

Screen Deprivation and Family Life

A Research Project for BBC Panorama

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Executive Summary

An intervention study was carried out by the BBC's Panorama production team in partnership with researchers from the Department of Media and Communication, University of Leicester to examine the impact of deprivation of TV viewing and use of other screen-based entertainment in the home upon family life and the behaviour of children at school.

Initial contact was made with a primary school in the Manchester area where a year-group of twenty-four seven- to eight-year olds was recruited to take part in the study. One child dropped out, leaving a final sample of 23 children. The families of these children were then approached about taking part in the study.

Contact interviews with each household were undertaken by the Panorama team who explained to the families what the project was about and what kind of participation was required. An initial household audit was conducted to obtain details about each family household. Household audit data were used to divide the sample into two matched groups that were allocated to two different study conditions. In one condition, the families were deprived of all screen-based entertainment for a period of two weeks. This involved removal or disabling of all TV sets and computer equipment that could be used to access the internet or play electronic games. In the other condition, families served as controls and experienced no changes in their normal household circumstances.

All households in TV deprived and non-TV deprived conditions completed daily activity diaries for the target child (i.e., the child who was the initial point of recruitment in the contact school). The diary provided a catalogue, day by day, of activities undertaken in 30-minute time slots from 6am one day through to 6am the next day.

The entire study lasted for five weeks. Baseline data were collected on each child from each household via activity diaries for an initial period of two weeks. During two further weeks, families in the screen-deprived condition had all screen-based entertainment technologies removed or disabled. For a fifth week, screen-based entertainment equipment was returned to those households and post-ban observations were taken. The families in the non-screen-deprived condition completed activity diaries throughout the five weeks in the same way.

Seven families in the screen-deprived condition were also filmed for the Panorama programme. Four of these families maintained their own video diaries in which they recorded on camera their experiences of the study throughout its duration. Three families were filmed by a Panorama crew and interviewed on camera. TV cameras were installed in the school classroom and filmed lessons throughout the five week study period.

Research evidence obtained through diaries revealed that being deprived of television and computer games had a number of interesting effects on family behaviour at home. Despite initial interest in impact of screen deprivation on in-school behaviour, the evidence here was incomplete and no conclusive findings can be reported.

The removal of television sets and computer equipment forced families to think harder about the way they used their time. A number of substitute activities were found to fill the time that would normally have been occupied by watching television or, to a lesser extent, playing computer games.

Among the children (and their families) in the screen-deprived condition, there were notable increases during the ban weeks in the use of audio entertainment (radio and recorded music). Following the screen ban, however, use of audio entertainment among these children returned to pre-ban levels.

Screen-deprived children showed signs of increased reading of books in the absence of television. After screen entertainment was returned to the household, however, reading levels fell again.

There was also a marked increase in playing games with other family members after TV and computers had been removed. This behaviour subsided again after screen entertainment technologies were returned. Nonetheless, *vox pops* on camera indicated that these activities had brought about changes that may be more durable. Family members began to spend more time with each other and paid greater attention to each other. Direct interactions in terms of conversations with each, especially at meal times, and joining in collective activities created a stronger sense of family unity. Parents and children paid more attention to each other as did siblings, and family members seemed to appreciate each other more in consequence.

Parents and children alike talked, during the screen ban, about modifying the way they used television in future. The absence of television had revealed to them how dependent upon it they had become and how much they could enjoy themselves by engaging in other activities. Children enjoyed playing with their parents and having their full attention. Parents, in turn, were sometimes surprised by how well their children coped without television and computer games.

Parents remarked on how their children ‘had calmed down’ during the screen ban. They also noted how much more readily their children went to bed and got up in the morning without needing to be forced into doing so. Some parents remarked that their children had apparently become more tired than usual because of the additional mental and physical energy they expended in engaging in other activities. There was no evidence from the activity diaries, however, that the children in the screen deprived condition slept more than usual.

Some parents also remarked that their children had got down to their school homework more readily in the absence of television. Activity diaries did not reveal any overall significant increase in time devoted to homework among these children across the entire ban period, although homework time reached its highest level in week two of the screen ban.

After the screen ban had ended, children in this condition returned to watching television again, but at nothing like the same level as had been observed during the pre-ban weeks. Indeed, average viewing levels after the ban were at about half what they had had been prior to the ban. Throughout this period, the behaviour of children in the non-screen- deprived group remained fairly stable and relatively unchanging.

The changes in post-ban TV viewing were most acutely felt in the early morning and in the late afternoon after children returned home from school. The post 7.30pm period was when viewing levels after the ban came closest to pre-ban levels.

Whether there might be any educational or school performance benefits of controlling the use of television or computer games among these children remains an unresolved point. There

was one child (girl, aged 8) whose behaviour had been at times withdrawn and other times restless in class and at home for whom the removal of television and computer games appeared to have some impact. According to her parents, she had calmed down and focused on her homework more. According to her teacher, she had shown improved behaviour at school and this was reflected in her behaviour ratings scores. The evidence here does suggest that this experience could have benefited her. A key factor in this change might have been the extra attention she received from her family.

Summing up, this small-scale study has provided some interesting insights into how people behave in the absence of television and computers. It also demonstrates how dependent the families in the TV deprivation condition had become on their TV sets. Parents and children often used it without thinking, switching it on automatically when they got up in the morning or arrived home after being out for school or work. TV was used by parents to control and occupy their children. Its absence forced families to renew their emotional bonds by paying more attention to each other. This research was conducted amongst a small, non-representative sample of people and this means that in statistical terms we cannot generalise from these findings to viewers in general. The experiences of these families, however, are likely to resonate with those of many other people who have unwittingly fallen into the same trap of dependence on home screen-based entertainment.

Background

The BBC Panorama programme approached the Department of Media and Communication to undertake a research project associated with a documentary film about the impact on family life and the school performance of primary-age children of a fixed period of abstinence from watching television, using personal computers or playing with electronic, computer games.

The BBC's production team assumed responsibility for recruiting participants, the printing and distribution of research instrumentation, and the production of video material from the participating school and households. The Leicester team was responsible for the design of research instruments, data analysis and processing, and writing up of the findings.

