in Norway on how and why children in the age range 7 to 19 use media technologies. In many

senses, the project represents an attempt to plug the gaps in our knowledge that emerged when Norway failed to take part in the major European study led by Livingstone & Bovill (2001). The priority of the present study is therefore to understand the meanings, uses and impacts of digital media in the lives of various groups of children with regard to different types of media use, firstly by placing the concepts in their everyday contexts, and secondly by viewing new media, wherever possible, from a child-centred perspective. This is similar to the European comparative study “Children and Their Changing Media Environment” (Livingstone & Bovill, 2001). This approach focuses on children as active and interpretative, but not necessarily highly sophisticated, agents (Livingstone & Bober, 2004). To achieve this we approached the gender difference of new media usage via both questionnaire survey and interview.

### **3. Method**

#### **3.1 Sample**

A questionnaire survey charted access to and usage of new media technology among schoolchildren between 7 and 12 years of age (2<sup>nd</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> grades). The study took place in October and November 2002 in Norway, where access to and use of new media are at high levels compared to other countries in Western Europe. A total of 825 children from six schools in Oslo completed a form covering a wide range of topics. The sample was stratified to match geographical and socioeconomic conditions in the city. Fifty-one percent of the sample was made up of boys and 49% girls. Sixteen percent of the sample had a father or a mother from another country than Norway. The parents of the children in 2<sup>nd</sup> grade completed a questionnaire virtually identical to the one given to the older children. There were approximately the same numbers of children in all age groups. The response rate was 90%.

#### **3.2 Measures of access to and use of media technology**

We measured both “access to” and different types of “use of” media technology among children. We asked respondents to report on their access to television, PCs, the Internet, mobile telephones and computer games in school, at home in general and in their own bedrooms. Further on we asked how often they watch television or video/DVD films, play games (e.g. computer games, console games and Gameboy), surf the ’net, use chat rooms or email, draw or work with pictures on their computers, make music on their computers, program their computers, make their own homepages, do school-related work on their computers, and how often they use their mobile telephones to talk and send SMSs, etc. We also charted their use of various kinds of media activities during a typical day (e.g. never less than 1 hour, 1 to 2 hours, 2 to 3 hours, 3 to 4 hours, more than 4 hours). Some of the questions concerning access to and use of media technology were created and employed by “Young in Norway”, a study of 12 000 children aged between 12 and 19 (Endestad et al., 2004; Torgersen, 2004).

#### **3.3 Interviews**

A series of 88 guided semi-structured group and individual interviews were performed in 2002 and 2003. The interview candidates consisted of 130 children aged 10 to 12 years in six schools, from varied social and cultural backgrounds. A primary objective was to put the context of the interview situation in as familiar a framework as possible. All the interviews therefore took place at the interviewees’ schools, in a familiar environment. In order to avoid any gender domination in the group interviews, we chose to run sex-segregated group interviews.

The children participated first in interview groups of 4 to 8 children. Each child then had the option of participating in an individual interview immediately afterwards. This sequence of events was selected since a group interview before a single interview tends to make the conversation between the researcher and the child more open. The children also feel more confident, since the group interview experience gives the child an opportunity to become familiar with and reflect upon the research issues, and at the same time become acquainted with the researcher and the situation of being interviewed. The interviews averaged 45 minutes in length.

Thematically the questions were related to what the children did and in what they were interested, rather than specific technologies, since children use different kinds of media and often at the same time (Tingstad, 2003). We highlighted instead questions like with whom did they communicate, the content of the different types of communication used, for what purposes the different communication tools were employed (chat, email, mobile telephones, landline telephones, letters, postcards, notes, etc.) and what kinds of social relationships the variety of their communications supported (see Hertzberg et al., 2005).

## 4. Results

### 4.1 How are gender inequalities related to access to new media?

#### 4.2 Access in the home

When trying to characterise and understand children's use of media technologies and its gendered differences, a number of conditions need to be studied. In the first place, it is essential to be aware of the extent to which the children have access to the technology. This can offer us valuable insight into the significance of the technology concerned for the child, the extent to which the technologies are ubiquitous in the child's growth environment with respect to his/her sex and age. It is important to point out, however, that access in itself cannot be interpreted directly in terms of media use. Radio, hi-fi systems and television are to be found in virtually every Norwegian home, and they have therefore not been included in the figure showing access at home.

