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Computer Games as a Part of Children's Culture

by Johannes Fromme

1 The cultural and pedagogical relevance of electronic games

Interactive video and computer games belong to the new multimedia culture that is based on the digital computer technology. These games have become increasingly popular in the past 20 to 25 years, especially among young people. In the beginning they were mainly played by youth and young adults who were enthusiastic about computers. During the early nineties, however, video and computer games became a matter-of-course in the everyday life of young people, including children. There is not one single explanation for this development. Probably a number of different reasons can be alleged. From an *economic* perspective one might argue that children and youth have become important target groups for many industries, e.g. media, fashion, music. Young people are believed to act as "driving forces" in and for new markets and products, and their purchasing power is noteworthy. The computer game industry obviously has been quite successful in attracting these young customers. From a *technical* perspective one could point out that starting and playing electronic games has become easier in the past two decades. You don't need need specific computer knowledge to use a Game Boy or a television-linked console - it is just plug and play.[1] In addition, the introduction of Microsoft Windows has made personal computers (PCs) - to some degree - more user friendly to operate. But in order to explain the broad success of video and computer games it is not sufficient to take into account what happened on the part of the media. It is crucial to see what happened on the part of the players, too. What made and makes video and computer games fascinating for them? How do they use and value different games? To what extent are the changing media

environments of children connected to more general social developments? Questions like these are characteristic for scientific approaches which are interested in the social and cultural relevance of media uses. They go beyond media-centered approaches and try to understand how computer games are integrated into the lives of the children and young people (Livingstone, d'Haenens & Hasebrink, 2001).

This cultural and social significance of electronic games, I propose, also is pedagogically relevant, because any educational or teaching effort which aims at mediating so-called "media competency," computer literacy, or ICT skills is preceded by informal and non-formal learning processes of children within their "computer gaming culture." About 20 years ago Patricia M. Greenfield discussed possible effects of new media (Greenfield, 1984). She was sceptical about common fears that new media were bad educators, because they "taught" children and young people things like violent behaviour. As far as I see Greenfield was one of the first scientists who drew attention to the possible positive effects of watching television or playing video games.[2] She addressed new media as cultural artifacts which demand complex cognitive skills from the people who use them, and these skills and the related knowledge that come from using them are not obtained in instructional contexts like schools, but are acquired informally (Greenfield, 1984). Since 1984 the situation obviously has changed in one respect: schools have begun to use computers and teach pupils computer skills. But at the same time informal experiences with computer technology have become more common for children and young people. Most pupils, therefore, have learned about computers before teachers or other educators begin instruction; sometimes the pupils' skills even surpass those of the teachers.

A better knowledge about informal learning processes and their background seems to be necessary in order to avoid a "clash of media cultures." This metaphoric notion implies the following: teachers, parents, and others engaged in education and tuition are members of a generation which - during its primary socialization - has grown up in a different media culture and has different media experiences than the young generation of today. These (informal) experiences do not only influence their private values and attitudes towards new media, but they also have an impact on their educational concepts and actions.

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However, this coherence is usually not being reflected. In other words, parents and educators tend to address the media cultures of children and youth from their own generational perspectives which they represent as an implicit norm in educational - and political - discourses (Schäeffer, 1998; Wittpoth, 1999; Fromme, 2000; Fromme, 2001). This implies that "new media" - that is media which someone did not grow up with - are often looked at with distrust and scepticism. In addition, members of the older generation on the whole still seem to represent what Max Weber called a "protestant ethic" (1985) which implies a rationalized lifestyle and a specific form of self control. Parents and teachers, for example, usually want children to use a computer for more than playing computer games and if they accept the computer, it is mostly because they want and expect it to lead to more serious types of PC-related activities like writing texts or using educational or learning software (Leu, 1993).

If we look at empirical data we have to state that for children and youth computer games "are the most frequently used interactive media" (Beentjes et al., 2001, 95). Without going into too many details, I want to refer to three studies which support this statement. In a European comparative study carried out in 1997 and 1998 the number of minutes per day spent on various media were considered. Three different *interactive* media were included here: the internet, the PC (not for games) and electronic games. "Electronic games" was used as a collective notion for computer games (PC games) and video games (television-linked consoles and portable video game systems). On average children and young people between 6 and 16 in Europe spent 32 minutes per day playing electronic games, 17 minutes per day using PC applications (not games) and 5 minutes per day using the internet. To give a comparison: 136 minutes per day were devoted to watching television).[3] The figures varied between the different countries (see fig. 1), but in all countries (with one exception) more time was spent on video and computer games than on the more 'serious' types of computer use.

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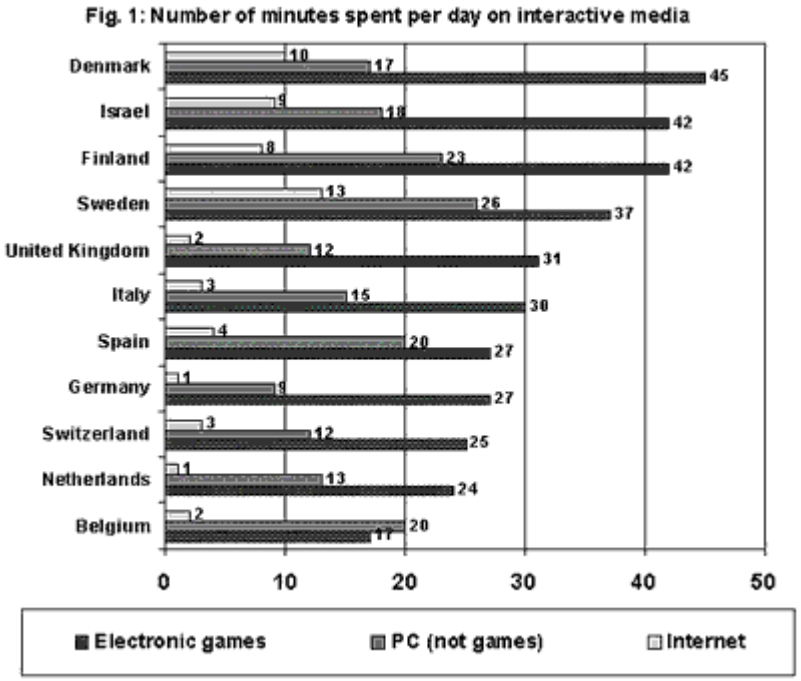