Participants were recruited by the BBC in the Manchester area. Initial contact was made with a primary school and a year group of boys and girls aged eight. The parents of these children were subsequently contacted to solicit their cooperation and participation. The original plan was to recruit sufficient participants to be able to split them into two matched groups one of which experienced screen entertainment deprivation and the other of which did not.

Filming took place in the school classroom of the recruited year group and also in the homes of selected families in the screen entertainment deprived condition.

The original aims of this exercise were to find out whether being deprived of the use of television, computer games and internet access in the home would have an impact on the behaviour and performance of the children at home and in school. A further interest centred on the impact of this experience on entire families in their homes.

Key evidence derived from time use diaries completed by the families. In addition, more qualitative evidence derived from observations of the children in school and with their families at home as well as from on-camera interviews with and digital video reports by the participants.

Previous research of this kind has studied the impact of voluntary and involuntary deprivation of television on viewers. Voluntary deprivation studies recruited participants to abstain from watching television for fixed periods, for durations of between one week and four weeks. Involuntary deprivation studies examined how viewers behaved when television transmissions were discontinued for limited periods (for example, because of industrial disputes in the television industry) or because television was not transmitted every day of the week (for example, in Iceland until the end of the 1980s, there were no TV transmission on Thursdays).

Research evidence indicated that in the absence of television, viewers often looked for the next nearest available source of equivalent gratification, such as listening to the radio or recorded music as alternative time fillers. Some people, however, used their 'new' time to socialise more with family and friends. The current study not only represented a replication of the key elements of previous work, it went beyond then by depriving families not just of their TV sets, but also of a range of other screen-based entertainment. As such it represented a new departure from other work in that it studied the impact upon children and their families of a much more diverse range of technology deprivation than studied hitherto.

Although there was some original interest in the possible effects of a home-based screen entertainment ban on children's performance at school, it proved impossible within the

resources of this study to conduct a thorough investigation of this type of effect. One initial hypothesis was that children's performance in school might benefit from the absence of television and computer games because it would 'calm them down' and render them more attentive in the classroom. The school teacher for the year group under investigation provided some informal observations on specific children, but the evidence produced was insufficient to demonstrate conclusively any specific impact of screen entertainment deprivation. The Leicester team hypothesised that more significant effects would be observed in the home than in school. In particular, some families that had developed a strong dependency on television to occupy their time would find its absence difficult to cope with. New activities would have to be found to fill the time normally occupied by television viewing. This impact would be felt not just by the eight year olds who were the original points of contact, but also by the rest of their families.

Methodology

The study began with the agreement of a primary school in the Manchester area to take part. A year group of seven to eight year old children was recruited as the focal point of the investigation. The parents of these children were approached to solicit their approval for their children to be observed in school and to find out whether they would wish to take part as a family. All potential participants were interviewed by members of the Panorama production team who explained to them the purpose of the study and what they would be signing up to do in either the screen-deprived or non-deprived conditions. The families were given the choice to opt-in or opt-out and could also decide whether they wished to be part of the screen-deprived group. A household audit was undertaken to assess the size and nature of the household, how much and what kinds of screen-based entertainment technology it contained and some basic statistics about use of those technologies.

There were 30 children in the class and 24 of these initially agreed to take part in the experiment. The children (and their families) were divided equally into two groups – an experimental group that was deprived of their television sets and home computers and a control group that was not. Subsequently one of the families allocated to the non-deprived condition dropped out, leaving 11 families in that group and 23 families participating on the study as a whole (see Table 1 below). Eleven participants were boys and 12 were girls.

The children's and their family's behaviour at home were monitored before, during and after the screen entertainment ban. The aim of the exercise was to find out what happened with families when they were deprived of screen entertainment at home.

The BBC selected three households from the screen-deprived group for particularly close scrutiny before, during and after the ban. Each of these households was filmed by a Panorama crew of two. In four further households in the screen-deprived condition hand-held digital video cameras were placed such that any family members could use these devices to record their thoughts and feelings direct to camera – hence producing a video diary of their experiences. Cameras were installed in the school and focused on the behaviour of the year group initially selected for study. This video evidence was also examined in particular in relation to verbal reactions of participants or for the commentaries some of them produced about their screen deprivation experience.

Table 1. Participating Sample

Name	TV set in own bedroom Yes/No	PC in own bedroom Yes/ No	Condition: Deprivation [D] Control [C]
Boys			
Boy 1*	Yes	Yes	D
Boy 2	No	No	C
Boy 3	No	No	D
Boy 4	Yes	Yes	C
Boy 5*	No	No	D
Boy 6	No	Yes	D
Boy 7	No	No	C
Boy 8	No	No	C
Boy 9*	Yes	No	D
Boy 10*	Yes	Yes	D
Boy 11	No	No	C
Girls			
Girl1	No	Yes	C
Girl 2*	Yes	Yes	D
Girl 3	Yes	No	D
Girl 4	?	?	C
Girl 5l	No	No	D
Girl 6	No	No	C
Girl 7*	No	No	D
Girl 8	Yes	No	C
Girl 9	No	Yes	D
Girl 10	Yes	Yes	C
Girl 11	Yes	Yes	C
Girl 12*	?	No	D

* Family filmed at home

Measures

Two principal sets of measurements were taken to set up this study and to assess the impact of the screen entertainment ban on the participants.

Household Media

Initial profiling of the children and their families in the contact sample was carried out to inform the allocation of participants to experimental and control groups. This entailed an initial audit of the families and their homes to assess family size and composition, type of household, numbers of TV sets and computers in the home, whether there were TV sets in children's bedrooms, and the presence of laptops, desktop PCs, DVD players, personal video recorders, games consoles and so on. The household audit also asked whether any restrictions were placed on children's use of television and, if so, of what kind. The choices here included: restrict total number of hours children are allowed to watch television; restrict how late they are allowed to watch television in the evening; restrict types of programmes; only allow them to watch certain programmes with grown up present (see Appendix 1 for questionnaire used here).

Daily Activities

In addition, the families maintained a time use/activities diary for the target child from the school. This was also completed on a daily basis before, during and after the screen deprivation period. The diary (see Appendix 2) divided each day into 30-minute day-parts for each day of the week, running from Monday to Sunday. Each day began at 6.00am and ran through until 6.00am the next day.

