

[Sonia Livingstone](#)

## Personal computers in the home: what do they mean for Europe's children?

**Article (Accepted version)**

**Original citation:**

Livingstone, Sonia (1999) Personal computers in the home: what do they mean for Europe's children? *Intermedia*, 27 (2). pp. 4-6.

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Available in LSE Research Online: July 2009

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## Article invited for *Intermedia*

### Personal computers in the home - what does this mean for European children?<sup>1</sup>

Sonia Livingstone  
LSE<sup>2</sup>

#### Introduction

All I know is that I can see computers being as much part of the home as the TV and video.

*(Middle-class mother of a 7 year-old boy, UK)*

The media available to children and young people at home are changing rapidly, raising many questions for the public and policy makers alike. The electronic screen is the focus of many significant changes: increasingly, families are gaining ready access to multiple television sets, often with multiple channels, as well as to video games, video recorders, teletext, etc. Perhaps the most radical change, challenging the dominance of television, is the introduction of the personal computer (PC), along with multimedia and the Internet. Many are asking - will children become more isolated, will poor children get left behind, does the PC mean the end of books or the transformation of television, etc?

Our multinational project, investigating the diffusion and significance of media and information technologies among 6-17 year olds,<sup>3</sup> shows that while the vast majority of European children have access to television, telephone, books and the video, access to computer-based technologies is more variable (see Table 1). Broadly speaking, at least half of European children have access to a PC, and between a quarter and a half have a CD-Rom also, though diffusion of the Internet lags behind. The cross-national variation offers some pause for thought: provision in Scandinavia is noticeably high, though children in Israel and the Netherlands are also relatively advantaged in

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The British research project entitled '*Children, Young People and the Changing Media Environment*' was directed at LSE by the author and funded by the Advertising Association, the British Broadcasting Corporation, British Telecommunications plc, the Broadcasting Standards Commission, ITV Network Ltd, the Independent Television Commission, The Leverhulme Trust, STICERD LSE, and Yorkshire/Tyne-Tees Television. The project has also been conducted simultaneously by national research teams, nationally funded, in each of eleven further European countries - Belgium (Flanders), Denmark, Finland, France, Germany, Israel, Italy, the Netherlands, Spain, Sweden and Switzerland and the United Kingdom - see Livingstone, Holden and Bovill (in press) for details. Funding for the comparative project was funded by the European Commission, European Parliament and European Science Foundation.

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Address for contact: Media@lse, London School of Economics and Political Science, Houghton Street, London WC2A 2AE UK, tel +44 (0)171 955 7710, fax +44 (0)171 955 7565, email s.livingstone@lse.ac.uk

<sup>3</sup>The national studies follow a common conceptual framework and methodology, incorporating both qualitative methods and large scale surveys which involved some 15,000 children and young people across the 12 countries during 1997-8 (Livingstone et al, in press).

computer-based technologies; children in the UK lag behind, not only in the numbers of households with children who own a PC but also in the proportion of these which have a CD-Rom (lower than in Germany or Switzerland, for example).

While rates of diffusion vary cross-nationally, this article draws on the British part of the multinational project (Livingstone and Bovill, 1999) to pursue some key issues which may be pertinent in many countries. These concern the emerging features of the use of computers and the Internet in the family home. After all, technological change does not necessarily bring about social change: to chart the complex *social* changes which both shape and are shaped by use of the PC requires research into the domestic contexts within which such technologies are acquired and used.

### **Implications for children of the new, computer-rich home**

#### *What do children think of computers and the Internet?*

At present, the cultural meanings of the PC, CD-Rom and Internet are not fixed. Young people are uncertain whether to associate the PC with print or with screen entertainment, or whether to associate the Internet with an encyclopaedia or with communication and fun. The Internet gives rise not only an uncertainty over its meaning, but also ambivalence regarding its value, especially among users. These young people report considerable excitement over the potential of the Internet, together with considerable difficulties in accessing information and frustration with the quality of the information obtained. These ambivalences and uncertainties are important, for notwithstanding adult values, it seems likely to be the latter associations (with screen entertainment and communication) rather than the former associations (with print or books or learning) which most young people will find encouraging. After all, those who have found the communicative possibilities of the Internet, or the games potential of multimedia, are the most enthusiastic.

This negotiation over the role and image of the domestic PC also means that it may also be seen differently in different types of home. In middle-class homes the PC has often been acquired by parents for their own benefit as much as for their children, as part of a culture which prioritises books and learning over screen entertainment. The struggle for the meaning of the PC is most visible here in relation to computer games: these are often seen as less acceptable by parents, even though we find that both middle-class and working-class children mostly use the PC at home for games.

Although working-class parents have similar hopes for the PC's educational potential for their children, they are less likely to know how to use it or how to help their child with it. Working-class families tend to value screen entertainment more, books less, and are less likely to be opposed to computer games. Interestingly, the 'generation gap' in technological expertise is wider in these families: we find that working-class children are more likely to be the family computer expert (with all that implies for self-esteem) and that their parents are more likely to place the PC in their child's room (giving them greater freedom to explore the technology).

#### *Where is the computer located within the home?*

Where the computer should be located within the home is far from obvious, and families make different decisions. The social history of previously-new media suggests a shift from collective use in the family living room to a pattern of 'living together separately', facilitated by the growing portability and cheapness of each medium as it develops. This is now evident for the television, and may become so for the PC. As a result, there are fears that individualised lifestyles and 'bedroom culture' may mean more lonely children. Yet, while we found that many children and young people prefer to watch television or play computer games 'alone', they are nearly as likely to want to watch or play with a friend, suggesting a sociability which is not so much oriented towards isolation as oriented away from the family and toward friends. Further, despite moral panics about the new media, we found few or no children who were so 'addicted' to computer games that they were socially isolated.