Figure 1

Note. Data from Beentjes et al., 2001: 96

We have similar findings in other studies which concentrated on the use of the PC only (and did not consider consoles or portable video game systems). A recent German study on the media use of children (Feierabend & Klingler, 2001) for example shows that playing computer games is the most prominent PC-related activity of children between 6 and 13.[4] In this study 60 percent of the children said that they used a computer at least "rarely" or "sometimes" in their leisure time. These children were defined as PC users (n=740). Figure 2 shows the computer activities of these PC users. It tells us how many children (in percent) reported they practised the named different activities at least once a week. On average "playing computer games alone" is the most popular activity. The figures vary, but this statement applies for boys as well as for girls, and it applies for all age groups of this sample (6 to 7 years, 8 to 9 years, 10 to 11 years and 12 to 13 years). In addition, it is quite customary to play computer games together with others, especially for the boys (see Figure 2). This gives a first indication to relevant gender differences with regard to the way computer games are used and integrated into the children's social and

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cultural activities.

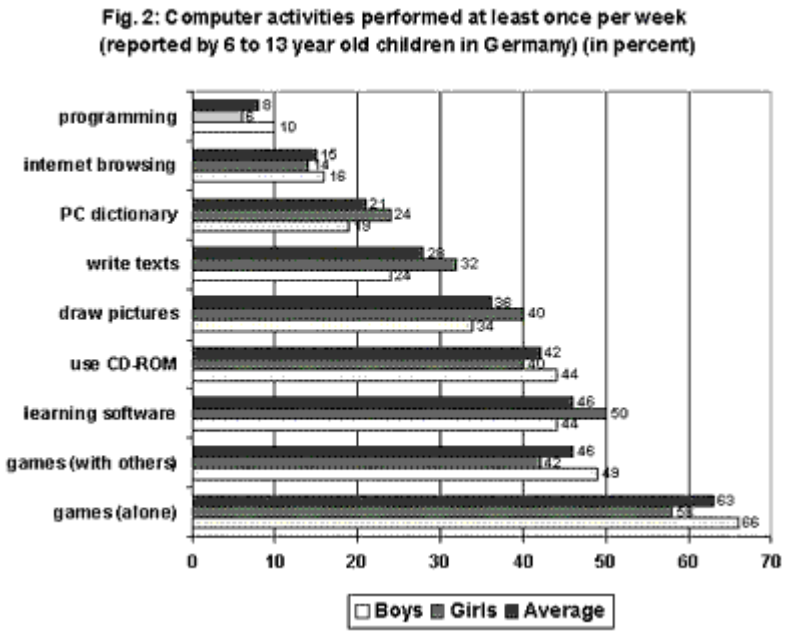

Figure 2

Note. Data from Feierabend & Klingler, 2001: 352

The third study I want to refer to was carried out by the same research association in Germany[5], but it addressed a different age group: 12 to 19 year olds. Again young adults were asked to report which of the named PC activities they practised regularly. The results (see Figure 3) indicate another gender difference: In this age group playing computer games is the most popular activity for boys, but not for girls. The same difference does not exist in the the 6 to 13 age group where playing computer games (alone) is the most popular kind of PC use for both boys *and* girls (Figure 2). This might lead to the following hypotheses: Girls lose some interest in computer games when they get older and turn towards the more "serious" types of PC use. Boys, on the other hand, mainly use the PC as a "game machine" throughout their childhood and teenage years. But as the findings come from two different samples and not from a longitudinal study we cannot take these as granted statements, yet.

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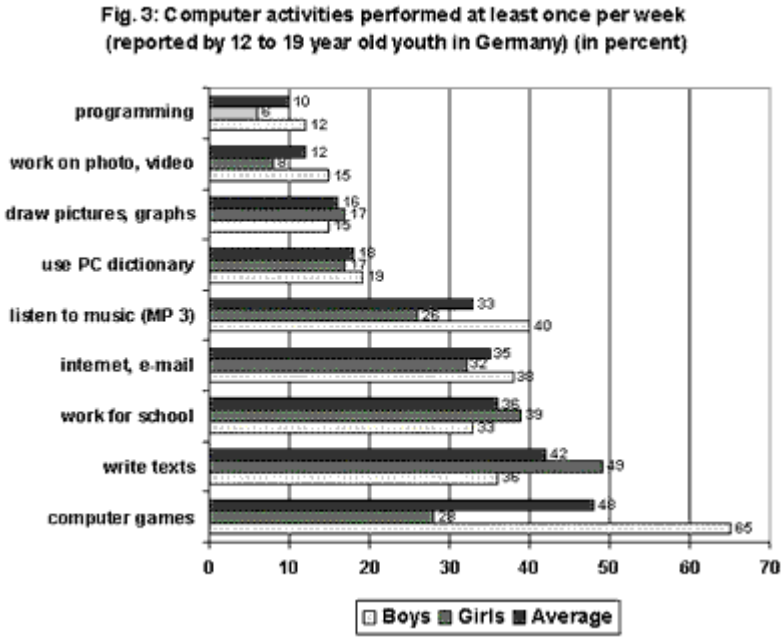

Figure 3

Note. Data from Feierabend & Klingler, 2000: 26

2 Research on the "computer gaming cultures" of children

Research on the media use of children is still rare. Most studies can be characterized as youth studies. To some degree this statement applies to the social sciences in general: When research work is done to investigate the social and cultural lives of young people it mostly concentrates on youth and not on children. A common argument for this focus on youth and adolescence is a methodological one. To include children would raise questions like: Do children have sufficient reading abilities to fill in a written questionnaire? Are their cognitive abilities sufficient to understand the questions of an interviewer? Are their linguistic (verbal) abilities adequate to express what they want to say? On the whole it seems doubtful that results from empirical studies with children could correspond to scientific standards like objectivity, reliability and validity. At first glance these methodological questions appear to be plausible. However, some of the underlying assumptions have become subject to criticism, the core of which being the construction of childhood in terms of deficiency (Prout & James, 1990; Shantz & Hartup, 1992; Zinnecker, 1996; Honig, Leu & Nissen, 1996).