Participants were required to indicate the activities in which they engaged during each 30-minute time period. A list of 15 activity categories was provided and a code number attached to each activity-type. The code number was entered into time-period slots in the diary to indicate the activity in which the target child engaged at that time. Activities included a number of media-related and non-media-related activities.

Findings

Daily Activities

Each household kept a daily diary for the child recruited in the primary school. In all, 31 activity categories were provided for participants to register their behaviour during each day of the study. Each diary covered seven days and diaries were distributed to every household, whether in the screen ban or control group, for completion for each of the five weeks of the study.

Screen-Deprived versus Non-Screen-Deprived Children

Taking all weeks together, children in the non-screen-deprived condition understandably watched more television in total than did children in the screen-deprived condition. The former recorded 1,278 TV viewing slots in total compared with 931 viewing slots on the part of screen-deprived children. For the non-screen-deprived children TV viewing occupied a larger percentage of recorded time (7.5% than it did for the screen-deprived children (5.0%). Perhaps more interesting here though is the fact that the latter difference was not large, despite abstinence from TV watching for two weeks (weeks 3 and 4) on the part of children in the screen-deprived condition.

In terms of actual time spent viewing, children in the screen ban condition watched an average of 2.2 hours of television per day across the two pre-ban weeks. Children in the control condition watched an average of 1.9 hours a day of television over the same time period.

Children in the non-screen-deprived condition also recorded more episodes of playing computer games (325 over five weeks) compared with children in the screen-deprived condition (237 episodes). In percentage terms, however, computer game playing did not occupy a significantly greater proportion of time for the non-screen-deprived and screen-deprived children (1.9% versus 1.5%). Children in the screen ban condition played with computer games for an average of 31 minutes per day across the two pre-screen ban weeks. Children in the control condition played with computer games an average of 28 minutes a day during those same two weeks.

Children in the screen-deprived condition were much more likely to listen to radio and to music than were those in the non-deprived condition. Screen-deprived children registered a total of 92 episodes of radio listening compared with just six for the non-screen-deprived children. In both cases, radio listening occupied only a tiny proportion of all recorded time (0.5% for screen-deprived and 0.03% for non-screen-deprived). Nonetheless, screen-deprived children were 16 times as likely to listen to radio as were non-screen-deprived children in this study.

Screen-deprived children registered a total of 145 episodes of listening to music compared with 40 for non-screen-deprived children. In terms of percentage of recorded time, screen-deprived children (0.8%) were four times as likely to listen to music as were non-screen-deprived children (0.2%).

The absence of TV did not lead screen-deprived children to read books (218 episodes of reading) more than non-screen-deprived children (290 episodes).

Screen-deprived children registered far more episodes of playing games at home with their family (672) over the five weeks than did non-screen-deprived children (336 episodes).

Non-screen-deprived children (228 episodes) recorded more episodes of being outside walking than did screen-deprived children (132 episodes).

Non-screen-deprived children (196 episodes; 1.3% of time) were also more likely than screen-deprived children (104 episodes; 0.6% of time) to record spending time at a club they belonged to.

Tables 3 and 4 present summary data for grouped sets of activities. Table 3 presents frequencies of diary-recorded episodes devoted to different categories of activity. Table 4 represents these data in terms of the percentage of total recorded time across the five weeks of the study that was devoted to each activity group. Even though ‘normal’ conditions prevailed for the screen-deprived group for three weeks out of the five, in the other two weeks, these children were deprived of all home screen-based entertainment. It is not surprising therefore that there were differences between those children in deprived and non-deprived conditions in their respective total numbers of episodes devoted to TV viewing and use of computer games. Screen-deprived children exhibited lower numbers of recorded episodes devoted to these activities. Compensating for these differences, children in the screen-deprived group exhibited many more recorded episodes of use of other media, interactive activities with other people and ‘other’ activities than did non-screen-deprived children. In terms of percentage of recorded time devoted to these various categories of activity, however, the differences between the two groups are less pronounced.

Table 3. Frequencies of Grouped Activities

Activity	Condition		
	Deprived	Non-deprived	Total
Watched Television	931	1278	2209
Video games/ Computer activity	317	462	779
Use of other media	484	381	865
Interactive-People activities	1794	1561	3355
Other activities	15285	13438	28723
Total	392	357	749

Table 4. Percentage Distribution of Grouped Activities

Activity	Condition		
	Deprived	Non-deprived	Total
Watched Television	4.9	7.5	6.1
Video games/ Computer activity	1.7	2.7	2.2
Use of other media	2.6	2.2	2.4
Interactive-People activities	9.5	9.1	9.3
Other activities	81.2	78.4	79.9
Total	100.0	100.0	100.0

The next two tables (Tables 5 and 6) show the distribution of key areas of activity week by week for the screen-deprived and non-screen-deprived groups respectively. The data indicate the percentage of total diary recorded time occupied by these activities during each week of the study. For the screen-deprived group, television watching virtually disappeared during the two screen ban weeks (weeks 3 and 4). So, too, did use of computer/video games – though there were still some marginal signs of activity here. In the case of TV watching, this returned at a lower level in week five, after the end of the two-week screen ban, than it had been during the pre-ban period. In fact, TV viewing levels for the screen-deprived group was halved in week five compared to their average during weeks one and two. The use of video games in week five returned to approximately the same level as had been observed across weeks one and two.

Use of other media, primarily radio and recorded music, increased during the screen ban weeks for the screen-deprived group (see Table 5), but then returned to pre-ban level after TV sets and computers were returned or re-activated in week five.

There was an increase in the amount of time devoted to interaction with other people – usually family members or friends during the screen ban weeks in screen-deprived households. This type of activity occupied an average of 8.3% of time across the two pre-screen ban weeks increasing to an average of 11.3% of time during the screen ban weeks before dropping down to 8.8% of time in the post-ban week.

There were slight increases in ‘other’ activities among screen-deprived children during the screen ban weeks compared with the pre-ban weeks and time devoted to such activities did not fall away much during the post-screen ban week. This ‘other’ category covered a range of activities including doing homework, playing sport, and sleeping.

