

INFORMATION TECHNOLOGIES AND COMMUNICATION BETWEEN PARENTS AND CHILDREN

F. Casas*, C. Alsinet**, J.M. Pérez Tornero***, C. Figuer*, M. González* and S. Pascual *

Xarxa Catalana Interdisciplinària d'Investigadors sobre els Drets dels Infants i la seva Qualitat de Vida (XCIII)

* *Institut de Recerca sobre Qualitat de Vida (IRQV). Universitat de Girona.* ** *Departament de Pedagogia i Psicologia. Universitat de Lleida.* *** *Departament de Periodisme. Universitat Autònoma de Barcelona*

This is an exploratory study that aims, on the one hand, to examine in more detail how children between 12 and 16 years of age use different audiovisual technologies, what they feel and think when using them, and whom they like to speak to about such experiences. On the other hand, we look more deeply into the interactions between adults and children, particularly between parents and their children, in relation to these technologies when children use them at home or in other places. We analysed responses to questionnaires with several common items, administered separately to parents and children. Children's responses reflect an important level of dissatisfaction when talking with different adults about media activities. Our findings support the thesis that more and more children socialise through new information and communication technologies with little or no recourse to adult criteria, giving rise to the emergence of specific children's cultures. Crossing of the responses of parents and those of their own children shows us which aspects of media reality adults overestimate or underestimate in comparison to children, and to what degree certain judgements coincide and differ between generations. The results can be applied to the improvement of relations between adults and adolescents, taking advantage of adolescents' strong motivation to engage in activities using audiovisual media.

Se presenta una investigación exploratoria que pretende, por una parte, conocer con mayor detalle cómo los chicos/as entre 12 y 16 años utilizan distintas tecnologías audiovisuales, qué sienten y piensan respecto de las actividades que desarrollan con las mismas y con quién les gusta hablar de dichas experiencias. Por otra, profundizar en algunas de las interacciones que se dan entre adultos y chicos/as, y especialmente entre padres e hijos, en referencia a las mismas tecnologías a partir de las actividades que con ellas realizan éstos, en casa o en otros lugares. Se han analizado las respuestas dadas a sendos cuestionarios con diversos ítems comunes, administrados por separado a padres e hijos. Las respuestas dadas por estos últimos reflejan un considerable nivel de insatisfacción en las charlas que mantienen con distintos adultos respecto de las actividades mediáticas. Y se refuerza la tesis de que cada vez son más los chicos/as que se socializan en las nuevas tecnologías de la información y la comunicación con poco o ningún contraste de criterios adultos, configurando culturas infantiles propias. Las respuestas cruzadas de los progenitores y sus propios hijos/as nos muestran qué aspectos relativos a la realidad mediática están sobreestimados o subestimados por los adultos en comparación con los chicos/as, y cuál es el grado de coincidencias y discrepancias en determinadas valoraciones que se observan entre generaciones. Los resultados pueden ser aplicables a la mejora de las relaciones entre adultos y adolescentes aprovechando la alta motivación de éstos ante el desarrollo de actividades con medios audiovisuales.

THE CHANGING FACE OF THE INFORMATION SOCIETY

Researchers looking into modern childhood socialisation processes in industrialised countries have been pointing out for several years that these are no longer

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Correspondence concerning this article should be addressed to Ferran Casas. E-mail: fcasas@pas.udg.es

almost exclusively governed by the traditional agents, since a third and important agent has entered the equation. The resulting *basic socialisation tripod* is made up of the family, school and television. Our starting point in this article is the thesis that the third leg of the tripod has ceased to be simply television, and that we should therefore be investigating the influence and relevance in the everyday lives of children of the so-called **new screens** (Barthelme, 1991; Casas, 1993; 1998a), that is, the set of new audiovisual information and communication technologies that can be accessed from the home.

At the same time, several European authors have stressed that we may be underestimating the socialising potential deriving from peer relationships. It would appear that in the different European countries where

studies have been carried out, television and new technologies are playing an important role in influencing children and teenagers aged 6 to 16, precisely through their relationships with colleagues of the same age (Suess et al., 1998).

New audiovisual technologies have been entering homes as well as schools. Parents and teachers alike are facing new challenges in their everyday relationships with children, and it has been claimed that as a result of such penetration European public opinion has split into a kind of *binary determinism*, applicable to many new technologies: *optimists* versus *pessimists* (Sefton-Green, 1998). The optimists believe that computers (and other technological resources) will improve our quality of life and facilitate global communication. The pessimists, on the other hand, claim that they bring many risks, that through them our lives will be more controlled, and that they involve social dynamics leading to dehumanisation.

Moreover, many parents and teachers feel that they are losing their authority in relations with members of younger generations. This is not only because they do not consider themselves qualified or because they are reluctant to change from traditional forms of the transmission of knowledge, but also because children have access to ever-greater quantities of knowledge through other interactions. Children can now access educational resources other than those adults traditionally believed to control. The concept of authority that parents exercise over their children is changing in Europe. Furthermore, some authors are convinced that formal education (the school) is *losing its place at the top of the tree of knowledge* (Sefton-Green, 1998). The school has always been considered as one of the main points of entry to a democratic society, but one of the most important questions today concerns how such entry will be achieved in the none-too-distant future.

The interaction the communications media and social groups are generating not only new youth cultures (Costa, Pérez Tornero and Tropea, 1996), but also, as has become increasingly evident, **children's cultures**. The two are relatively independent, and often differ both from the culture of adults and (and perhaps above all) from adults' expectations about cultural development in relation to the new generations.

On the one hand, adolescents have always had the need to assert their own identity, and they frequently construct it with the aim of differentiating it from that of adults. Today, however, there are clear signs that in technologically advanced countries this normal psychosocial process is beginning at ever earlier ages, even before adolescence – especially when new technologies play a role in the relations between adults and children (Casas,

1999). We can observe that, as they grow, adolescents and teenagers tend to construct their own collective spaces, occupying physical spaces in our cities *when adults are not present*. This leads to the organisation of their own particular timetables, and to their occupying diverse social spaces in a symbolic way (for example with graffiti, or even in the Internet). In relation to the new audiovisual technologies it seems that teenagers are gradually becoming more active as social agents, and this is also the case for children (see Munné and Codina, 1992, for an interesting example).

On the other hand, certain new technologies are causing **new problems of communication between parents and children**. From the traditional perspective, children do *not yet* have the same skills and abilities as adults. Nevertheless, it is undeniable that at present many children are better prepared than a large proportion of adults to use new audiovisual technologies. Indeed, at times adults even lack sufficient information to be able to talk to children, who are more up-to-date (Casas, 1998a; 1998c; 1999).