The critics claimed that a paradigmatic shift was necessary: childhood should no longer be defined as a developmental stage but as something in and of itself. This implies that children cannot be reduced to "not yet grown-ups" but they have to be seen and respected as subjects in their own right who develop their own and unique cultural milieus. In the 1990s considerations like that have been prominent especially in discussions of sociologists and other social scientists. One effect was the founding of a new section called "Sociology of Childhood" in the American Sociological Association (ASA) in 1993.[6] Another effect was a new interest in research on childhood matters.

How does this different view on children and childhood apply to the above-mentioned methodological questions? First of all, research on children and childhood has been reshaped in an attempt to approach and understand a different culture. Therefore the main question is not whether the children are or are not able to correspond to scientific (or other) standards of adult researchers, but whether or not methods (i.e. forms of communication) can be developed which secure a mutual understanding. Children live in a cultural milieu which adult researchers have to accept and take seriously. In this milieu the children are the experts, not the scientists.

This was one of the theoretical and methodological starting points of a research project which was carried out by a research team at the University of Bielefeld between 1995 and 1998 (Fromme, Meder & Vollmer, 2000). We were inspired by the discussions to establish a new sociology of childhood although its mainstream was somehow anti-pedagogical. I cannot go into the details here (Fromme & Vollmer 1999; Zinnecker 1996), but in our view an educational (or pedagogical) science does not necessarily have to reduce childhood to an arrangement of protection, preparation and development for "not-yet-grown-ups." A pedagogue may well acknowledge the children's cultural world as something of its own right - in the same way as he can and will acknowledge the cultural world of any other (adult) group. However, we do not believe that this is the whole story. Some of the protagonists of the new sociology of childhood (e.g. Helga Zeiher in Germany or Glen Elder in the US) have assessed their approach in explicit opposition to the research concept of socialization. They are exclusively interested in social interactions taking place among children and would describe and analyze them as expressions of a cultural

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microworld. In our view this again is a reductionist concept of childhood, because it presupposes a degree of autonomy which is unrealistic - and not only with regard to children. In other words: We may accept that children develop their own cultural patterns and milieus without having to deny a concept like socialization (Zinnecker, 1996). This, of course, requires a revised concept of socialization. The child may no longer be seen as mere putty to be worked on by external forces but as someone who actively participates in the ongoing construction and deconstruction of his social and cultural world.

The scientific "discovery" of children as subjects of their own lives may well be put into the broader context of a changing society. Debates concerning the transformation of childhood in late modernity (e.g. Chisholm et al., 1990; Chisholm et al., 1995; Zentrum für Kindheits- und Jugendforschung, 1993) have referred to complex changes which may be characterized by notions like individualization and pluralization. *Individualization*, in short, "refers to the shift away from traditionally important sociostructural determinants of identity and behaviour towards more diversified notions of lifestyle" (Livingstone, d'Haenens & Hasebrink, 2001, 9). The individual has to construct his or her self more or less independently of traditional structures and backgrounds like religion, socio-economic status, family or age. In an "individualized" society already children are more or less forced to make their own decisions and manage their own life-courses.[7] This is an ambivalent task, because it may well overcharge (young) people. *Pluralization* mainly refers to the diversification of options in all spheres of society. In addition, the notion draws attention to the phenomenon of cultural diversity (Welsch, 1988). Pluralization is closely connected to individualization, because the latter gives space and freedom for more diversity in lifestyles, beliefs or attitudes. One of the paradoxical aspects of postmodern societies is the permeation of cultural and economic developments. The plurality of options and cultures is partly a result of economic impacts on cultural developments, as it goes along with an expansion of commercialized forms of leisure and media culture.

These considerations were part of the theoretical framework of our study. Changing media cultures are a part and also an expression of more complex changes in society. On this background we tried to provide a comprehensive account of children's use of electronic games

in their everyday life and of their attitudes towards these interactive media. We focused on the "computer gaming cultures" of 7 to 14 year old children. The aim was to get a better understanding of how the children used video and computer games, how they integrated these new media into their leisure activities and peer groups, and how they valued different aspects of the games. We interviewed the children themselves as experts of their media culture, and we assumed that the children were capable of providing relevant and valid information. The approach can be characterized as descriptive and analytical. We did not want to teach the children anything, but we wanted to learn more about the children's views and ideas. Therefore, we tried to avoid any normative message or statement when we addressed the children.

Our project design was as follows: 1,111 children filled in a self-completion questionnaire at school.[8] Younger children got assistance from members of the research team. The main areas covered by the questionnaire were use of computer games, social context of use, parental mediation, preferred games and importance of leisure activities. In addition, the children were asked to judge several features and qualities of computer games which referred to four different dimensions: general acceptance, visual and acoustic presentation, dramatic involvement and required competency. Some of the socio-economic data we raised were family and household data (e.g. brothers and sisters, parental situation), occupation of father and mother, residence, age, gender, attended school type and nationality. About a year after this main study had been finished (with regard to the collection of data) 21 qualitative interviews focusing more closely on individual preferences and socio-economic backgrounds were conducted in order to perhaps identify different styles of computer game usage. In the following I will concentrate on the first study and present selected findings. They do not pretend to give a complete picture of the children's gaming culture, but may highlight some basic features.

3 The use of video and computer games

The main distinction we wanted to draw here was between regular gamers, casual gamers and non-gamers. In a pre-test we tried to develop items which came close to how the children would describe how often they play computer games. We finally decided to use the

following items:

I play video or computer games regularly
- several times a day
- every day
- at least once a week

I play video or computer games casually
- mostly on weekends
- quite seldom, maybe once or twice a month
- once in a while, but then maybe for several hours
- in another way

I don't play video or computer games
- never tried it
- only tried it, but didn't continue
- used to play, but don't play anymore.