However, where the computer is put within the home is socially stratified, and this may have consequences for children's freedom and confidence in using the PC. In Britain we find that middle-class parents, and parents of girls, prioritise sharing the PC over personal ownership by the child. Thus surprisingly perhaps, while middle-class children are twice as likely to have a PC at home, they are no more likely than working-class children to have one in their bedroom (12%). For gender, we see the reverse: while girls and boys are equally likely to have access to a PC at home, it is twice as likely to be put in a boy's bedroom than a girl's (16% vs 8%).

#### *Does getting a computer at home affect the use of other media?*

Our research suggests that children and young people are assimilating new media into the structure of their everyday lives but rarely radically altering their ways of living. In Britain we find that of the five hours or so spent with the media each day, most of this is spent with television and music, and the new media are making only a modest impact on the amount of time spent with media. Two-thirds of our 6-17 year old sample play computer games, spending on average just under an hour and a half on 3 days a week. Those who use a PC (not for games) in their leisure time on average spend an hour on 2-3 days a week. Internet users spend even less time, with over two-thirds of users using it on average once a month or less, for just under an hour.

Whether this modest - though far from negligible - expenditure of time on new media is displacing time spent on older media is difficult to determine. Our findings suggest that what is displaced is more likely to be time spent on non-mediated leisure rather than on other media. This is most evident when we look at the heaviest computer games players, for while these children spend up to two and a half hours a day playing, they still find time to watch more than the average amount of television (up to three hours per day).

Overall, these and other findings (Livingstone and Bovill, 1999) suggest that new computer-based media are not replacing or even, displacing, older media. Rather, they may supplement the available options, possibly prompting new, more specialised, uses for books, television, magazines, etc. *How* this occurs depends on how readily these new media may be incorporated into young people's pre-existing practices and priorities - particularly those of social interaction, communication, narrative and play - and how far it remains for older media to meet these interests.

### *What about inequalities in computer access and use?*

The issue of social divisions between the 'info-rich' and 'info-poor' is of widespread concern. Clearly, young people's experience with new media is socially stratified. Generally speaking, our research suggests that inequalities in gender arise predominantly from differences in content and content preferences (and consequently, the relative lack of girl-friendly, communication-oriented or narrative-based software is cause for concern); by contrast, inequalities in socioeconomic background arise predominantly from differences in domestic media access - working-class children with access to computers use them in very similar ways to middle-class children. The relative lack of computer-based media at home for working-class compared with middle-class children is an obvious inequality, but the widespread association of multimedia and the Internet with books (reference books, encyclopaedias, libraries etc) may also prove disadvantageous for working-class children. Our qualitative work suggests that both these inequalities, neither of which is itself new, are now shaping young people's experience with computers.

In many countries, it is schools which have the greatest opportunity to equalise access to computers. In the UK, many - particularly working-class children - gain their only access to computers through schools. However, the relation between computers at home and at school is an uneasy one: the domestic PC is linked more to entertainment than work, while teachers are often opposed to children's favourite computer activity - computer games. Further, fearful of compounding class inequalities, teachers may be reluctant to draw on PCs at home as an educational resource, even though it is for this reason that parents bought them.

### **Conclusion**

The present research was designed to update Himmelweit et al (1958), and it is intriguing that our data for Britain now show that about half of all children have a computer of some kind, paralleling those for Himmelweit forty years ago, when around half the population had television. Where television has since spread - not only across homes but also throughout each home - the PC may follow. Generally, our survey of media uses across the board suggests that children and young people are often confident and enthusiastic adopters of new forms of media. Yet it may also be for more pragmatic reasons that households with children tend to lead in the adoption of new media: given the complex dynamics of everyday family life, acquiring new media goods offers solutions to the many competing claims on domestic time and space which characterise everyday life at the end of the century. Clearly, research on the domestic PC is only just beginning. As both work and education are increasingly brought into the home, facilitated by the PC, it seems that traditionally distinct activities and spaces are converging. This cultural - as opposed to technological - convergence throws up many new areas of contention, demanding research not only on the new technologies *per se* but also on their emerging relation to older technologies and to non-technological aspects of leisure and family life.

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TABLE 1

Percentages of children having new media technologies available in the home, by country<sup>4</sup> and age

	PC of any type	PC with CD-ROM	Internet link
<b>Finland</b>			
9-10	69	47	24
12-13	73	54	31
15-16	74	48	29
<b>Germany</b>			
9-10	45	34	8
12-13	54	44	10
15-16	63	51	10
<b>Netherlands</b>			
9-10	86	48	18
12-13	84	47	15
15-16	90	49	21
<b>Israel</b>			
9-10	74	53	29
12-13	71	57	34
15-16	77	56	37
<b>Italy</b>			
9-10	n/a	n/a	n/a
12-13	55	37	11
15-16	50	35	11
<b>Spain</b>			
9-10	43	32	8
12-13	55	41	11
15-16	68	51	1
<b>Sweden</b>			
9-10	57	40	22
12-13	69	52	33
15-16	70	55	38
<b>Switzerland</b>			
9-10	55	39	19
12-13	62	48	17
15-16	71	52	17
<b>UK</b>			
9-10	47	25	6
12-13	47	28	9
15-16	53	26	8

<sup>4</sup>For technical reasons, data from only 9 of the 12 countries are presented here.