We may not be able to analyse or cope with these new social phenomena using only the old approaches. The need to adopt new ways of relating to children as citizens has often underlined. We cannot continue to consider them in the social category of the *not yet* sufficiently prepared (Verhellen, 1992). Nevertheless, we know that many adults do not accept that the children are not only our **future** but also **citizens in the present**, and that new forms of behaviour should be considered that promote processes of socialisation for responsible citizenship. In our expansive and *ever-more rapidly changing* society of information, relationships between *minors* and adults may well become more and more complex, at least when new technologies are involved. But what is really surprising and worrying is that, in this case, we can frequently observe a reluctance in some, even many adults to act as socialising agents in relation to the new information and communication technologies. As shown by various studies, socialisation spaces *outside the adult environment* are continuously increasing in size. In our view, the study of such a situation is a scientific challenge of the utmost social relevance (Casas, 1998b; Casas et al., 2000a; 2000b).

All of these considerations, and the surprising results obtained in an earlier study on about video games (Casas, 1998b), led us to design a study whose preliminary results are presented here. Our first and primary aim was to collect exploratory data in order to increase our knowledge about how children use the new technologies, what they feel and think when they use them, and how they relate them to their own future.

The new audiovisual, multimedia and other technologies are influencing our daily lives, our lifestyles and our forms of entertainment, as well as the way we relate to and communicate with one another. These technologies also stimulate some of our skills, and can potentially be used to promote and deal in a practical way with values that are of great importance for international understanding and co-operation.

Our second objective, which has fewer antecedents in scientific research background, and which may be rather more ambitious, is to describe in some detail some of the interactions that take place between adults and children, especially between parents and their children, in relation to the audiovisual technology children use, at home or elsewhere.

The new information and communication technologies (NICTs) are often presented as instruments to help us improve our lives. Some European writers have recently been re-analysing and underlining how these new instruments will allow us to **establish relationships in new ways**. In fact, new types of relationships and communications with other people are already being established. Nevertheless, these relationships are not only to be found in cyberspace, but are also being set up **due to**, or **by means of** or **in the context of** audiovisual media. After having used them, we are likely to talk to and/or relate to others in a different way, in accordance with our experience with each one of the audiovisual media (Sefton-Green, 1998; Suess et al., 1998).

Some recent research has explored how adults and children, specifically parents and their own children, communicate with one another when they refer to television and NICTs. Although activities with audiovisual media are frequently highly motivating for children, research results show that all too often communication about these subjects is non-existent, and for a variety of reasons (including fears, lack of information, and feelings of incompetence on the part of adults) (Casas, 1998b). It has also been observed that the communication that actually does take place is frequently unsatisfactory for children and adolescents (Casas and Figuer, 1999).

In this report we present some general descriptive results based on the responses to questionnaires that we designed *ex-professo* for presentation separately to children and their parents, as well as some preliminary comparative analyses of their answers.

METHOD

Sample

Our sample was intentionally selected from the following five medium-sized towns in Catalonia with markedly different sociodemographic characteristics: Girona, Salt, Lleida, Sant Cugat and Rubí. In each of these towns we selected those schools whose pupil population could be considered most representative of the characteristics of the majority of the families in the town. In each school we administered a questionnaire in the classroom to all the children in compulsory secondary education.

The towns in our sample have populations of between 20,000 and 150,000. Two of them, Rubí and Sant Cugat, are satellite towns of the capital, Barcelona, and part of their population works in this large city. Nevertheless, they are completely different from one another: Rubí can be considered an almost exclusively working-class town, whilst the inhabitants of Sant Cugat are mainly well-off; in fact, these are the towns with the lowest and highest per capita income in our sample. The mean level of income per household clearly shows this difference (Table 1). Girona is the capital of a province with considerable tourist activity and a highly active economy, and its mean level of income is high by Catalan standards. Lleida is the capital of the furthest inland province of Catalonia. It is surrounded by rural towns and villages, and has a level of household income almost exactly equivalent to the Catalan average. Finally, Salt is a satellite workers' town near Girona, and is the second least well-off town in our sample.

Data was obtained from 1,634 students, 794 of them boys (48.5%) and 842 girls (51.5%), aged between 12 and 16 years ($\bar{x} = 14.12$; s.d. = 1.13).

In addition, we obtained answers from 638 of their parents (39% of the children) to a similar questionnaire that was delivered to them in a sealed envelope, and which

Table 1
Characteristics of the towns

	Girona	Salt	Lleida	Rubí	St. Cugat	Catalonia
Population (1996)	70,576	21,519	112,035	54,085	47,210	6,090,040
Disposable Household Income (per capita) (1996) (in pesetas)	1,743,400	1,346,900	1,575,300	1,342,300	2,140,900	1,565,100
RFD index	111.4	86.1	100.7	85.8	136.8	100

Data obtained from the Instituto de Estadística de Cataluña

they answered at home. Respondents were 307 mothers (48.1% of the parents), 111 fathers (17.4%), and the two parents jointly in 220 families (34.5%).

Instruments and procedures

Our questionnaire for children included closed questions aimed at systematically exploring different activities, perceptions and evaluations related to 3 audiovisual instruments (television, computer and games console) and some of their applications (educational CD-ROMs, Internet and games). We also examined how their activities with these media are reflected in their conversations with their parents, brothers and sisters, peers and teachers, and with others. Moreover, we collected information on some of the children's thoughts about their own future with respect to the use of audiovisual media. Finally, we explored various psychosocial constructs, in particular self-esteem, perceived social support, certain values, and satisfaction with different aspects of life and life in general, although for reasons of space the analysis of these results does not form part of our present study, and will be presented elsewhere.

The questionnaire for parents included closed questions, quite similar to those in the children's questionnaire, thus allowing for a direct comparison of the answers obtained. We asked the parents about their current interest in NICTs, the level of information available to them about the audiovisual media mentioned, their perceptions about their children's level of interest and information, the degree of satisfaction they believe their children with regard to conversations about these media with different people, and about their own satisfaction and their own values.

Both questionnaires had been tested in pilot studies, and two versions of each were available, one in Catalan and the other in Castilian Spanish. All respondents were allowed to choose the language version with which they felt more comfortable.

We had previously contacted the selected schools with the aim of gaining permission to run the questionnaire with the children in groups, in the classroom context. During the session the scheduled teacher was present, as well as one or two of the researchers. The children were asked for their co-operation and were informed that their answers would be treated confidentially.

At the end of the session we gave each one of the children the questionnaire for their parents in a sealed envelope, to be delivered by hand. They were asked to return them to the teacher within around one week.

In their questionnaire, parents were requested to answer with only the child who had answered our school questionnaire in mind. The name of the child was marked on the form.

We received significantly more questionnaires completed by the two parents jointly when the child was younger (12 years). When the child was a boy we received significantly more questionnaires answered by the father, while in the case of girls, significantly more questionnaires were completed by the two parents jointly.