More than half of the boys (55.7 percent) and about 29 percent of the girls reported they played regularly, about 40 percent of the boys and 51 percent of the girls said they played casually, and about 6 percent of the boys and 20 percent of the girls said they did not play computer games (Figure 4 shows the detailed figures). Only 2.2 percent of our sample never played any video or computer game. The questionnaire included several questions for those who did not play. The children's answers informed us that they had *decided* not to do so, mostly because they were engaged in other activities (Fromme, Meder & Vollmer, 2000: 167-175). Lacking access to a computer or a console does not seem to be of any relevance here. On the whole video and computer games seem to be a matter-of-course for most of the children. But there are significant gender differences here - and in most other areas of the study.[9] Boys play more often and more regularly than girls do. This indicates different media use styles, and to some extent different leisure preferences of boys and girls.

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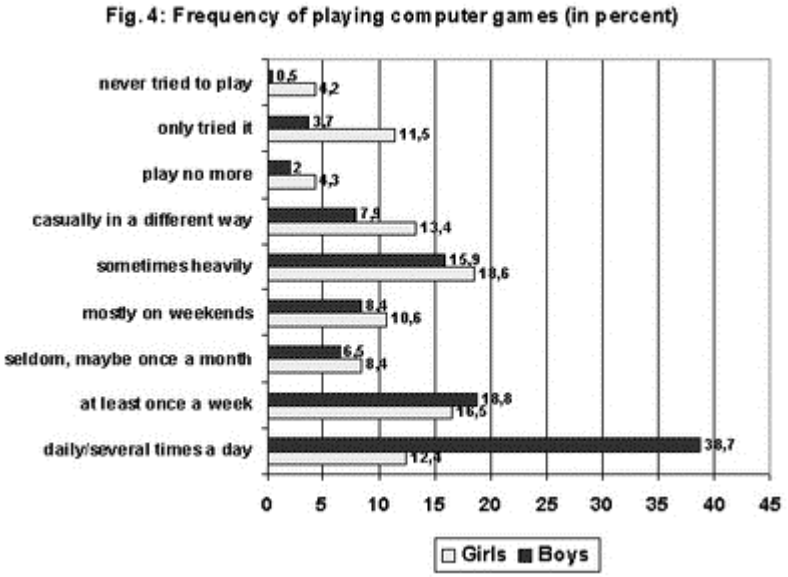

Figure 4

A second question referred to the favourite games of the children. In order to reduce the complexity of the questionnaire we decided to ask the children to name their current favourite video or computer game (open question). It remained the task of the researchers to decide how they fit into our typology of computer games (Fromme, Meder & Vollmer, 2000: 35).[10] Altogether 915 children responded, and most of them were able to tell the name of their favourite game. The others wrote down a short description or explained it to the interviewers (e.g. car racing, a game where you have to arrange cards).

Boys and girls reported different preferences (Figure 5). The favourite games of the boys were action and fighting games (33 percent), sport games (21 percent) and platform games (17 percent). The favourite games of the girls, on the other hand, were platform games (48 percent) and think or puzzle games (20 percent). As the different types of games represent different contents these findings probably reflect well-known gender differences with regard to relevant interests. We can assume that these gender differences also are connected to the fact that most of the games neither present active female characters (Fromme & Gecius, 1997) nor deal with topics that girls usually show interest in - such as beauty or social relations (Schorb, 1993; Jungwirth, 1993; Kafai, 1996).

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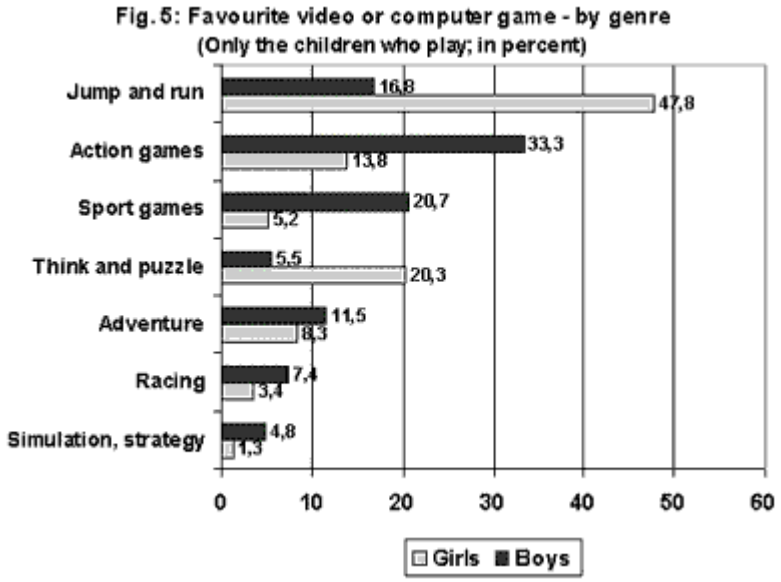

Figure 5

4 When do children address themselves to computer games?

Public discourses on computer games and children suggest that these interactive media have gained a dominant position in the leisure time of children and have begun to substitute more appreciated leisure activities like reading or sports. Sometimes they are believed to contribute to a general shift towards more indoor-oriented and individualized leisure activities. A look at the reported frequency of playing computer games and at the economic success of gaming hardware and software seems to back suppositions like that. However, some of our findings have put these suppositions into question mark. We asked, for example, in which situations the children decided to play at the PC or a console. The idea here was not to analyze the fascinating and motivating forces of computer games, but to have a look at possible situations in which children would tend to play computer games. The following options were offered: [11]

- when there is nothing else to do (boring situation)

- when I don't want to do my homework

- in any possible situation (as often as possible)

- when nobody is there to do something else with

- when friends are there who play (computer games) with me

- when the weather is bad and I cannot go outside.

The three possible answers which were most broadly accepted were (Figure 6): when there is nothing else to do (about 83 percent of the children agreed), when the weather is bad and I cannot go outside (81 percent of the boys and about 65 percent of the girls agreed) and when nobody is there to do something else with (76 percent of the boys and 66 percent of the girls agreed). This may indicate that video and computer games are important media to pass the time between other activities and to fill somehow empty parts of the day. It seems that children choose this option especially when other attractive options are not accessible. Our results thus support what Jürgen Fritz et al. have found in their research: video and computer games tend to be "second choice media" for most of the children (Fritz et al., 1995).