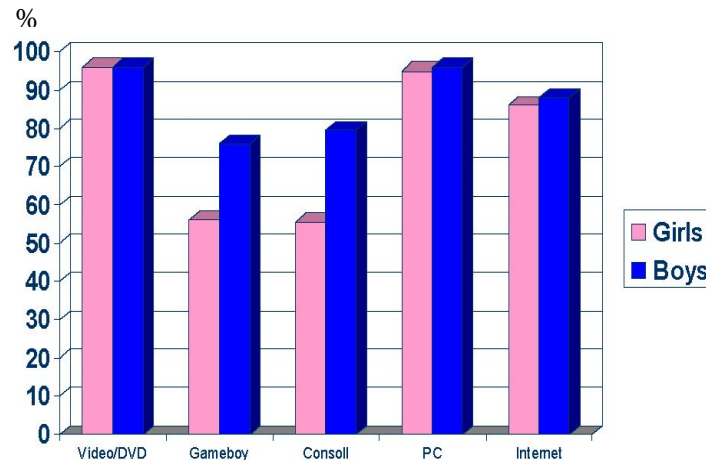


Figure 2. Access to media technologies at home in the age group 7 to 12

Figure 2 illustrates the degree to which media technologies are available in Norwegian homes, and shows that more than 90% of families have video equipment, PCs and access to the

Internet. As Figure 2 also shows, more boys than girls say they have access to Gameboy and television games. This ratio is stable, even though both sexes are reported to have rising rates of access until the 6<sup>th</sup> grade. While access to a PC, television and the Internet is stable and high in all age groups, the availability of television games and Gameboy flattens out at the 6<sup>th</sup> grade.

About half of the children aged between 10 and 12 (5<sup>th</sup>- to 7<sup>th</sup>-graders) reported they have a mobile telephone. The proportion who says they have mobile telephones rises from 30% in the 5<sup>th</sup> grade to 65% in the 7<sup>th</sup> grade. There are no significant gender differences in any of the age groups. More 12-year-olds thus have a mobile telephone than lack one. Nor are there any differences when variables such as ethnic background are taken into account.

#### 4.2.1 Access in own bedroom

A relatively recent trend is that media technologies such as television and PCs have moved from being accessible only in the family living room, to being available in the child's bedroom as well. This development has been particularly prominent in the UK. Bovill and Livingstone (2001) believe this is a symptom of a growing "bedroom culture", and a privatisation of media use. The social life of children and adolescents is moving from public spaces such as streets and other outside areas to private spaces, children's own bedrooms, where media such as television, PCs, music systems, etc. have gained an increasingly firm toehold.

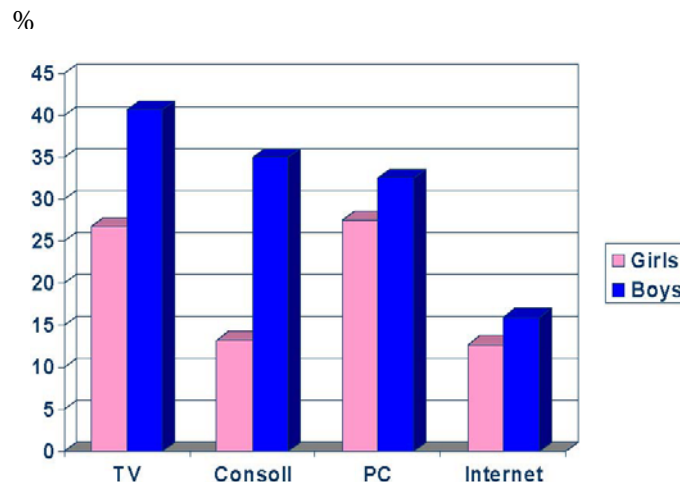


Figure 3. Access to media technologies in their own rooms in percent

To what extent can this trend be said to have reached Norway, and how is this type of access related to gender differences? As shown in figure 3, our findings suggest a total of 34% of all children between the ages of 7 and 12 have television in their own rooms, but that there is a significant gender difference, in that the boys have more of everything. This gender difference can largely be explained by the fact that a television set is a necessary component of television games, which are still primarily an activity for boys. However boys do have in addition slightly greater access to both computers and Internet in their own bedrooms.