Table 5. Screen Deprivation and Changes in Daily Activities – Screen Deprived

	Week 1 %	Week 2 %	Week 3 %	Week 4 %	Week 5 %
Watched television	9.4	8.7	0.1	1.2	4.6
Video games/computer activity	3.1	2.0	0.1	0.5	2.7
Use of other media	1.0	1.8	4.6	4.0	1.5
Interactive people activities	7.6	9.0	11.7	10.7	8.8
Other activities	78.8	78.5	83.5	83.5	82.4

Among the non-screen-deprived group – as Table 6 shows – there was much more stability in daily activities from week to week across the period of study. While some degree of change in TV watching was seen, this was often accounted for by changes in other activities associated with family, social or school events.

Table 6. Screen Deprivation and Changes in Daily Activities – Non-Screen- Deprived

	Week 1 %	Week 2 %	Week 3 %	Week 4 %	Week 5 %
Watched television	7.9	7.8	6.3	8.5	6.4
Video games/computer activity	3.0	2.2	3.0	3.3	1.8
Use of other media	2.2	2.2	2.6	2.2	1.9
Interactive people activities	9.3	8.2	9.3	9.4	9.5
Other activities	77.7	79.4	78.8	76.4	80.4

The findings reported in Table 5 and 6 above represent summary data for clusters of behaviours. However, we may learn more about the impact of screen deprivation by disaggregating these activity clusters. Table 7 and 8 below present disaggregated data, for the screen-deprived and non-screen-deprived groups respectively, for a number of specific media and non-media behaviours – listening to radio, listening to recorded music, reading books, reading magazines or comics, doing homework, playing games with members of the family and sleeping. For the screen-deprived children, in particular, did the proportion of time devoted to these activities change when TV and computer usage was banned? In comparison, how stable were these behaviours for the non-screen-deprived group?

Table 7, for the screen-deprived children, indicates increased proportions of time devoted to listening to radio and recorded music during the screen ban weeks compared with pre- and post-ban weeks. Audio entertainment was used, to some extent, to compensate for the absence of television and other screen entertainment, but only temporarily. Once audio-visual entertainment was returned, use of audio entertainment fell away again.

Table 7. Screen Deprivation and Other Media and Non-Media Activities – Screen-Deprived

	Week 1 %	Week 2 %	Week 3 %	Week 4 %	Week 5 %
Radio listening	0.03	0.0	1.1	1.2	0.1
Listening to recorded music	0.2	0.6	1.6	1.1	0.4
Reading books	0.8	1.1	1.7	1.4	0.8
Reading magazines/comics	0.0	0.0	0.2	0.4	0.1
Doing homework	0.9	0.9	0.6	1.5	1.1
Playing games with family at home	1.9	3.1	4.9	5.3	2.9
Sleeping	45.2	44.8	44.6	44.5	44.5

There was some evidence that children in the screen-deprived condition read more when screen entertainment was banned than when it was present. As with the use of audio entertainment, however, this increased consumption of print media was not sustained once TVs, personal computers and games consoles were returned.

Despite the observations of some parents in screen-deprived households that the absence of TV and computer games led to children getting on with their homework more enthusiastically, the activities diaries did not indicate that the removal of screen entertainment produced significantly increased devotion of time to school homework. Although, week 2 of the screen ban did score the highest proportion of time devoted to homework for screen-deprived children across the five weeks of the study. Time devoted to homework during week one of the screen ban registered reduced time devoted to homework compared with the two pre-ban weeks. During the post-ban week, homework time dropped compared with the second screen ban week, but remained at a higher level than during the two pre-ban weeks. It is probably too soon to say whether any lasting impact of TV abstinence on homework time has occurred here

There was a marked increase in time spent playing games with family members during the two screen ban weeks compared with the pre-ban period we observed. By the time screen entertainment was returned, these activities dropped away to pre-ban levels. It is clear from the diary evidence here that the children in the screen-deprived condition sought out other activities to occupy their time.

Video evidence indicated that these home-based substitute activities frequently involved playing board games or toys or doing jigsaw puzzles. These activities were generally engaged in with other family members. The evidence from video footage from selected screen-deprived families reinforced these findings in showing that the children did, indeed, turn to board games and other imaginative play with siblings and parents. What also emerged were a series of spin-off benefits articulated by both parents and children in these families that they had enjoyed playing these kinds of games with each other. In a sense these activities had led to a re-discovery of the family as a unit. Family members began to really engage with each other socially, to talk to each other and to appreciate each other more. The parents in these households witnessed changes in their children's moods. They also recognised that perhaps they had unwittingly fallen into the habit of using television and computer games as parent substitutes. These technologies were devices used to occupy their children's time and attention and 'keep them quiet' at times when parents needed to get on with other activities of their own. While this might represent understandable and legitimate use of these technologies on certain occasions, in some households, the TV as baby-sitter/childminder mentality had taken hold to such an extent that parents and children too often paid little significant attention to each other.

Some parents observed that their children had been more tired without the television because they had had to expend more energy than usual finding other things to do with their time and had, in consequence, also ended up engaging in more physically or mentally taxing activities. Diary entries indicated that there were no signs that children in the screen-deprived condition – as a group – slept more in the absence of screen entertainment in the home. However, as some parents observed, the children went to bed more readily when there was no TV to distract them and got up more readily in the morning and got ready for school more efficiently.

The non-screen-deprived children served as a control group for the screen-deprived. Table 8 presents similar data for this group and reveals that although some behavioural activity fluctuations occurred week on week, the overall behavioural pattern was relatively stable. These children slept about the same amounts as their screen-deprived classmates, displayed similar low levels of audio entertainment usage when audio-visual entertainment was readily available to them, though they did read books more often. The non-screen-deprived children recorded greater proportions of time devoted to homework on average. The screen-deprived children achieved similar levels of homework time only when TV and computer games were absent. Non-screen-deprived children played games at home with their family to a similar extent to screen-deprived children during non-screen-deprived weeks. During the screen-deprived weeks, children in the screen ban condition increased the time they devoted to such activities.