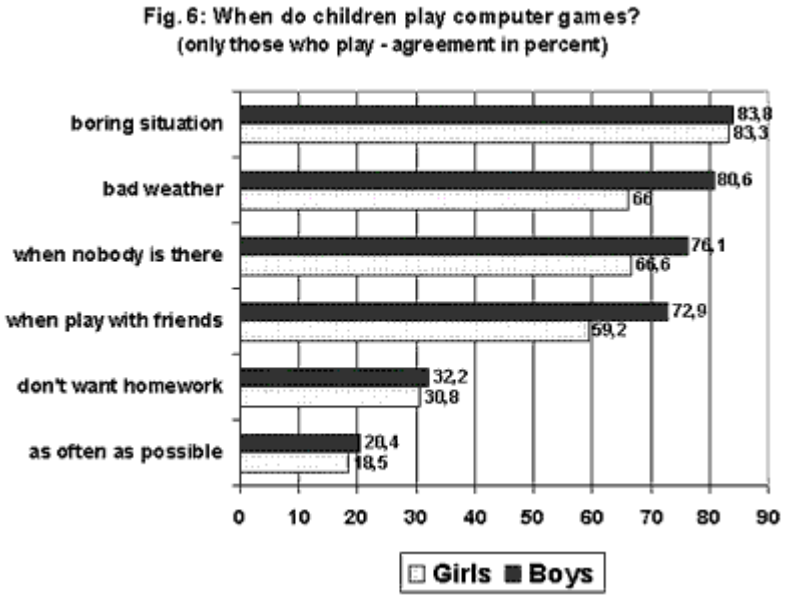

Figure 6

The answers suggest that computer games not only are relevant in situations where the children are alone, but also when friends are present. The possibility to play computer games with someone else appeals to boys more than to girls (74 percent of the boys and 59 percent of the girls agreed). The children, especially the boys, are interested in integrating the games into their peer activities. In these

contexts the children are able to compare and compete with others, to demonstrate their progress in a game, to get help or advise on difficult parts of a game or to discuss the games.

About one-third of the children reported they played computer games when they did not want to do their homework for school. For them the games may be a way of avoiding or postponing a more or less unpleasant duty. About one-quarter played in any possible situation (boys 30 percent and girls 18 percent). This indicates a use of computer games which is largely independent of specific situations. On the other hand we have to be cautious not to jump to conclusions. "As often as possible" may correspond to frequent playing, but the answer may well suit children who, for some reason, are not able to play very frequently and would perhaps like to play more often. We had a closer look at the children who reported they played as often as possible: About half of them (53 percent) said they in fact played every day. This figure is significantly above the average of the whole sample (about 30 percent, see Figure 4), but it still leaves us with 47 percent who play "as often as possible" and do not play every day.

5 Computer games and other leisure activities

The question of whether computer games have begun to substitute other leisure time activities has already been raised (see above). The children's reports about situations where computer or video games were played did not back a substitution-hypothesis. But in that part of the questionnaire the focus was not clearly put on leisure situations or activities. In another part of the questionnaire, however, this was case. We could not raise detailed information about the children's leisure activities and confined ourselves to two questions. On the one hand we offered a selection of activities and asked the children to tell us whether they performed each of them "often," "sometimes" or "never."[12] The following activities were included:

- listening to music

- playing alone inside (not computer games)

- playing outside together with others

- reading

- watching television or video films

- listening to audio cassettes (tales and stories, not music)
- playing computer or video games
- playing with parent(s) (not computer games)
- playing with brother or sister (not computer games)
- going for sports
- other activities (open question)

On the other hand we asked the children to name their favourite leisure activity (see the next chapter). With regard to the first question we get a picture which, on the whole, can be regarded as relatively unspectacular. Compared to more traditional activities computer games seem to be of less importance. The data presented in Figure 7 show how many percent of the boys and girls reported performing the named activities "often."

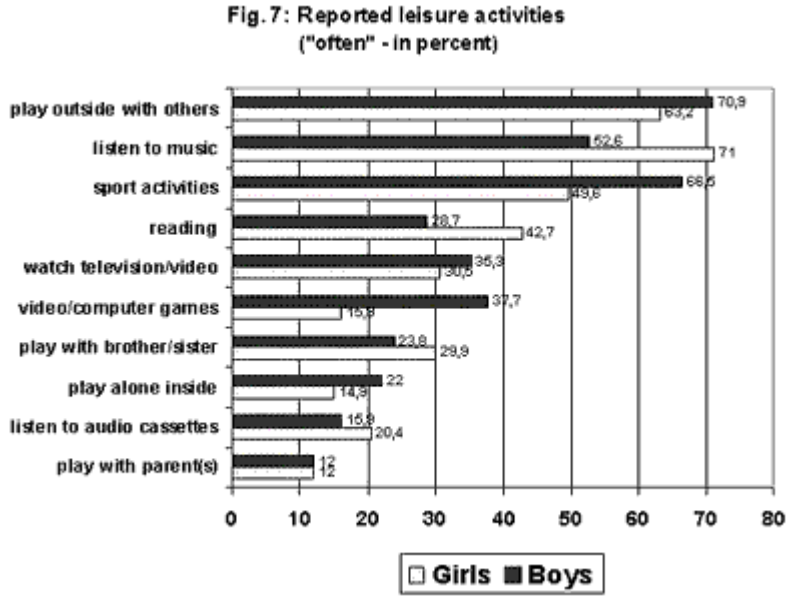

Figure 7

In the "top three" we find the same three activities for boys and for girls: playing outside with others, listening to music and playing sports. The ranking, however, is different. Listening to music seems to be of more importance for the girls, going outside for play or sport activities are more often reported by the boys.[13] When the top list is expanded to four items a significant gender difference shows up: 43 percent of

the girls report that they often read in their spare time while the boys rank playing computer games fourth in their list of leisure activities (Table 1).