#### 4.3 Frequency of media use

##### 4.3.1 Use of game technologies

Since game technologies (television games (console), PC games, 'net games and Gameboy) are among children's most common media activities (after watching television) (e.g. Drotner, 2001), we wished to look more closely at this activity in terms of age and sex. We asked the

children how many days a week they used various types of game technology (including television games (console), PC games, 'net games and Gameboy). Figure 4 summarises the results, which show that a remarkable pattern of age and sex differences exists.

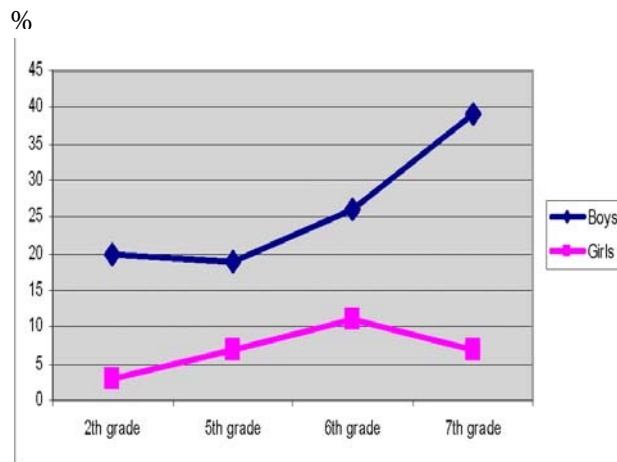


Figure 4. Overview of children's use of game technologies 5 to 7 days a week (television games, PC games, 'net games and Gameboy); percentages by age and gender

Far more boys than girls play game technologies 5 to 7 days a week. The boys play more often as they grow older, but the increase with age is lower in girls, and actually disappears in the 7<sup>th</sup> grade. In the 7<sup>th</sup> grade only 9% of the boys reported they do not play media games, while the corresponding figure for girls was as high as 47%. This gender division is reflected in most international studies. Many people have suggested this pattern is developing over time, and have speculated that younger girls are more like boys. Our results show the gender-related pattern is established as early as the 2<sup>nd</sup> grade, but that it becomes more pronounced throughout the primary school period. It is interesting to observe that 39% of boys play media games five times a week or more in 7<sup>th</sup> grade. The use of game technologies must be regarded as a particularly important component of the everyday life of older boys.

#### 4.3.2 Use of computers

Computer use is also significant to gender differences. As figure 5 shows, 41% of the boys use computers several days per week at home while just 30% of the girls report the same.

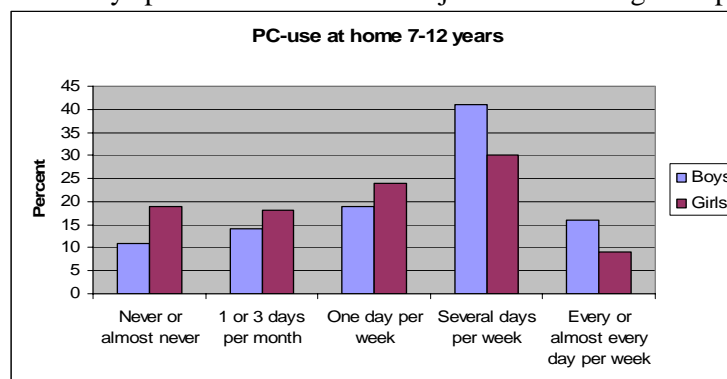


Figure 5. Children's computer use at home in percent

Computer use outside the home was reported in the same pattern as shown in figure 6. Twenty percent of the boys use computers several days per week, while 9% of the girls report the same.

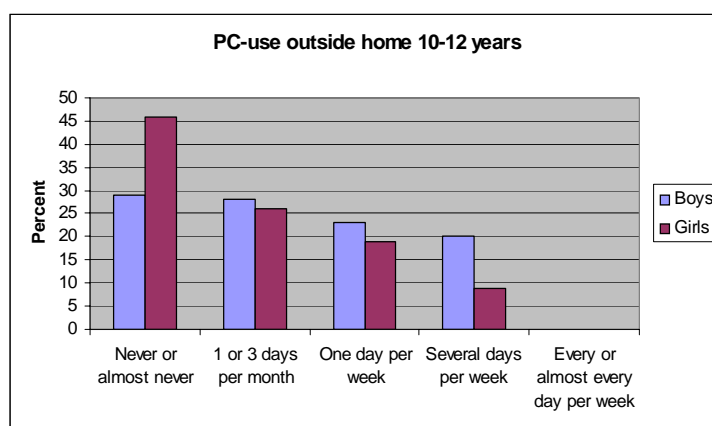


Figure 6. Children's use of computers outside the home or school in percent; 5<sup>th</sup> to 7<sup>th</sup> grades are calculated together (Children less than 10 years old did not receive this question)