Table 8. Screen Deprivation and Other Media and Non-Media Activities – Non-Screen-Deprived

	Week 1 %	Week 2 %	Week 3 %	Week 4 %	Week 5 %
Radio listening	0.02	0.0	0.1	0.0	0.0
Listening to recorded music	0.08	0.2	0.5	0.2	0.1
Reading books	1.9	1.6	1.7	1.8	1.4
Reading magazines/comics	0.2	0.3	0.2	0.2	0.3
Doing homework	1.5	1.3	1.5	1.3	1.5
Playing games with family at home	2.3	1.7	2.0	3.0	1.9
Sleeping	44.3	44.2	44.5	44.5	44.3

TV Viewing Changes

While TV viewing occurred throughout the day in different households, there were specific time slots that represented peak-viewing times. These occurred between 7.30-8.30am in the morning, 3.30-6.30pm in the late afternoon/early evening, and 6.30-8.30pm in the mid-evening. These were the times therefore when the absence of TV was likely to be most acutely felt. Tables 9 and 10 show the percentages of these slots across each of the five weeks of the study occupied by TV viewing for the screen-deprived and non-screen-deprived children respectively.

Among the screen-deprived children, there are perhaps two key points to note. First, viewing levels for these peak viewing times in week five after the screen ban had ended did not return to the levels observed in the two pre-ban weeks. This may be a short-term effect, but nonetheless the drop in viewing levels is pronounced.

The second point to note is that some TV viewing was recorded during the second week of the screen ban. This did occur at a very low level and suggest that one or two children may have caught site of some television when visiting the homes of relatives or friends.

Among the non-screen-deprived children, further points can be noted. First, children in the non-screen-deprived group tended to watch less television during the pre-ban weeks than did children in the screen-deprived condition, especially during late afternoon and early evening periods. Second, viewing levels tended to fluctuate week on week for some time slots. This was notable in respect of early morning viewing and viewing just after finishing school (3.30-4.00pm). Third, there was some evidence of viewing gradually falling away between 5.00-6.00pm across the five weeks of the study.

Table 9. TV Viewing by Day-Parts and Weeks – Screen-Deprived Children

	Week 1 Pre-ban %	Week 2 Pre-ban %	Week 3 Ban %	Week 4 Ban %	Week 5 Post-ban %
Breakfast					
7.30-8.00am	31.0	16.7	0.0	0.0	8.6
8.00-8.30am	34.5	32.1	0.0	0.0	12.9
Late Afternoon					
3.30-4.00pm	31.0	33.3	0.0	1.6	7.1
4.00-4.30pm	31.0	29.8	0.0	1.6	12.9
4.30-5.00pm	27.4	19.0	0.0	1.6	14.3
5.00-5.30pm	28.6	20.2	0.0	1.6	18.6
Teatime					
5.30-6.00pm	33.3	25.0	0.0	3.2	8.9
6.00-6.30pm	28.6	21.4	0.0	1.6	11.4
Mid- Evening					
6.30-7.00pm	35.7	21.4	0.0	4.8	8.6
7.00-7.30pm	23.8	25.0	0.0	3.2	8.6
7.30-8.00pm	26.2	26.2	0.0	4.8	21.4
8.00-8.30pm	25.0	31.2	0.0	4.8	20.0

Note: Data show percentages of total recorded time devoted to TV viewing for each listed time slot

Table 10. TV Viewing by Day-Parts and Weeks – Non-Screen- Deprived Children

	Week 1 Pre-ban %	Week 2 Pre-ban %	Week 3 Ban %	Week 4 Ban %	Week 5 Post-ban %
Breakfast					
7.30-8.00am	41.6	27.3	15.7	38.1	26.8
8.00-8.30am	31.2	24.7	18.6	29.9	30.4
Late Afternoon					
3.30-4.00pm	10.4	20.8	14.3	23.8	10.7
4.00-4.30pm	13.0	13.0	17.1	13.0	14.3
4.30-5.00pm	15.6	14.3	8.6	7.8	10.7
5.00-5.30pm	13.0	14.3	11.4	11.7	8.9
Teatime					
5.30-6.00pm	20.8	13.0	12.9	11.7	8.9
6.00-6.30pm	16.9	13.0	14.3	15.6	23.2
Mid- evening					
6.30-7.00pm	22.1	13.0	20.0	18.2	12.5
7.00-7.30pm	29.9	23.4	25.7	40.3	17.0
7.30-8.00pm	35.1	39.0	37.1	48.5	41.1
8.00-8.30pm	28.6	31.2	22.9	34.9	28.6

Note: Data show percentages of total recorded time devoted to TV viewing for each listed time slot

Top Activities

This analysis examines the most popular activities that were recorded in daily diaries for the children in screen-deprived and non-screen-deprived conditions in those time slots that represented peak viewing times. Table 11 shows these data for the screen-deprived children and Table 12 shows similar data for children in the control condition. The data reported in each table comprise percentages of each time slot in which a specific activity was most often mentioned per week across each of these groups of children.

Table 11 confirms for the children in the screen-deprived condition that these time slots were peak viewing times in weeks one and two, prior to the screen ban. During weeks three and four, TV was unavailable and other activities came to the fore.

Eating was more prominently mentioned and this may reinforce the observation that meal times became ‘family’ occasions rather than some routine functional event that was hurried through while watching the TV or so that family members could swiftly return to watching it again.

Another significant point of note is that during week five, TV did not immediately return as the dominant activity during peak-viewing time slots among children in the screen ban condition.

Table 11. Top Activities by Day-Parts across the Five Weeks – Screen-Deprived

	Week 1 Pre-ban %	Week 2 Pre-ban %	Week 3 Ban %	Week 4 Ban %	Week 5 Post-ban %
Breakfast					
7.30-8.00am	TV 31.0%	Eat 36.9%	Eat 27.1%	Eat 25.0%	Sleep 25.7%
8.00-8.30am	TV 34.5%	TV 32.1%	Eat 24.3%	Eat 26.7%	Eat 25.7%
Late Afternoon					
3.30-4.00pm	TV 31.0%	TV 33.3%	Other 31.4%	Other 33.3%	Other 32.9%
4.00-4.30pm	TV 31.0%	TV 29.8%	Other 35.7%	Other 28.3%	Other 28.6%
4.30-5.00pm	TV 27.4%	TV 29.8%	Other 37.1%	Other 36.7%	Other 30.0%
5.00-5.30pm	TV 28.6%	Other 20.2%	Other 30.0%	Other 31.7%	TV 20.0%
Teatime					
5.30-6.00pm	TV 33.3%	TV 20.2%	Other 24.3%	Play games 28.3%	Other 12.9%
6.00-6.30pm	TV 28.6%	Eat 27.4%	Eat 27.1%	Eat 28.3%	Eat 20.0%
Mid- evening					
6.30-7.00pm	TV 35.7%	TV 21.4%	Other 20.0%	Play games 18.3%	Eat 15.7%
7.00-7.30pm	TV 23.8%	TV 25.0%	Play games 28.6%	Play games 16.7%	Wash 20.0%
7.30-8.00pm	TV 26.2%	TV 26.2%	Play games 30.0%	Other 18.3%	TV 21.4%
8.00-8.30pm	Sleep 35.7%	Sleep 38.1%	Sleep 38.6%	Sleep 36.7%	Wash 17.1%