Table 1: "Highscores" of reported leisure activities

	Boys		**Girls**	
1	playing outside with others	71%	listening to music	71%
2	going for sports / sport activities	67%	playing outside with others	63%
3	listening to music	52%	playing sports / sport activities	50%
4	playing video/computer games	38%	Reading	43%

A noteworthy finding is that the children on the whole do not regard "watching television or video films" as something they do "often." Only about one-third of our sample said they did. But "watching television or video films" and "playing computer games" were the two items which collected the most "sometimes" answers (more than 60 percent). Studies that have measured time spent watching television tell us that the number of minutes per day spent watching television clearly tops that of audio media. For example, the average figures in a European comparative study were 136 minutes (television) compared to 90 minutes (audio media); the corresponding German figures in the study were 133 minutes and 52 minutes (Beentjes et al. 2001, 96). We assume that television and electronic games - from the children's perspective - are a matter-of-course, but are not predominant media and do not represent the core of their leisure activities and interests.

We also carried out a correspondence analysis which related the children's reports on their leisure activities to their reported frequency of playing computer games (Figure 4). The findings can be summarized as follows:

- Boys who report playing electronic games "daily" more often "play alone inside" (29 percent compared to an average of 22 percent).

- Girls who report playing electronic games "daily" more often "watch television or video films" (45 percent compared to an average of 30 percent). There is no evidence that the use of interactive media replaces the use of traditional screen media.
- Girls who report they "never" engage in "sport activities" also report that they "never" play computer games (18 percent compared to an average of 9 percent, $p<0.001$). There is no evidence that boys or girls who often play electronic games are less engaged in sport activities. On the contrary, there is a (statistically non-significant) tendency that suggests that daily use of computer games goes along with sport activities (62 percent to 59 percent).
- There is also no evidence that computer games replace reading. At first glance there seems to be such a statistical correspondence, but indepth analysis reveals that this is due to gender: Girls read more often than boys, but are less engaged with the new interactive media. Within both gender groups there is no correspondence between the frequency of playing computer games and reading.

We may conclude that computer games, on the whole, do not replace other leisure activities like sports or reading. Instead there seem to be different patterns of combining media activities with other (non-media) activities in children's leisure time. Computer games do play an important role in situations when children are bored, have to wait or have the impression there is nothing else to do. The relevance of computer games (and maybe also television) in the everyday life of children may therefore be seen as a measure for the relevance of individualized "gaps" in the late modern (or postmodern) timetables of children. Our hypothesis therefore is that media use replaces traditional times of doing nothing or nothing special (like looking out of the window), rather than any other "activity" (also Hengst, 1988).

6 Favourite leisure activities

The answers to the question of what activities children perform often, sometimes or never represent the children's (subjective) perception of their leisure *time* structure. In order to get more information on their leisure preferences and interests we also included an open-ended question into the questionnaire asking for the children's favourite activity (or hobby). Altogether 980 children (from 1,111) named their favourite leisure activity. Most children named different sport

activities. The only media-related activity of some importance was reading, which about 5 percent of the girls named as their favourite activity (Figure 8). Not all of the reported sport items are selective. Some children wrote down a specific kind of sport like horse riding, handball or football (soccer). Others referred to sport activities without specifying the kind of sport they participated in. Several children used the term "fun sport" which we believe is refers to sports such as climbing, roller skating or sportive games. Zinnecker et al. (1996) have explained that children nowadays participate more in sport activities than any other (age) group.[14] His concept of childhood in late modernity being a "sportive childhood" gets some support here. The gender differences, again, are apparent (and statistically highly significant) for horse riding, football, reading and handball.

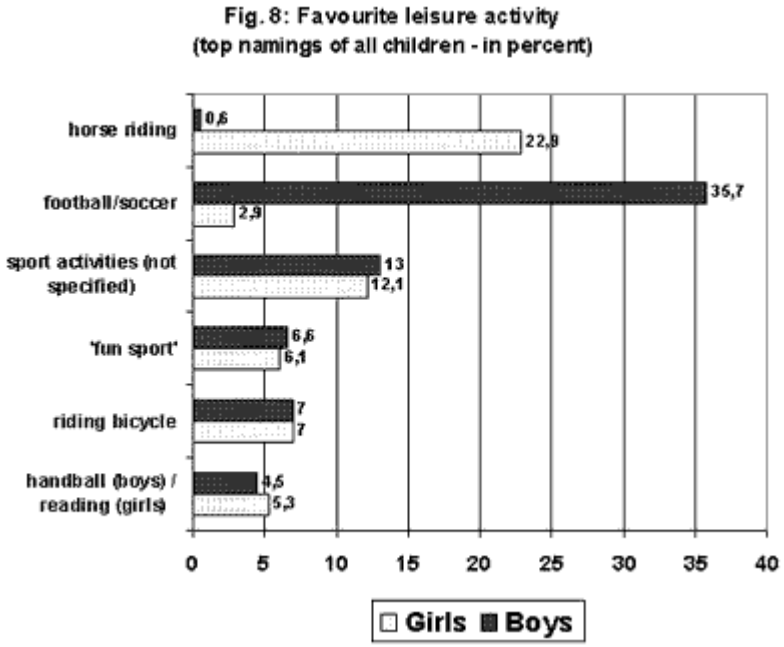

Figure 8

The reported favourite leisure activities also back the above-mentioned hypothesis of playing computer games - from the children's perspective - being a second-choice activity. They may like it, but they won't call it their favourite activity.

7 Social contexts of playing computer games

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We tried to get some information about the social context of the children's computer gaming cultures using questions like "Where do you get the information about a 'good' game?" or "Whom do you play with?" Video and computer games are mainly connected to peer relations, while parents or other adults only participate in the margins. This seems to be true for boys as well as for girls, but boys, on average, play more frequently (alone as well as with others) and show a greater interest in games and related issues.