#### 4.3.3 Use of the mobile telephone

The children said they both send and receive an average of 1.5 SMSs per day. There are no significant gender differences. The 10-year-olds (5<sup>th</sup>-graders) send and receive around one SMS while the 7<sup>th</sup>-graders send and receive nearly two. In other words, this phenomenon has not yet completely taken off in this age group. One reason for this may be that it is expensive, and the children have to pay to send SMS messages themselves. Since we carried out this study in autumn 2002, however, the cost of sending SMS messages has fallen, and we may assume that the frequency of such messages has risen. Thus our qualitative findings indicate SMS as an important arena of communication for children aged 10 to 12. (See Kaare, Brandtzæg, Heim, & Endestad, submitted and in section 4.5.)

#### 4.3.4 Use of the Internet

According to figure 7 (see page 10) there is a large gender divide when children are aged 12 years. Boys are using the Internet more than girls. This age group was chosen here because the frequencies of Internet use are not significant before children are around 12 years old. Thirty-five percent of the boys are surfing the Internet daily or every week, while 14% of the girls are doing the same. Twenty percent of the boys are looking for information on the Internet while 3% of the girls are doing this daily or every week. Twenty percent of the boys are chatting compared to 12% of the girls. One percent of the girls are using newsgroups compared to 7% of the boys.

Among the 10-year-olds, more boys than girls have their own email addresses, but by the time they are aged 12, as many girls as boys (69%) have email addresses. The difference between the sexes is thus virtually zero. All the same, we must point out that the Internet in general is relatively little used, for although only 13% say they never or almost never use the Internet, only 15% say they often use it actively and in a goal-oriented way, i.e. they download music or games, chat or carry out other types of goal-oriented activity on the Internet. 10% of the sample said they use the Internet every day.

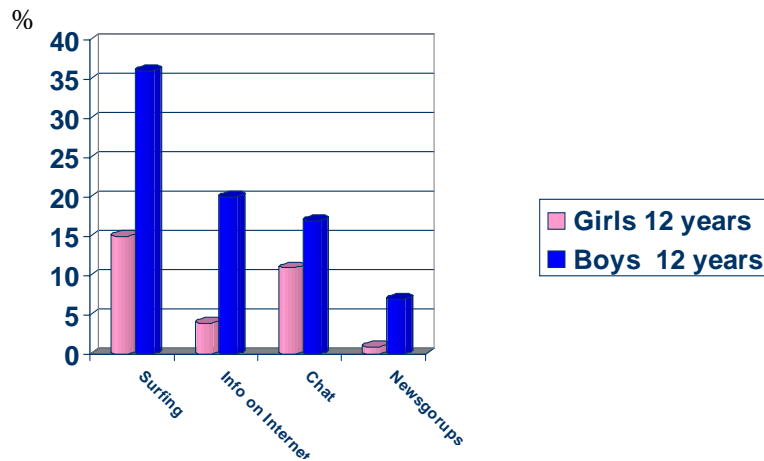


Figure 7: Overview of how often children (12 years) use different Internet activities daily or every week, percentages by sex

There is much to suggest, therefore, that the Internet is not particularly widely used by children in the 10- to 12-year-old age group. At the same time, it is important to mention that use increases in line with age. In the 5<sup>th</sup> and 6<sup>th</sup> grades about 7% of the children use the Internet every day. This proportion rises to 17% in the 7<sup>th</sup> grade. (See also figure 5.)

#### 4.4 How skilful do they rate themselves in Internet use?

We asked the pupils in 5<sup>th</sup> to 7<sup>th</sup> grades to respond to the survey question, “How good are you at using the Internet compared to others in your class?” While 10% of the girls responded “yes, better” or “partly better”, 22% of the boys responded the same.

#### 4.5 How and to what purposes do they use the media technologies?

When children eventually do begin to chat, some of them do so with people they meet for the first time on the Internet. Thirteen percent of the children who participated in our questionnaire on use of the Internet have actually met face-to-face persons whom they originally encountered on the Internet. On average, those who have met people in this way have met two persons. About twice as many boys (16%) as girls (9%) have done this. In the 10-year-old group, 10% have met someone in this way, while 12% and 15% respectively of the 11- and 12-year-olds have done so.