Among children in the non-screen-deprived condition, TV was less prominent in terms of being the most popular activity across the time slots that represented peak viewing times than it was observed to be for children in the screen-deprived condition prior to the screen ban. This observation held true throughout the five weeks of the study.

After eating in the late afternoon or early evening, however, TV then emerged as the pre-eminent activity and this was consistently true across all five weeks.

Table 12. Top Activities by Day-Parts Across the Five Weeks – Non-Screen- Deprived

	Week 1 Pre-ban %	Week 2 Pre-ban %	Week 3 Ban %	Week 4 Ban %	Week 5 Post-ban %
Breakfast					
7.30-8.00am	TV 41.6%	TV 27.3%	Eat 28.6%	TV 33.8%	Eat 28.6%
8.00-8.30am	TV 31.2%	TV 24.7%	TV 18.6%	TV 29.9%	TV 30.4%
Late Afternoon					
3.30-4.00pm	Other 26.0%	TV 20.8%	Other 25.7%	TV 20.8%	Other 25.0%
4.00-4.30pm	Other 27.3%	Other 24.7%	Other 31.4%	Other 24.9%	Other 23.4%
4.30-5.00pm	Other 20.8%	Other 20.8%	Other 24.3%	Other 22.1%	Other 28.6%
5.00-5.30pm	Eat 19.5%	Eat 16.9%	Eat 21.4%	Eat 13.0%	Eat 19.6%
Teatime					
5.30-6.00pm	TV 20.8%	Eat 20.8%	Eat 22.9%	Eat 24.7%	Eat 30.4%
6.00-6.30pm	TV 16.9%	Eat 24.7%	Eat 20.0%	Eat 24.7%	TV 23.2%
Mid- evening					
6.30-7.00pm	TV 22.1%	TV 23.4%	TV 20.0%	TV 18.2%	Homework 14.3%
7.00-7.30pm	TV 29.9%	TV 31.2%	TV 35.7%	TV 40.3%	Wash 21.4%
7.30-8.00pm	TV 35.1%	TV 39.0%	TV 37.1%	TV 45.5%	TV 41.1%
8.00-8.30pm	TV 26.2%	TV 31.2%	Read 25.7%	TV 37.0%	TV 28.6%

Child Profiles

The results so far have been examined at the group level. However, even more could be revealed by looking at specific children in respect of their television viewing and in-class behaviour. The data here do not allow us to draw any conclusions about causal connections between any of the variables we have measured. Nonetheless, some insights could derive from looking at how the children in both the screen-deprived and non-deprived conditions behaved week on week. To this end we have examined scores for television viewing and in-class behavioural ratings per child. We have looked at how the rankings in terms of amount of TV viewing compared across weeks one and two (pre-screen ban) and in week five (after TV sets were returned to those in the ban condition). This has been done for screen-deprived and non-deprived groups. We have then examined in-class behavioural ratings per child for these weeks as supplied by the class teacher. Finally, we have aligned TV viewing and behavioural ratings data to discover whether there are any degrees of association between TV viewing rankings and behavioural scores rankings. In a later section, we single out those seen children (and their families) in the screen-deprived condition who also provided video footage.

TV Viewing Profiles

An activities diary was completed daily for each child throughout the five weeks of the study. The focus here is placed on TV viewing levels in weeks one and two (pre-screen ban) and week five (after the ban). Data are presented for children in both screen ban and non-ban conditions. The data are not complete because activity diaries were not received for week five in the case of two children in the screen ban condition and three children in the non-ban condition. Nonetheless, there are sufficient data to yield some interesting patterns.

While activities were recorded for 30-minute time slots, the data are initially represented here in terms of percentages of overall time slots occupied by TV viewing. In this way we can compare directly the seven days of week five with the 14 days of weeks one plus two.

In general, out of the 10 children in the screen ban conditions who returned activity diaries for all three weeks under examination here, nine displayed a fall in the overall amount of TV viewing they recorded in week five (after the ban had ended) compared with weeks one and two. Across these children, TV viewing slots fell by an average of 9.2% across weeks one and two to 5.9% in week five. This represents a 36% fall in average TV viewing.

The data in Tables 13 and 14 show two kinds of data. The two left-hand side columns show the proportions of time each child reportedly devoted to TV viewing as recorded in their daily activities diaries for weeks 1 and 2 combined and week 5. The right-hand side columns indicate the rank-order position of each child in their respective groups (screen- deprived or non-screen-deprived) during weeks 1 and 2 combined and week 5.

Table 13. TV Viewing Profiles of Children in Screen-Deprived Condition

Name of Child	Weeks 1&2 Viewing Amount	Week 5 Viewing Amount	Weeks 1&2 Viewing Rank	Week 5 Viewing Rank
Boy 1	12.8	6.5	1	3
Boy 9	12.5	4.8	2	7
Girl 7	10.6	6.8	3	2
Boy 10	10.4	6.3	4	4
Girl 3	10.0	-	5	-
Boy 6	8.5	5.7	6	5
Girl 2	8.2	2.4	7	10
Girl 9	8.2	3.6	8	8
Girl 5	8.0	14.3	9	1
Girl 12	6.7	-	10	-
Boy 5	6.7	5.4	11	6
Boy 3	6.1	3.0	12	9

Turning to the rank positions of each children in terms of TV viewing, even with the overall reduced amount of TV viewing in week five compared with weeks one and two, the rankings of the children did not change that much. The heaviest viewers in the two pre-screen ban weeks were the heaviest viewers again in the post-ban week. Girl 5 exhibited a dramatic shift upwards in her viewing after the screen ban compared with beforehand. Boy 9 dropped five places and Boy 4 moved up in the rank order by the same number of places.