CHILDREN'S ANSWERS

Availability and use of audiovisual equipment by children

The children in our sample had a television available at home in 99.6% of cases, a computer in 78.5% and a games console in 73.3%. The differences between boys and girls were significant only in relation to video consoles: 83.3% of boys as opposed to 63.5% of girls had at least one at home.

The differences between boys and girls were more significant, however, when we asked them if they owned the equipment: 53.2% of boys claimed to have their own television, 49.6% their own computer, and 78.2% their own video console. Girls, on the other hand, claimed ownership of at least one of the previously-mentioned items in 33.5%, 41.3% and 44.4% of cases, respectively.

We also observed these differences between boys and girls when we asked about the applications they used with this equipment. In our sample, 71% of the children had educational CD-ROMs at home, 70.3% had computer games, 71.6% had console games and 23.2% had access to Internet from home. The differences between boys and girls only appeared significant in relation to the computer and the console games, with boys having more of both. Nevertheless, when we asked if they had applications of their own, all the differences appeared significant: 54.2% of boys claimed to have their own educational CD-ROMs, 78.4% their own console, 68.8% their own computer games, 79% their own console games, and 11.2% access to the Internet. These figures contrast with 49.9%, 44.4%, 47.9%, 46.6% and 5.7%, respectively, in the case of girls.

Despite the fact that television is present in almost all homes, regardless of the town in question, there are important differences with respect to ownership of other audiovisual equipment in the different locations. In the two wealthiest towns, Girona and Sant Cugat, children had a computer available at home (and consequently CD-ROMs, computer games and Internet access) significantly more frequently (91.3% and 88.1%), than those from the working-class towns of Salt and Rubí (52.9% and 67.5%), with Lleida lying in the middle (69.9%). The situation was exactly the reverse for video consoles: children in Salt and Rubí had a video console at home (and consequently video games) more frequently

(83.1% in 77.1%) than those in Girona and Sant Cugat (71.2% and 66%), with Lleida once again in the middle (72.5%).

In the sample we explored, age does not seem to have been a relevant variable for explaining the differences in possession of audiovisual equipment or applications. Only when we asked children if they had their own computer or their own Internet access did we find an increase in ownership with age. We also found a decrease with age in ownership of video console games.

4% of all the children in our study claimed to own two television sets (5.5% of the boys and 2.5% of the girls), and 2.4% of those who had a computer claimed to own two (2.8% of the boys and 2.1% of the girls).

We were also interested in finding out whether the equipment and applications they had at home were actually used **most of the time** by the boy or girl answering the questionnaire. The boys answered the questions in the affirmative much more frequently than the girls, except in the case of educational CD-ROMs, which were used more frequently "most of the time" by girls.

Many of the children used audiovisual equipment **in the homes of friends**: 79.6% watched television there (girls more frequently than boys), 73.1% used computers and 71.7% used video consoles (boys more frequently than girls). The percentage of children using the Internet or educational CD-ROMs at their friends' homes was low (32.1% and 35.5%), since they mainly played games there: 71.7% for video consoles and 69.3% for computers. In any case, girls used CD-ROMs more frequently in the homes of friends than boys.

Internet use at friends' homes increased with age. The use of games (both for consoles and for computers) at friends' homes appears to reach its peak at age 13, decreasing sharply from then on.

The use of audiovisual equipment at friends' homes does not appear to be related to the wealth of the location in which the children live, with the exception of Internet. The towns in which most children watch television at friends' homes are Rubí (86.1%) and Girona (81.4%), which are also the towns where most children use computers in the homes of friends (74.7% and 78.3%, respectively) and computer games in the homes of friends (74.8% and 74.1%). Games consoles are used in friends' homes most frequently in Rubí (74.5%), followed by Salt (75.9%). Internet use at friends' homes is most common in Sant Cugat (45.3%) and Girona (37.1%).

Computers are the only audiovisual equipment that many children claimed to use **at school**: 72.9% (70.1% of the boys and 75.5% of the girls). 47.9% of the children stated that they sometimes used television at school

(50.7% of the girls and 44.9% of the boys), while only 2.5% said that they played with video consoles at school. Nevertheless, 22.4% had used computer games at school (girls as well as boys), 21.6% the Internet and 28.8% educational CD-ROMs. The use of television and Internet at school increases with age, while at the use of computer games decreases.

Girona is the location with the highest percentage of children that use computers at school (88%), followed by Rubí (73.3%). In Sant Cugat only 45.9% of children use computers at school. Rubí is the town where most children use television at school (56.7%), but also the Internet (32.3%) and educational CD-ROMs (35.2%). The place where most children claimed to use computer games at school (32.5%) was Girona.

In general the average **time** children claim to spend **per week** on audiovisual activities is impressive. They watch television on average for almost 18 hours (boys 18.7 hours and girls 17.1 hours), and use the computer for 5.4 hours (7.2 hours for boys and 3.7 hours for girls) and video consoles for 4.3 hours (6.6 hours for boys and 1.9 hours for girls). Those with Internet access claim to spend on average 1 hour per week online. Those with access to a computer spend an average of 3.6 hours per week playing games (boys 5.5 hours and girls 1.7 hours) and 1.5 hours using educational CD-ROMs (1.5 hours for boys and 3.4 hours for girls).

Children report spending many more hours per week watching television in the less well-off towns: 28.8 hours in Rubí, as opposed to slightly over 15 hours in Girona and Sant Cugat. The highest average time spent using computers (8.2 hours, of which 5.7 are spent on games) and video consoles (6.8 hours) was also found in Rubí. Sant Cugat is the place where children spend most time on the Internet (1.5 hours) and using educational CD-ROMs (2.15 hours).

The highest average number of hours per week spent watching television, playing video games and using educational CD-ROMs is found among 14-year-olds. For computer games and the Internet, the highest weekly average is found for those aged 15.

How much influence do children have in bringing audiovisual media into the home?

Our results show that children have a wide range of perceptions related to **their influence** on the purchasing of the audiovisual equipment they use. The majority of both boys and girls believed to have had a high to very high degree of influence on the decision to buy them a computer ($\bar{x} = 3.34$ on a 5-point Likert scale). This contrasts with the low to medium influence they believed to have had in the purchase of a television set ($\bar{x} = 2.74$). When asked about video consoles, the majority of boys

perceived a high to very high level of influence ($\bar{x} = 3.65$), while the majority of girls perceived a very low to medium influence ($\bar{x} = 2.69$).

When we asked about their influence in the purchase of different applications for this equipment, their answers showed that both girls and boys perceive a very low level of influence over the fact of having Internet access at home ($\bar{x} = 2.02$), and a very low to medium influence in decisions to buy the educational CD-ROMs they use ($\bar{x} = 2.58$), with girls claiming a higher level of influence than boys in the latter case. The majority of boys believed they had a high to very high influence over purchases of video games ($\bar{x} = 3.35$) and video console games ($\bar{x} = 3.62$), while the majority of girls perceived a very low to medium influence in these decisions ($\bar{x} = 2.71$ and $\bar{x} = 2.59$).