When we interviewed those children 10 to 12 years old we found a gendered content of electronic communication. The boys (not girls) of this age group often use the Internet to investigate sexuality by surfing porn and to test out a sort of virtual sexual praxis. Many of the boys said they often pretend to be girls when they are in the chat rooms. Computer cross-dressing or gender-swapping (Turkle, 1995) is a well-known phenomenon among young people in Norway, that also is observed in other studies (Stuedahl, 1999; Tingstad, 2003). This finding indicates that the crudest sex chat is actually between boys - boys who are pretending to be girls and boys who really *are* boys. To be sure, a few of the 12-year-old girls said they chat with boys they meet on the 'net about sex, but often chat with this category of content appears to function as an arena of virtual experience for the pornographic interests of the youngest boys rather than a meeting place for girls and boys of that age.

However, most of the various categories of communication (Kaare et al., submitted) mediated by the different types of media technology are used by both girls and boys alike. But when it comes to the pictures and symbols they exchange, the gender differences are striking. The girls in general prefer pictures and symbolic drawings expressing close and devoted relationships. Symbols such as hearts, flowers, rings and the like are intended to strengthen the emotions that support friendships, sometimes even love, but also family relationships. The boys also pass around such symbols, but to a much lesser extent. On the contrary, many of them prefer to pass on pornographic and obscene pictures and symbols that possibly might be seen as tokens of their seeking emotional experiences, but more likely as an expression of their interest in sex. Some of the girls also reported that when the teacher is not present, the boys might download from the Internet very rude pornographic pictures and pass them around in class in order to harass the girls.

With their own mobile telephones and the Internet without adult supervision, the boys now have access to new media technologies, which they often use to offend the bashfulness and integrity of the girls. Therefore many girls in contemporary society are exposed to sexual harassment when they are only about 10 years old, and their chances of protecting themselves from these offences are relatively slight compared to the girls of previous generations, who could not be reached anonymously by SMS or the Internet.

When we look at children's own preferences for game content, keeping in mind violent games are what have gained the attention of the press in its descriptions of contemporary child and adolescent culture, our results indicate something different: that competitive activities such as football and driving games take the top positions in children's lists of preferences. Creative activities such as music and building cities are also among the five most popular categories. The more violent types of content, such as war-games, hitting opponents or killing, are found well down the list of preferences. Far fewer children regard these as "great fun" than those who like to compete. It may be noted that even though a relatively large proportion think it is fun to learn new things, typical knowledge-oriented activities such as learning about animals, nature and other countries are well down the list. Boys enjoy violence, sport and car-driving more than girls, while there are no differences between the sexes when it comes to creating and role-playing, learning something new, or playing games that involve strategy and fantasy.

#### **4.5.1 Typical patterns of media use**

We wished to see how all this use could be viewed in a wider context, to determine whether we could discern or identify some typical patterns of media use among children. We found that children's (7 to 12 years) uses of new media technologies vary widely in terms of frequency of use, content preferences, purposes for use, technology and interest. By using cluster analysis, we identified the following four patterns:

1. **Non-use** (40%). Children who fall into this pattern are characterised as spending almost no time with new media technologies such as PCs and the Internet. Television is the only medium they use frequently. Sixty-seven percent in this group are girls. As might be expected, there are mostly the younger children.
2. **Advanced use** (12%). Children associated with "advanced use" spend most time on media in general, using a wide range of different media technologies for a number of different purposes; some might be characterised as carrying out advanced usage such as programming and homepage design. This group mostly consists of boys (66%) rather than girls (33%).
3. **Entertainment use** (25%). Children associated with this pattern spend much time

primarily on console games and television viewing. Seventy-four percent in this group are boys.

4. **Utility use** (23%). Children in “utility use” are using the technology as a tool for information acquisition and schoolwork. They use in addition email and watch less television compared to others. There are almost the same proportions of girls (54%) and boys (46%) in this group.

This model of the pattern of use also indicates that patterns of use change with age. In the 2<sup>nd</sup> grade the majority of the children are not interested in new media (68%), while a third of this group fall into the category of “entertainment use”. It is reasonable that children of this age have learned little about computers and are therefore not capable of using such advanced technology. If we look at the proportion of each sex within each age group we see that around two-thirds of the “non-users” are girls, while three-quarters of the “entertainment users” and two-thirds of the “advanced users” are boys.