"Friends" are the most important advisers and mediators in game-related matters (Figure 9). It is friends who know about new games which might be of interest. There are two relevant means of communication which may supplement and permeate each other: One option is that the children are *told* there is a new game (verbal channel); another, more comprehensive option is that they *see and try* a new game at a friend's home. Brothers are also of some importance, especially for girls (35 percent compared to 23 percent of the boys).[15] The role of parents seems to be ambivalent. The children apparently do not expect to get helpful information from their parents, especially from their mothers. Most parents, therefore, are not positively involved in the children's gaming cultures - besides the fact that they often pay for the games. But parents obviously try to somehow control the children's gaming activities from the outside, especially with regard to time and with regard to violent games. More than 70 percent of the children reported their parents knew what games they were playing, and about 20 percent had experienced that their parents had forbidden that they play a specific game. So the majority of parents have a sceptical eye on what is going on, but are mainly practicing a *negative* form of intervention, and do not give any positive advice. The children know about this and therefore sometimes don't tell them what kind of games they are playing (about 25 percent of the children reported this).

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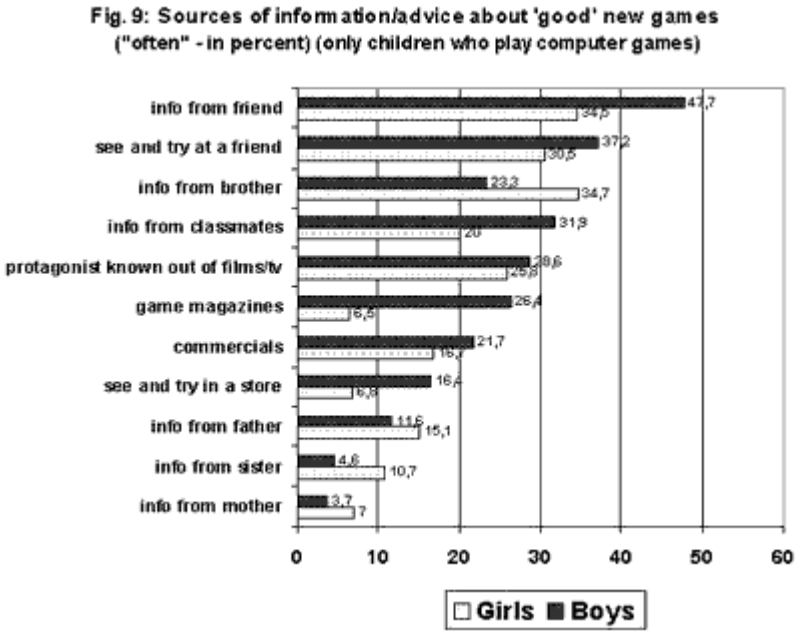

Figure 9

Socio-cultural environments do not only consist of (more or less) relevant others, they also consist of different media. With regard to the problem of being informed about 'good' new computer games the children also to some degree rely on what they find in other media. About 25 percent of the children for instance said they were "often" curious about or liked games which had protagonists they knew from films or television (like Asterix or Hercules). This, by the way, was significantly more important for the youngest children of our sample (the 7 to 8 year-olds).[16] Commercials are quite successful in drawing the children's attention to new games, too. More than 18 percent of the children (girls 16.7 percent and boys 21.7 percent) said this was a significant source of information for them. It seems noteworthy that the figures for these two items clearly surpass those for the family related items "mother", "sister" and "father". For the boys "tests in gamers' magazines" represent a third relevant option which refers to other media (22 percent), but the magazines obviously do not appeal to most of the girls (6 percent).[17]

What the children reported about "whom they play video and computer games together with" (Figure 10) leads us to a similar conclusion: The games are more often and more closely connected to peer relations

than to family life. Parents are more or less external observers. Only a few seem to participate in their children's gaming culture. This marks an important difference from other media like television or books which are much more integrated into family interaction across generation borders (Lange & Lüscher, 1998). In addition, we learn from this last figure that the children's main reference group is the peer group *of the same gender.* Boys prefer to play with other boys, and girls most often play together with other girls. There seems to be one exception from the tendency to stay with members of the same gender: brothers or sisters.

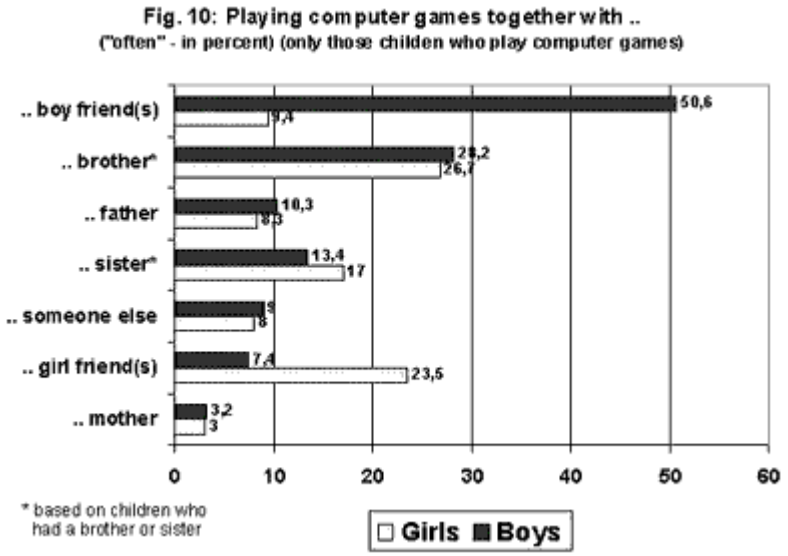

Figure 10

8 Conclusion

There is no evidence that suggests we need to be alarmed about children's gaming cultures. Even children who are quite engaged, in terms of frequency and general interest in playing computer games, apparently do not give up other activities and interests like outdoor and sport activities. Our findings also do not suggest that electronic gaming leads to social isolation. In most cases it seems to be fully integrated into existing peer relationships. To be together with friends for the great majority of children remains the favoured leisure activity.. The interactive qualities of computer technology are quite attractive in situations when children are alone, however.