Table 14. TV Viewing Profiles of Children in Non-Screen Deprived Condition

Name of Child	Weeks 1&2 Viewing Amount	Week 5 Viewing Amount	Weeks 1&2 Viewing Rank	Week 5 Viewing Rank
Girl 11	12.0	-	1	-
Girl 10	11.8	10.4	2	1
Girl 6	9.7	6.0	3	5
Boy 2	8.9	7.4	4	2=
Girl 8	8.3	7.4	5	2=
Boy 7	7.3	3.9	6	8
Boy 11	7.0	7.1	7	4
Boy 8	6.6	-	8	-
Girl 4	5.8	-	9	-
Boy 4	5.3	5.0	10	6
Girl 1	3.4	4.2	11	7

In the non-screen-deprived group, eight children completed activity diaries for all three weeks considered here. Average TV viewing also fell from weeks one plus two from 6.4% to 7.7% in week five, a fall of 17%. During the pre-ban period, children in the screen-deprived group were heavier TV viewers on average than were those in the non-deprived group. After the TV ban had been implemented, however, children in the screen ban group exhibited lower average TV viewing than did their classmates in the non-ban group. The big anomaly in the

screen ban group was Girl 5 who exhibited a significant upward shift in her overall amount of TV viewing in week five compared with the two pre-ban weeks. We have no specific information on her case to offer in explanation of this change in her behaviour.

Post-Screen Ban Reduction in Viewing among Screen-Deprived Children

If we take the difference between the average week one plus week two TV viewing time proportion and that for week five and divide that difference into the week one plus week two viewing average, it is possible to calculate the percentage fall in pre-screen ban to post-screen ban viewing. This calculation was undertaken for each child and reveals which children displayed the biggest changes in their TV viewing on each side of the screen ban. Among the girls in the screen-deprived condition, all except one displayed a marked drop in their TV viewing in week five compared with weeks one and two. There was one exception who actually displayed a marked upturn in her pre-ban viewing after the screen ban had ended. No week five viewing data were available for two of the girls in the screen-deprived condition.

- -70.7% Girl 2
- -56.1% Girl 9
- -35.8% Girl 7
- + 78.8% Girl 5

Among the boys in the screen-deprived condition, all exhibited marked falls in their post-ban week TV viewing compared with pre-ban week levels.

- -61.6% Boy 9
- - 50.8% Boy 3
- -49.2% Boy 1
- - 34.4% Boy 10
- -32.9% Boy 6
- -19.4% Boy 5

The overall average difference between weeks one plus two TV viewing and that for week five was a drop of 36% in the post-screen ban period. Among the non-screen- deprived group, a drop in week five viewing compared with that observed in weeks one and two of 17%.

These changes in viewing levels are reinforced by observations made on video by parents and children in the screen-deprived condition. Some indicated that they would not watch television as much once it had been returned. Others stated that they would attempt to control what they watched and would get into the habit of switching the TV off when there was nothing in particular they wanted to see.

The TV viewing and computer game playing data were further analysed in terms of actual amounts of time devoted to each. These data are based on 30-minute slots identified as containing each type of behaviour. A presumption was made here that the behaviour in question occupied the entire slot, which may not, in actuality, have been completely true. These data therefore provide an approximate indication of amounts of time allocated to viewing and electronic game playing.

As Table 15, for the screen-deprived children, shows, TV viewing after the ban returned at a far lower level than it had been before the ban. In fact, the amount of time devoted to

watching TV on average halved. This result covers just one week after TV sets were returned. It may therefore be a short-term effect only. Nevertheless, there were no signs of compensatory behaviour occurring with the children packing in a lot more TV than usual to make up for the loss of viewing during the period of the screen ban.

What the results also show is that the degree of downturn in amount of viewing varied between children. Girl 2 and Boy 1 exhibited the most marked falls in their viewing of around 70% in each case.

Table 15. Screen-Deprived Children – Average Hours Viewing per Day

Child	Weeks 1+ 2	Week 5	% Change
Boy 1	3.1	1.6	-71%
Boy 9	3.0	1.1	-63%
Girl 7	2.5	1.6	-36%
Boy 10	2.5	1.5	-40%
Girl 3	2.4	-	-
Boy 6	2.0	1.4	-30%
Girl 2	2.0	0.6	-70%
Girl 9	2.0	0.9	-55%
Girl 5	1.8	0.3	-83%
Girl 12	1.6	-	-
Boy 5	1.6	1.3	-19%
Boy 3	1.5	0.7	-53%
<i>Average</i>	<i>2.2</i>	<i>1.1</i>	<i>-50%</i>

Among the children in the control group, there was a marginal fall in viewing of five per cent in week five compared with the average observed over weeks one and two. In fact, focusing just on those eight children for whom diary returns were provided in weeks one and two and week five, the change in viewing amount was just three per cent. In other words, there was no notable change in amount of viewing over the study period for these children.

Table 16. Non Screen- Deprived Children – Average Hours Viewing per Day

Child	Weeks 1+ 2	Week 5	% Change
Girl 11	2.9	-	-
Girl 10	2.8	2.5	-11%
Girl 6	2.3	1.4	-39%
Boy 2	2.1	1.8	-14%
Girl 8	2.0	1.8	-10%
Boy 7	1.8	0.9	-50%
Boy 11	1.7	1.7	0
Boy 8	1.6	-	-
Girl 4	1.4	-	-
Boy 4	1.3	1.2	-8%
Girl 1	0.8	1.0	+20%
<i>Average</i>	<i>1.9</i>	<i>1.8</i>	<i>-5%</i>

A further analysis was computed to determine the amount of time devoted each day, on average, to playing with computer games. This analysis was computed separately for children in the screen-deprived and non-deprived conditions. The results are presented in Tables 17 and 18 below.