The children showed similar levels of perceived influence over the purchase of a television set in the different towns. In contrast, there were important differences with regard to computers and consoles and the applications related to them. Children in the wealthier towns had significantly different perceptions of their influence (lower for video consoles and higher for computers and the Internet) from those of their peers in the less wealthy towns. The location with a medium level of wealth, Lleida, presented a mixed pattern.

Age does not appear to be a factor related to the children's self-perceived influence, except in the purchase of games: the younger the child, the higher the influence s/he perceived to have had in the purchase of games for computers and console.

Evaluation of the use of audiovisual media by children

With regard to **boredom or entertainment** (using a 5-point semantic differential scale), children evaluated television as the most entertaining audiovisual medium ($\bar{x} = 3.62$ for girls and 3.57 per boys) and educational CD-ROMs as the most boring ($\bar{x} = 2.48$ for boys and 2.59 for girls). However, the highest score corresponds to boys' evaluation of computer games ($\bar{x} = 3.79$).

By age, the 16-year-olds appear to be the most enthusiastic when evaluating television, computers and the Internet. Enthusiasm for the Internet clearly increases with the age. Enthusiasm for CD-ROMs is highest at the age of 12, gradually decreasing after that.

As regards **learning or not learning**, children evaluate educational CD-ROMs as the best for learning ($\bar{x} = 4.30$ for girls and 4.27 for boys), and console games as the least useful for learning ($\bar{x} = 2.23$ for boys and 1.67 for girls). Computers also received a high score in terms of learning potential ($\bar{x} = 3.68$ for boys and 3.71 for girls), to the extent that computer games were consid-

ered slightly more educational than video console games, particularly by girls ($\bar{x} = 2.39$ for boys and 1.94 for girls). The only significant differences by age appear with respect to the Internet and CD-ROMs: the older the children, the more they think they can learn through the Internet and the less through educational CD-ROMs.

In terms of **wasting or making good use of time**, the children evaluated educational CD-ROMs as the tool with which they could spend their time most usefully ($\bar{x} = 3.39$ for the girls and 3.58 for the boys), and video console games as the biggest time-waster ($\bar{x} = 2.70$ for boys and 2.23 for girls). Computers also scored highly in terms of use of time ($\bar{x} = 3.35$ for boys and 3.38 for girls). In this case the differences between different audiovisual equipment and applications are less spectacular than in the semantic differential "learning - not learning". This reinforces the hypothesis of different perceptions by children and adults of the values related to the use of time (Casas, 1998).

The older they become, the more the children seem to consider the use of the computer and the Internet as a useful way of spending their time; meanwhile, the younger ones (12 and 13 years of age) are those that are less likely to consider the use of television, computer and video games and CD-ROMs as a *waste of time*.

Finally, we also considered all items of audiovisual equipment in terms of **uselessness or usefulness**. In this case computers obtained the highest score ($\bar{x} = 4.30$ for boys and 4.20 for girls), and consoles the lowest ($\bar{x} = 2.95$ for girls and 2.09 for boys). By age, the usefulness of educational CD-ROMs was most highly rated at age 12. The usefulness of both consoles and computer games was rated highest by 13-year-olds, that of computers by those aged 14 and that of the Internet and television by 15-year-olds.

Do you like to talk about your activities with audiovisual media, and to whom?

We asked the children **how often** they talked to different people about **the things they saw or did** with audiovisual media. On a 5-point Likert scale (from *never* to *very often*), the highest average frequency corresponded to friends ($\bar{x} = 4.24$; s.d. = 0.98), with no difference between the sexes. In second place, they claimed to talk frequently to siblings, and fairly frequently to older friends and their own mothers. There are significant differences between boys and girls as far as talking to brothers and sisters and to mothers are concerned, with girls doing this more frequently.

By far the lowest mean frequency found was for talking to teachers ($\bar{x} = 1.65$; s.d. = 0.87), and boys spoke even less (and significantly so) to teachers than did girls.

In our samples, talking to one's father or mother about activities with audiovisual media tends to decrease from age 12 to age 15, the age at which we observe the lowest frequency. The exact opposite occurs with older friends during this same period, while talking to friends of the same age about these activities increases from age 12 to age 14 (at 14, $\bar{x} = 4.34$; s.d. = 0.91), subsequently decreasing until age 16.

When the children refer to **how much they like talking** to different people, the highest degree of enthusiasm is found in two directions: talking to **same-age friends**, and talking about **television**.

The highest degree of enthusiasm, in absolute terms, in all the samples is expressed by girls with reference to talking with friends of the same age about what they watch on television ($\bar{x} = 4.47$; s.d. = 0.88). Boys also express very high satisfaction about talking to same-age friends about television ($\bar{x} = 4.30$; s.d. = 1.12).

In our sample, the age at which the highest degree of enthusiasm is expressed with regard to talking with same-age friends about audiovisual media is 13. They talk about what they see and do with the television, computers and all kinds of games for computer and console. From this age onwards, the expression of enthusiasm decreases with age in all cases, except for that of the Internet, for which enthusiasm grows until age 15, and educational CD-ROMs, for which enthusiasm already starts to diminish at age 12.

Girls normally express more enthusiasm than boys about talking to friends of the same age about television and educational CD-ROMs. Boys tend to be more enthusiastic than girls when talking about games (for both computer and console). The Internet seems to be an equally interesting activity for both boys and girls when it comes to talking to same-age friends. Both girls and boys display the lowest level of enthusiasm with reference to conversations with same-age friends about educational CD-ROMs, which represent the only multimedia application to score less than 3 points on average for both sexes.

The second most preferred activities after television about which children like to speak to same-age friends are those carried out on the computer, while in third place come those related to consoles. In both cases boys express more enthusiasm than girls. We can observe that the degree of enthusiasm is higher when we refer globally to each one of the 3 items of equipment than when we talk about specific applications (games, the Internet, CD-ROMs).

Talking to their fathers about what they see on television seems to generate a moderate degree of interest among both boys and girls ($\bar{x} = 3.17$; s.d. = 1.15). Nevertheless, speaking to fathers about other audiovisu-

al activities appears not to satisfy the majority of boys or girls very much, particularly talking about the games console ($\bar{x} = 2.29$; s.d. = 1.40), with girls liking a little more to talk to their fathers about computers, CD-ROMs and the Internet. With the exception of the Internet, which does not seem to be linked to age, children enjoy talking to fathers about any audiovisual medium most at the age of 12, after which interest decreases with age.