In most cases, arents or other adults do not participate in children's

gaming cultures in an active (or interactive) way. Playing computer games is not - maybe not yet - a common project of the family. On the one hand this may be regarded as something that should be accepted or even supported, because children want and need to have their own spheres. On the other hand it raises the question of whether or not media education (in a wide sense) should restrict itself to controlling media use from the outside. In my view the pedagogical task remains to actively and also critically accompany the children's process of growing up and developing their relationship to the cultural world. And the task remains to secure a pluralitity of resources and challenges they can use to develop their cognitive, social, and physical abilities.

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Endnotes

[1] Consoles like the *Nintendo Entertainment System* (NES) (released in 1985) and the *Sega Master System* (SMS) (released in 1986), and portable video game systems like Nintendo's *Game Boy* (first released in 1989) not only revived the video game market after its crash in 1984, but these new systems also on a broader scale attracted younger players.

[2] She has continued to do research on this issue. In a more recent book (Greenfield & Cocking, 1996) a collection of articles has been published which try to document the role of interactive video in the cognitive and emotional learning of children and youth. One of Greenfield's conclusions can be summarized as follows: The introduction and diffusion of computers leads to a rise of what may be called "visual intelligence." As modern video games demand special visual skills they provide informal education for (other) occupations that demand such skills (Greenfield, 1998; also: Greenfield et al., 1996).

[3] The data are based on the whole sample. This means that nonusers are included. The percentage of users of electronic games in this study is reported to sum up to 74. The corresponding figures for the other media mentioned here are: 60% for the PC (not for games), 32% for the internet, and 99% for television (Beentjes et al., 1996, 92).

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[4] This is not a new finding, however. Similar results have been reported from earlier studies (e.g. Leu, 1993), but it seems noteworthy that in the past one or two decades the most popular way to use the computer - at least for children and youth - has been to play computer games, because this implies that from the very beginning they got (and get) to know the computer as a toy.

[5] It is called 'Medienpädagogischer Forschungsverbund Südwest' which could be translated as 'Media and Education Research Association South West' (cf Klingler & Feierabend, 2000).

[6] Jürgen Zinnecker reports that he attended the annual conference of the ASA in Miami, Florida, in August 1993, where the newly founded section "Sociology of Childhood" presented itself to the scientific community for the first time (Zinnecker, 1996: 32). The current list of sections of the ASA (cf www.asanet.org), however, does not contain this section any more, but a section called "Sociology of Children and Youth". A similar development could be observed in the German Asociation for Sociology (DGS). In 1995 a working group "Soziologie der Kindheit" [Sociology of Childhood] was founded, in order to overcome psychological and pedagogical concepts of childhood. The new sociology of childhood no longer wanted to seize childhood as an arrangement of protection, preparation and socialization, but as a social (and cultural) form of life (Zinnecker, 1996, 33). The German working group in the meantime has established a section "Soziologie der Kindheit" in the DGS which exists independently from the section "Jugendsoziologie" [Sociology of Youth] (cf www.soziologie.de/sektionen/index.htm).

[7] Individualization has do be understood as a relative concept. It draws attention to processes and tendencies towards relatively more individualized forms of life. With regard to children we may on the one hand describe childhood in late modernity as being relatively individualized altogether. On the other hand we may find different degrees of autonomy (or individualization) in different sections of children's lives. Leisure and media activities obviously belong to the more 'individualized' sections of the children's lives (Zinnecker et al., 1993: 41).

[8] The questionnaire data were collected in 1996. In the meantime, due to a still dynamic technical and economic development, we have different hardware and software for games. But we assume that some

of the main structural features of the children's gaming culture are still up to date.

[9] One of the surprising results was that we did not find any differences depending on residence (e.g. rural or urban) or on parents' occupation (e.g. academic profession or industrial worker).

[10] We decided to deviate from customary typologies in the following respects: 'platform games' (like most of the *Super Mario* video games) were taken as a group of its own instead of integrating it into the action-genre or the adventure-genre. In addition, we took sport games and racing games as separate types each instead of adding them to the more diffuse simulation-genre.

[11] In the retrospect we believe that further options could have been added. The items mainly decribe situations in terms of absence (of better choices).

[12] In a pre-test we tried different scales. At first, we asked children how many minutes they would spend per day on selected activities. This task proved to be too abstract for them. In a second step, we tested a questionnaire which for most of the questions offered five possible answers. With regard to their leisure acitivities they had to select between "very often", "often", "sometimes", "seldom" and "never". One problem with this questionnaire came out to be that it took the children too much time to answer all the questions. Another problem was that the selectivity between the offered choices wasn't big enough.

[13] Our instrument cannot account for multi-tasking. Of course some of the activities may be combined, e.g. listening to music and playing alone inside. We decided to renounce a broader and deeper approach here. On the one hand, we did not want to reconstruct activity patterns, but the children's reflexive behaviour towards their own computer gaming culture. For pragmatic reasons we had to restrict ourselves and the number of questions we could include into our instrument. Within this given frame, we eventually wanted to keep some space for a section devoted to the question how the children valued different aspects of computer games - a question which I cannot deal with in this paper (cf Fromme, Meder & Vollmer, 2000: 73-127).

[14] „Kinder treten damit als Altersgruppe in die Fußstapfen der

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(männlichen) Adoleszenz. Unter biographischer Perspektive läßt sich von einer Vorverlagerung und 'Verfrühung' sportiver Partizipation bei heutigen Kindern sprechen" (Zinnecker et al., 1996: 107). ["Children as an age group thus step into the footprints of (male) adolescence. From a biographical perspective current young people's sportive participation begins earlier and reaches its climax earlier."]

[15] The figures for this item are based only on children who do have a brother and/or sister.

[16] In this age group friends seem to be of less importance. Only 29% of the 7 and 8 year-olds reported they "often" got their information or advice from friends, the corresponding figure for the 13 and 14 year-olds being about 50%.

[17] In the context of our research we had a closer look at a selection of popolar game magazines. Out impression was that they were male oriented in several respects (e.g. no female editors, hardly any female members in the editorial staff, frequent use of 'insider' notions, texts and pictures often emphasized 'action' or violence). We therefore believe it is no coincidence that female children are not very interested in these magazines.

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