These findings match those of a similar usage analysis made by Johnsson-Smaragdi (2001) in the pan-European project “Children and their Changing Media Environment.” However, the transition to and the boundary between one pattern of use and another may be fluid. We can expect to find combinations of different user types. This approach therefore does not mirror an absolute typology of children’s media use; rather it reflects a more holistic approach to media use versus a single-technology approach.

## **5. Discussion and Conclusion**

### **5.1 The gender differences**

This paper describes in detail the gender differences in use of new media technologies among Norwegian children aged 7 to 12 years. Our findings demonstrate that mere access is not a sufficient condition for children to facilitate usage of digital media. Approximately all children regardless of gender have access to new media such as the Internet and computers at home, but there are more boys than girls who use media technologies. However boys are more likely to have access in their own bedrooms. The boys do in addition spend more time on media per day; they have been using computers and game technologies for longer (in years) and report higher levels of Internet skills. The only technology girls use just as much as boys is the mobile telephone.

Further, the findings show boys and girls also differ in their purposes and content preferences. Boys tend towards a more entertainment related use and a more advanced type of media use compared to girls, who are mostly utility users (when they use new media in the first place), using the technology as a tool for information acquisition and schoolwork. This pattern of use may however indicate that girls, when they use new media in the first place, take up some of the potential of new media. On the other hand, a study by Heim et al. (2005) finds entertainment use is associated with a low degree of scholastic competence.

The qualitative finding in this study shows boys tend to exhibit a more sexually oriented behaviour on the Internet. In addition boys encounter more risk-related behaviour online than girls when meeting people they first met on the Internet. This latter finding is a contradiction to what Livingstone and Bober (2004) found and can be explained by all the attitudes campaigns that target mostly girls.

However the general picture seems to be that boys have greater technology skills and interest in new media technologies. These differences between girls and boys are a feature that corresponds to a number of international studies (e.g. Wartella, et al., 2002; Rideout et al., 1999). Girls make less use of new media technologies, and they use them in different ways from boys. Another Norwegian study confirms this finding and indicates that the gap between genders in media usage increases, surprisingly, between the ages of 12 and 19 (Torgersen, 2004). A third Norwegian study finds the greatest differences between boys and girls are found in media usage outside school hours, while differences in school are declining (Kløvstad & Kristiansen, 2004).

## **5.2 Is there really a gendered divide?**

Yes, there is a difference in media use among boys and girls, but is there really a gendered divide? Schools, parents, government, researchers and the ICT industry all claim digital literacy is a “new survival skill” in the new digital society (Eseth-Alkalai, 2004). As stated in the introduction, the digital divide has shifted from technology access (haves and have nots) to quality of use assessed by time use, skills and range of media activities (e.g. Livingstone & Bober, 2004). If this is so, our results show a gender divide of great concern. Of concern, too, is despite these gender differences, the development of different patterns of media use and digital literacy has received very little attention in research. There is too little knowledge about what type of media use that is beneficial or significant for learning and education, therefore the measurements of frequency of media use and access to media use do not tell the whole story about the gendered divide. This makes it important to bear in mind that creating environments conducive to girls’ ICT use as well as boys is more than a question of access to ICT (Huyer & Sikoska, 2003). It is necessary to render media-oriented technologies desirable by teaching children how to utilise them in a skilful and qualified manner. Thus, there are some indications that schools need to develop strategies for bridging the digital divide in total. But evidence suggests in addition that young people’s use of computers at home or outside school also is significant to learning because home computers enhance more positive attitudes and self-confidence towards ICT (Livingstone, 2001).

As already stated, in general this study’s results reveal that boys use more new media and are extra skilled in media use compared to girls. The fact that non-users make up the largest group and that it mainly consists of girls is a source of anxiety. But there is still little clear evidence of the effect of different types of media use and digital literacy. Existing research has not sufficiently documented the specific advantages of access to and use of digital media (Livingstone, 2002). Future research should therefore investigate the level of scholastic competence and vocational prospects among non-users or “girls” compared to other media user types among children and young people. This sort of knowledge will be crucial in determining what kinds of media user patterns are associated with a certain digital literacy significant for learning. It can provide us a real indication of how great a concern should be the rising gendered digital divide in Norway, and how we may be able to overcome it.

## **6. Acknowledgments**

This study is financed by the Welfare programme at the Norwegian Research Council.

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