Talking to mothers generates similar patterns to talking to fathers, though talking about television obtains the highest degree of satisfaction ($\bar{x} = 3.34$; s.d. = 1.14), while other audiovisual equipment and applications score lower (the lowest is for consoles: $\bar{x} = 2.13$; s.d. = 1.31). Girls present higher scores for talking to mothers about any audiovisual activity, including computer games, than boys, with the exception of console games, for which girls score even lower than boys. With the exception of the Internet, about which we observe that children enjoy talking to mothers most at 14 years of age, all other audiovisual media obtain the highest scores at age 12, after which they decrease gradually with age.

Talking to brothers and sisters about any audiovisual medium generates clearly higher scores than talking to parents, with the exception of educational CD-ROMs. In any case, talking to siblings about CD-ROMs scores less than 3 points for boys as well as girls, and for girls this also applies to the Internet. Television is the preferred medium when it comes to talking to siblings, with higher scores among girls ($\bar{x} = 3.83$; s.d. = 1.20). Boys expressed the highest mean preference when talking to brothers and sisters about using the console ($\bar{x} = 3.57$; s.d. = 1.53). As when talking to mothers, all audiovisual media, with the exception of the Internet (about which they prefer to talk to siblings at the age of 14), obtained the highest scores at the age of 12, scores diminishing gradually thereafter.

Talking to teachers about any audiovisual activity scored less than 2 points on average in all cases, with the exception of girls talking to them about CD-ROMs or computers, in which case scores still failed to exceed 2.3 on average. CD-ROMs appear to have their slightly more "special" moment as the subject of conversation with teachers at age 12, and computers at age 13, but in both cases the scores diminish rapidly with age. In the wealthiest town, Sant Cugat, talking to teachers about any audiovisual medium seems to be even less interesting than in the other towns.

Talking to older friends about any audiovisual medium seems to be very interesting for boys, with the exception of CD-ROMs. Girls only express enthusiasm when talking to them about television, stating that they are moderately interested when talking to them about

computers and the Internet. The Internet is the only activity for which we do not observe gender differences with regard to enjoying talking to older friends. There are no differences according to age related to preferences when talking to older friends, with the exception of talking about what they have seen on television. In this case enjoyment appears to increase to age 14 before descending slightly with age.

Children's level of information on and interest in audiovisual media

We can observe an important relationship between the frequency with which children speak to others about what they watch or do with audiovisual media and the **current level of interest** they display with regard to each of the activities.

The highest level of current interest, in both boys and girls, is found for watching television. Boys show exactly the same degree of interest as girls in computers, and high levels of interest in computer and console games, while girls are significantly less interested than boys in these activities. What interests children least are activities related to educational CD-ROMs, with boys being even less interested than girls.

The highest scores for watching television as an interesting activity are obtained in our sample at 13 years of age, exactly the same age at which computer-related activities are most highly rated. The highest level of interest in educational CD-ROMs, and also for consoles, can be observed at age 12. After these ages all scores decrease gradually with age, with only interest in the Internet rising to age 15.

In general, children believe they are **well-informed** about what they can see and do with the different audiovisual media. Boys claim to have a higher level of up-to-date awareness than girls in all areas except educational CD-ROMs. The strongest perceptions of being well-informed are related to television ($\bar{x} = 3.55$; s.d. = 1.05; the differences between girls and boys are not significant) and to computers ($\bar{x} = 3.37$; s.d. = 1.22), while the weakest are related to CD-ROMs ($\bar{x} = 2.70$; s.d. = 1.31).

It is at 12 years of age that children claim to have the largest amount of up-to-date information on games consoles and educational CD-ROMs. For computer games this occurs at age 13. After this, the feeling of being well-informed about these media decreases gradually with age. No relationship is observed between age and feeling well-informed about television or computers. The amount of information children claim to have about the Internet rises up to age 15.

We also explored the **future interest** that children believe audiovisual media will have for them. We asked

them to imagine how interested they would be in each medium in five years' time, in comparison to their present level of interest. Answers were given on a 5-point Likert scale that went from *much less* to *much more* interested.

The majority of children in our sample believe their interest in computers and the Internet will increase, and that it will diminish for all the other audiovisual media, except girls' interest in CD-ROMs, which they think will rise. Girls believe their interest in computers and the Internet will rise significantly more than that of the boys. They also believe significantly more strongly than boys that their interest in games (both for console and computer) and television will diminish with time.

The children believe that year by year they will be significantly less attracted to games (both for console and computer) between the ages of 12 and 16; at the same time, they think their interest in the Internet will rise significantly year by year between the ages of 12 and 15.

PARENTS' ANSWERS

Evaluation by parents of the child's influence in having audiovisual media in the home.

According to parents, children generally have very little influence on the decision to buy the television set they use ($\bar{x} = 1.91$; s.d. = 1.14) and on the Internet access available ($\bar{x} = 2.42$; s.d. = 1.35).

They recognise that the influence of the child is quite high when it comes to buying a games console ($\bar{x} = 3.60$; s.d. = 1.36), a computer ($\bar{x} = 3.47$; s.d. = 1.32) and console games ($\bar{x} = 3.46$; s.d. = 1.40). Boys are considered by parents as more influential than girls in the decision to purchase a console or games (both for consoles and PCs). Curiously, parents claim that girls are more influential when buying games for consoles than games for PCs.

The decision to purchase a television is the only one where parents claimed to be significantly more influenced by the child as he or she grew up.

Evaluation by parents of the use of audiovisual media by children

In terms of **learning or not learning** (using a 5-point semantic differential scale), the parents rank educational CD-ROMs as the best applications to aid their children's learning, computers as the best instrument for learning, and consoles and games as the poorest, followed by television. Using the Internet has a medium ranking, obtaining a moderately positive score.

Depending on whether the parents are thinking of a boy or a girl when they reply, their answers vary significantly with regard to the learning potential of different

audiovisual media. It seems that parents believe girls learn more than boys from educational CD-ROMs, while boys benefit more from the learning potential of television and consoles than girls. Furthermore, parents consider that learning through CD-ROMs decreases significantly with the age of the child.

In terms of **wasting or making good use of time**, parents scored all audiovisual media lower in absolute terms than in the previous question. Nevertheless, the ranking of the different media is exactly the same. In this case though, we observe a curious and significant difference depending on who answered the questionnaire. Fathers scored educational CD-ROMs less favourably than mothers or when the two parents answered jointly. Also, it seems parents consider that girls make better use of time when using computers or CD-ROMs than boys.

In terms of **usefulness or uselessness**, the parents score a little more enthusiastically than in the previous questions. The ranking order among all the media is again the same, despite the differences between computers and educational CD-ROMs being almost non-existent in this case. The parents seem to differ significantly as to their appraisal of the usefulness of television and computers depending on the sex of the child. In our sample, they tend to value the usefulness of the computer more highly for girls and that of the television for boys. There are no significant differences according to whether it was the mother or the father that answered the questionnaire, or to the child's age.

Information and interest of the parents themselves in audiovisual media

Parents claimed to be only moderately **interested in** computers and educational CD-ROMs, while having a relatively low level of interest in television and the Internet, and a very low interest in console and computer games.

In the case of mothers who answered the questionnaire, the average score for all audiovisual equipment is always below 3 on a 5-point Likert scale. When fathers answer, the scores are always significantly higher for all audiovisual media, except educational CD-ROMs, which obtained the highest scores when parents answered jointly. There are no significant differences when parents answering the questionnaires are referring to a boy or a girl.

The older the child, the more parents admit to being significantly less well-informed and less interested in educational CD-ROMs. In general, they recognise that they are not at all well-**informed** about games, quite badly informed about the Internet, moderately informed about computers and CD-ROMs and quite well-informed about television. When it is the father who

answers he always claims to be better informed about any audiovisual medium. Oddly enough, when parents answer with reference to a girl, they even tend to score the level of information they claim to have themselves about consoles or computer games significantly lower.

Once the child is 14, parents state that they are significantly less well-informed about educational CD-ROMs, and even less so as the child's age increases.

Information and interest in audiovisual media attributed by parents to children

On average, parents claim to be less interested in all audiovisual media than their own children. They tend to **attribute** quite high levels of interest to children with reference to computers, a moderate-to-high interest in television and CD-ROMs, a moderate interest in the Internet and computer games, and a low-to-moderate interest in consoles. There are no significant differences between mothers and fathers, except when parents answered jointly about educational CD-ROMs. In this case they claim that their child has a significantly higher interest in such applications.

The parents attribute a significantly higher interest in computers, the Internet and console and computer games when they refer to a male child. Furthermore, they perceive that the interest of the children for console and computer games, as well as educational CD-ROMs, decreases gradually with age from 12 to 16.

On average, parents also believe that their children are much better **informed** than they themselves are about all audiovisual media. They attribute to the children a moderate to high level of information about all audiovisual media, scoring only the Internet below 3 points on average. There is only one significant difference between fathers and mothers, with mothers tending to believe that their children are significantly better informed about the Internet.

Parents tend to believe that their child is better informed about games and the Internet when they are referring to a boy. Furthermore, they perceive their children to be progressively more and better informed about the Internet from the age of 12 up to 15.

Parents' degree of satisfaction on talking to their children, and their attribution of satisfaction to their children

We asked parents about their **degree of satisfaction when talking to their children** about what their children see or do with the different audiovisual media. The satisfaction ranking is always the same, regardless of who answered the questionnaire, though the strength of the answers differs significantly depending on the respondent.

The parents expressed the highest level of satisfaction when talking to the child about computers ($\bar{x} = 3.58$; s.d. = 1.10). In second place comes talking about educational CD-ROMs ($\bar{x} = 3.50$; s.d. = 1.25) and in third place television ($\bar{x} = 3.16$; s.d. = 1.00). The lowest degree of satisfaction is observed when talking about consoles ($\bar{x} = 1.76$; s.d. = 0.98). When talking about television, satisfaction is significantly higher when referring to girls, and when talking about console games the level of dissatisfaction is also higher when talking to girls.

The satisfaction when talking about computer activities is significantly lower when the mother answers the questionnaire than when the father does so or they respond jointly. Satisfaction when talking about educational CD-ROMs is significantly higher when parents answer jointly, though they believe that satisfaction decreases slowly with age after 13. Dissatisfaction when talking about computer games is significantly higher when the mother answers.

We also asked parents to evaluate how much **their children enjoyed talking** to other members of the family about what they see or do with the different audiovisual media. In general, parents seemed to be quite sure that their children preferred talking to younger people. They score talking to brothers and sisters more highly **than talking to fathers or mothers**. In fact, they only attribute a moderate degree of satisfaction to talking with the father about their computer activities, and to talking about television to the mother.

When parents respond jointly, they tend to score the child's satisfaction when talking about television with the mother more highly. When the mother answers alone, she attributes significantly less satisfaction to the child when talking to the father about computer activities. When it is the father who answers, he tends to attribute less satisfaction to the child when talking to the mother about any audiovisual medium than when talking about it to himself.

When the answers refer to a boy, the parents tend to attribute a significantly higher degree of satisfaction when talking about television to the father, and talking about console games with the mother. When the answers refer to a girl, they tend to attribute significantly more satisfaction when talking about computers and educational CD-ROMs with the father than with the mother.

When we analyse the age of the child, we can see that from the age of 13 parents perceive a steady decrease in the level of satisfaction the child feels when talking to the father about games (for console as well as computer). The dissatisfaction of the children when talking to the mother about games is perceived to be constant at all ages.

According to parents, their children enjoy **talking to brothers and sisters** above all about computer activities, in second place about television and in third place about games (computer as well as console). When the father answers, he tends to attribute a significantly lower degree of satisfaction to the child when talking about television with his brothers and sisters.

Parents' beliefs about children's future with regard to audiovisual media

We asked parents whether they thought their child, taking into account his/her present interest, would be more or less **interested** in each one of the audiovisual media **five years from now** (1 equals *much less* interested and 5 equals *much more* interested).

In general, parents anticipate that their children will be more interested in the Internet ($\bar{x} = 4.03$; s.d. = 0.87), in computers ($\bar{x} = 3.97$; s.d. = 0.80) and in educational CD-ROMs ($\bar{x} = 3.69$; s.d. = 0.94), less interested in consoles ($\bar{x} = 2.17$; s.d. = 1.04) and in computer games ($\bar{x} = 2.84$; s.d. = 1.11), and almost equally interested in television ($\bar{x} = 2.77$; s.d. = 0.77).

We can observe clear differences depending on which parent answered the questionnaire, particularly in relation to computers and consoles. When parents respond jointly, they score the perceived interest of the child as significantly higher for computers ($\bar{x} = 4.09$; s.d. = 0.67), than when the father ($\bar{x} = 3.82$; s.d. = 0.80) or the mother answers alone ($\bar{x} = 3.93$; s.d. = 0.87). Exactly the opposite occurs when parents answer jointly about consoles, which are valued significantly less highly in relation to the future interests of the child than when the father or the mother responds separately.

In the opinion of fathers and mothers, girls will lose significantly more interest than boys in television and in console and computer games, but will increase their interest in educational CD-ROMs more than boys. The older the child, as long as s/he is at least 13, the more parents anticipate (and significantly so) that the interest in games (both for computer and console) will decrease.

INITIAL COMPARISON OF RESPONSES

Comparison of parents' and children's mean responses

When we compare the responses of children with those of parents on the same issues, we can observe that some questions are answered almost identically, or are at least very closely correlated, while in other cases we find large discrepancies between the answers. We have already noted this phenomenon in previous research on video games (Casas, 1998).

When we compare the answers of children and parents about how personally **interested** they are at present, or

how **well-informed** they consider themselves to be about the different audiovisual media, we can see that children always score significantly more highly than their parents, except on the subject of educational CD-ROMs.

When we compare **children's self-reports on how well-informed they are** at present about each of the audiovisual media with **parental perception of how well-informed the child is**, we can observe that the average score of parental perception is higher for two of the media, television and the Internet, while the children score themselves more highly for the other media. All differences in means between parents' and children's answers are significant, with the exception of television.

When we compare **children's self-reports as to how interested they are** at present in each one of the audiovisual media with **parental perception of how interested the child is**, we see that parents believe on average that the children are more interested in television, the Internet and consoles, while the children score all other audiovisual media more highly. Three of the differences between the means, for the Internet, consoles and computer games, are not significant.

Parents' perceptions about the children's future interests in relation to different audiovisual media are always higher on average than the **self-reports from the children regarding their own future interest** for the same media, with the exception of two cases: television and games consoles. The differences fail to reach significance in only two cases: television and computer games.

When we compare the responses on the **child's influence** in the decision to have different audiovisual media in the home, parents always claimed to have a greater influence than their children, with the exception of the television. All the differences between parents' and children's mean responses are significant, except those referring to computer and console games.

Parents tend to give lower mean scores than children

when referring to what children **learn** when they watch or interact with different audiovisual media, with the exception of the computer and the use of computer games. The parents' answers differ significantly from those of the children in all cases, with the exception of the Internet and computer games.

Something quite similar can be observed when we compare the answers referring to the **use of time**, with parents scoring all media less highly, with the exception of the use of computers and educational CD-ROMs. Once again parents' and children's answers are significantly different in all cases except those related to the Internet.

Children evaluate the majority of audiovisual media as more **useful** than their own parents do, except computers and educational CD-ROMs, which are more highly valued by the latter. Differences between the means of responses from parents and children are always significant, except in the cases of computers and educational CD-ROMs.

On comparing the data regarding how much children **like talking to their fathers** about their different audiovisual media activities with parents' beliefs about whether the child likes talking his/her father about such activities, we observe that parents, on average, attribute a higher score to the child's enjoyment of talk with fathers about computers, the Internet and educational CD-ROMs, while the children, on average, rate their conversations about television and console and computer games more highly. The answers differ significantly for all media, with the exception of the Internet and computer games.

We also compared answers about the degree to which children **enjoy talking to mothers** about these media. Parents, on average, score computers, the Internet and educational CD-ROMs more highly. Children, on average, rate television more highly, though the differences do not reach significance. The two groups evaluate games (both computer and console) in exactly the same way.

Table 2
Interest of children and parents, and parents' attribution of children's interest, in audiovisual media

MEDIA		TV	Computer	Internet	CD-ROM	Video console	Computer games
Children's interest	Boy	3.75	3.76	3.31	2.47	3.59	3.70
	Girl	3.76	3.41	3.15	2.75	2.59	2.70
	Total	3.76	3.58	3.23	2.62	3.09	3.19
Parents' interest	Boy	2.82 ↓	3.18 ↓	2.45 ↓	3.13 ↑	1.40 ↓	1.55 ↓
	Girl	2.75 ↓	3.16 ↓	2.36 ↓	3.14 ↑	1.30 ↓	1.56 ↓
	Total	2.78 ↓	3.17 ↓	2.40 ↓	3.13 ↑	1.35 ↓	1.56 ↓
Attribution by parents of children's interest	Boy	3.56 ↓	4.01 ↑	3.19 ↓	3.21 ↑	3.45 ↓	3.64 ↓
	Girl	3.49 ↓	3.78 ↑	2.93 ↓	3.31 ↑	2.30 ↓	2.62 ↓
	Total	3.52 ↓	3.87 ↑	3.04 ↓	3.27 ↑	2.80 ↓	3.04 ↓

The next comparison we made concerns the answers on the degree to which the child **enjoys talking to brothers and sisters** about these media. Children give higher scores than their parents, on average, in relation to television and computer games. Parents give higher scores in relation to computers, the Internet, educational CD-ROMs and consoles. The differences are always significant, with the exception of the answers related to the Internet and consoles.

Finally, with the aim of controlling any possible bias in the parents' answers, we checked whether their self-expressed interest or their rating of how well-informed they are might influence their perception and evaluation of the child in these respects. The data suggests that parents appear to discriminate these aspects very well.

When we compare **parental perceptions about their child's present interest** for different audiovisual media and their own interest for specific media, the answers are always significantly different. The parents, on average, always report greater interest on the part of their child for each medium in particular than their own. In exactly the same way, **parental evaluation of the degree of information their children have** about the different audiovisual media is always significantly different from **the parents' self-reported level of information**. On average, parents also always claim that their own children are better informed than they are themselves.

More detailed concordance and discrepancy between children and parents

When we compare the different **evaluations** made by children and their parents in terms of **positive or nega-**

tive consequences on the children's lives resulting from the use of audiovisual equipment or applications, we discover a highly complex panorama within the home.

Let us begin with **computers**. In our sample there is concordance between children and parents in 55.9% of cases in the evaluation of the semantic differential of learning versus not learning, 53.6% when comparing wasting time versus making good use of time, and 73.7% in relation to uselessness versus usefulness. This means that in 44%, 46.2% and 21.8% of cases, there are discrepancies between parents and children.

We find the majority of concordances on the fact that **computers are positive**. Nevertheless, there are small percentages of agreement on the fact that computers are negative, and also small percentages of concordance on the evaluation of computers as neutral, neither positive nor negative.

The discrepancies may also be split into moderate (1 or 2 points on a Likert scale) and extreme (3 or 4 points on Likert scale). In the case of computers, **extreme discrepancies** only appear between parents and children in 4.4% of cases in relation to usefulness, and 10% of cases in relation to waste of time.

If we consider **consoles**, we observe high percentages of concordance in relation to **negativity** (61.9% referring to not learning anything; 51.8% referring to a waste of time; 45.6% referring to uselessness), but also small percentages of **concordance** on seeing consoles as positive or neutral. In this case there are also important percentages of clear and extreme **discrepancy**.

The third audiovisual instrument we analyse is the **tele-**

Table 3
Children's perception and parents' evaluation of the influence of children in the acquisition of audiovisual media for the home

MEDIA		TV	Computer	Internet	CD-ROM	Video console	Computer games	Console games
Children's perception of their influence in acquiring	Boy	2.82	3.33	2.04	2.46	3.65	3.35	3.62
	Girl	2.67	3.36	2.01	2.70	2.69	2.71	2.59
	Total	2.74	3.34	2.02	2.58	3.17	3.02	3.10
Parents' evaluation of children's influence in acquiring	Boy	1.95 ↓	3.39 ↑	2.58 ↑	3.27 ↑	3.86 ↑	3.76 ↑	3.80 ↑
	Girl	1.88 ↓	3.50 ↑	2.31 ↑	3.41 ↑	3.37 ↑	2.89 ↑	3.12 ↑
	Total	1.91 ↓	3.46 ↑	2.42 ↑	3.35 ↑	3.61 ↑	3.27 ↑	3.45 ↑

Table 4
Satisfaction of children, and parents' attribution of children's satisfaction, when talking about audiovisual media with mothers

MEDIA		TV	Computer	Internet	CD-ROM	Video console	Computer games
Satisfaction of children when talking to mothers	Boy	3.16	2.30	2.06	2.37	2.18	2.12
	Girl	3.52	2.55	2.48	2.64	2.07	2.17
	Total	3.34	2.43	2.27	2.51	2.13	2.15
Parents' attribution of the child's satisfaction when talking to the mother	Boy	3.38 ↑	2.93 ↑	2.68 ↑	2.98 ↑	2.52 ↑	2.44 ↑
	Girl	3.34 ↓	3.10 ↑	2.75 ↑	3.15 ↑	2.15 ↑	2.20 ↑
	Total	3.36 ↑	3.03 ↑	2.72 ↑	3.08 ↑	2.34 ↑	2.31 ↑

vision. In this case, concordances between parents and children are lower than for consoles and computers, with discrepancies being much more frequent, and extreme discrepancies reaching 47.3% of the cases related to learning versus not learning, 46.9% for wasting or making good use of time, and 45.7% for usefulness versus uselessness. Furthermore, concordances are a little more frequent when television is rated as neutral, but there are also cases of positive concordance and negative concordance. Discrepancies, both clear and extreme, are positive in some cases and negative in others.

When we analyse these concordances and discrepancies with reference to the audiovisual applications, we can also observe the whole range of possibilities. Educational CD-ROMs and the Internet produce more positive concordances between parents and children, while computer games produce more negative concordances. Discrepancies in relation to the Internet and computer games reach very high percentages.

DISCUSSION: THE NICTS, ADULTS, BOYS AND GIRLS

We are aware that our results may be interpreted in different ways. We aim to be neither optimistic nor pessimistic on analysing results and consequences. Rather, we believe that they invite us to develop a series of reflections, some of them quite novel, and in which we should involve parents and teachers, as well as all professionals that work with children, and the boys and girls themselves. We plan to begin by setting up results feedback sessions, but we believe it should go much further.

Audio-visual media are more and more frequently present in homes and are very often “in the middle” of everyday relationships between adults and children. This does not necessarily mean they have a great deal of importance in these relationships. Nevertheless, they are “mediating” many things in one way or another.

The data show that the higher the socio-economic context in which the child lives, the greater the probability that s/he has more and better audiovisual equipment available. Furthermore, adults recognise an important influence of the child in the purchasing of new audiovisual equipment in the home, with the exception of television sets.

As far as communication between adults and children about audiovisual media is concerned, it can probably not be separated from communication between them in general. It is assumed that some mothers and fathers speak with their children about many different things, while others do so much less.

Nevertheless, the great enthusiasm observed among children with regard to audiovisual media leads us to think that these media may provide a good starting point for understanding child-adult communication in an ever more rapidly changing social context (largely due to new technologies), where adults are not always and necessarily the “competent” ones. To understand the situation, we should perhaps take more seriously what the children say, the children’s perspective.

It would seem that children sometimes respond to questions (about games, for example) in a way they believe to be “appropriate” for adults. However, the children’s responses show us, for example, that for them the concept of “uselessness” does not necessarily equate to “waste of time”, as is the case with adults.

Parental perceptions and evaluations very frequently reflect some of the existing gender stereotypes, as well as stereotypes about the ‘goodness’ of certain media. Parents tend to believe that children are very interested in educational CD-ROMs, but children do not appear to be enthusiastic about them, especially if we compare them with other media. Children (girls as well as boys) like games, although parents tend to ignore what goes on with their own children.

Table 5
Concordance and discrepancy between parents and children

	Concordance				Discrepancy		
	Negative	Neutral	Positive	Sub-total	Clear	Extreme	Sub-total
Computer							
Learning	1.4	4.2	50.3	55.9	34.8	9.2	44
Waste of time	2.8	7.2	43.6	53.6	36.2	10	46.2
Usefulness	0.9	2.8	73.7	77.4	17.4	4.4	21.8
Console							
Learning	61.9	5.1	0.4	67.4	25.8	6.7	32.5
Waste of time	51.8	4.8	1.4	58	26	16.1	42.1
Usefulness	45.6	4.7	1.3	51.6	23.8	17.3	41.1
Television							
Learning	8.4	21.8	10.2	40.4	47.3	12.3	59.6
Waste of time	19.3	19.8	3.3	42.4	46.9	10.6	57.5
Usefulness	6.3	15.6	10.9	32.8	45.7	21.4	67.1

Probably the most interesting aspect of our results concerns whom the children like to talk to about what they do or see with audiovisual media. The children in the 5 samples coincide on the fact that the people they like to talk to least about these activities are, most frequently, their teachers. This leads us to an important reflection about the connection between the school and the real world. But at the same time, mothers and fathers themselves are not considered to be much better conversation partners for talking about these activities. Children clearly prefer friends of the same age, and in second place brothers and sisters and older friends. One of the conclusions we can draw from this is that, as we pointed out that the beginning of this report, as adults we do not in general seem to be making the most of the advantages of the new opportunities offered by audiovisual media to establish new forms of relationships with children.

These results reinforce the idea that children construct their *own children's media cultures* without adults, or at least without dialogue with adults. The large amount of information and messages containing important values for life that circulate via audiovisual media constitute a further point for reflection. Possibly, many children in our societies are being socialised within this *iconic* culture without very little recourse to adult criteria (or none at all), receiving only the interpretations of their peer group, in a socialisation process that takes place exclusively in the context of the specific cultures in which the children are involved. What has happened to so many adults, who seem to have lost either credibility with or interest in their children for talking about what they see or do with audiovisual media? We must continue our research, on the basis of the evidence that children are dissatisfied with their dialogues with adults about such activities.

We should like to make one final observation about the results from our different samples. We have observed many significant differences between the different towns. Some of these can be explained by their socio-economic level; others by their proximity to or distance from a large city. But there are other differences that we find very difficult to explain. At times it seems to us that there is a kind of "cultural standard" for each town, which leads to higher or lower mean scores for the same questions. We are not sure if there are other possible explanations. The perceptions and evaluations of adults may not necessarily be homogenous among different towns, nor those of children. We shall attempt to explore these aspects in greater depth in future research using data collected from a larger number of towns with different characteristics.

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