Table 17. Screen-Deprived Children – Average Daily Computer Game Usage – Minutes per Day

Name	Average Daily Use in Minutes Weeks 1+2	Average Daily Use in Minutes Week 5	% Change
Boy 10	82	56	-32%
Girl 7	52	17	-67%
Boy 6	49	22	-55%
Boy 5	43	30	-30%
Boy 1	30	73	+143%
Girl 9	28	30	+7%
Boy 3	26	90	+246%
Girl 12	23	-	-
Girl 2	17	0	-100%
Girl 3	15	-	-
Boy 9	11	8	-27%
Girl 5	0	13	+100%
Average	31	34	+10%

Overall, there was a small increase in the level of computer game use in week 5 compared with the pre-ban average in weeks 1 and 2 for the TV/computer game ban children. However, this overall figure disguises diverse changes that occurred among individual children. It also hides the fact that the majority of these children exhibited a downturn in their individual computer game usages in week 5 after the ban compared with pre-ban levels of usage. In the case of three children out of the 12 (Boy 3, Boy 1 and Girl 5), there were marked increases in post-ban computer use compared with their pre-ban daily averages. These were sufficient to push up the overall average for the group as a whole. However, the result for the majority of these children in respect of their levels of computer game use mirrored the findings for TV viewing. Week 5 exhibited a downturn in use compared with the pre-ban levels.

Table 18. Non-Screen-Deprived Children – Average Daily Computer Game Usage – Minutes per Day

Name	Average Daily Use in Minutes Weeks 1+2	Average Daily Use in Minutes Week 5	% Change
Girl 8	62	0	-100%
Boy 11	60	8	-87%
Boy 4	32	22	-31%
Boy 7	32	13	-59%
Boy 2	28	17	-39%
Girl 11	22	-	-
Girl 10	19	8	-58%
Girl 1	19	52	+173%
Girl 6	15	13	-13%
Girl 4	8	-	-
Boy 8	7	-	-
Average	28	16	-43%

Among the control group, overall levels of computer game use were lower both pre and post-ban compared with the ban group. For this group, however, the average amount of time recorded for computer game use in the post-ban week was lower than average daily levels during the two pre-ban weeks. For the seven out of 11 children in this group who provided diary data for week 5 as well as weeks 1 and 2, only one exhibited an increase in time devoted to computer game use in week 5. All the other children in this group exhibited marked downturns in their computer game playing in week 5. The data provide no clear explanation for this change.

Televised Families - Profiles

Seven families in the screen deprived condition were either filmed or maintained their own video diaries. Along with all the other participating households, they had also completed a household audit and daily activity diaries for the target child from the contact school year group.

Boy 1

Boy 1 displayed a dramatic fall in his TV viewing between the two pre-screen ban weeks and the post-ban week. Across the two pre-ban weeks, he accumulated 86 30-minute TV viewing slots, or devoted around 12.8% of his time to watching television. During the week after TV was returned to his home, he recorded 22 TV viewing slots in his activity diary, or 6.5% of his time. Thus, his immediate post-screen ban viewing was at around half its pre-screen ban level. In fact, his post-ban viewing was 49% lower than his pre-ban viewing level. Boy 1 had a TV and personal computer in his bedroom before the screen ban.

On video, his mother said she thought that he would be affected by the screen ban. In fact, she thought that it would be difficult to keep her children in general occupied during the ban –

especially her twins who were her youngest children. In this household, TV had been used to manage the children's behaviour.

In the absence of TV and computers, mum observed that the children had coped well – not least Boy 1 – but also they had also been getting more tired. Boy 1 himself volunteered just before the television was returned that he did not think he would watch as much TV in future. His mother observed after the ban that he had not been watching TV as much as he did before the ban. This observation was borne out by the activities diary data which showed fewer TV viewing sessions recorded during the post-ban week than during the pre-ban weeks.

Boy 5

Boy 5 had no TV set or computer in his bedroom before the screen ban. He scored 45 TV viewing slots (6.7% of time) before the screen ban. After the ban had ended, his TV viewing returned but was 19% lower than it had been over the two weeks prior to the ban.

Video evidence showed Boy 5 watching television and playing with computer games before the ban. Before the ban, Boy 5 volunteered that he thought it would be hard to survive without the TV. His mother admitted that she used the TV to keep their children occupied. During the ban, however, mum observed that it was easier to get the children ready for school in the mornings. Television was missed for some types of programming, and one evening the family were observed listening to football commentary on the radio for a match they would otherwise have watched on television. During the screen ban, Boy 5 was seen playing pool and other games with his brother and listening to radio.

Boy 5 indicated that he had missed TV during the ban. His mother observed though that the experiment had been a positive experience for the family. On return of the TV, however, Boy 5 immediately turned it on. As reported above, his post-ban viewing was lower than his pre-ban viewing, but he displayed a much smaller drop in viewing than the group average (36%).

Boy 9

Boy 9 scored 84 TV viewing slots during weeks one and two before the screen ban (12.5% of his time). This figure reduced to 16 slots (4.8% of time) in week five after the screen ban had finished. His post-screen ban viewing was 62% lower than his pre-ban viewing level. Before the screen ban, he had a TV set but no computer in his bedroom. Before and during the ban, Boy 9 was seen reading magazines and comics and during the ban he played card games with his brother.

By the second week of the ban, he said he did not really find the absence of TV difficult to cope with. He observed that he was now playing more with his brother and that he had more time for his homework. His mother remarked that both boys had got on well without the telly. In particular, they were playing games together more constructively. She noted a reduced tendency to play games with violent themes and they seemed to have calmed down. Boy 9 remarked that they had plenty of things to do in terms of outdoor and indoor games available to him and his brother. His mother noted that the boys had been getting more tired by the evening because they had been so active during the day.

The absence of TV had also encouraged mum and dad to become more sociable and to interact with the boys more than they would normally do. Mum reported that she looked forward to the return of TV because she would not want to live without it altogether, but she could envisage limiting the times when it was switched on. In particular, this might mean not

switching it on first thing in the morning or when the boys returned home from school in the afternoon.

As the ban ended, mum commented that without TV the boys had become more sociable. They got on better with each other. They had all discovered that it is easy to get along without the telly. Mum reflected that in the past they had tended to sit the kids in front of the TV set while getting on with other chores. This had become a habit. But without the TV, the boys have seemed happier playing with games and toys. She also believed the experience would help Boy 9 at school.

After the end of the ban, the boys were shown watching TV again. Dad talked to camera and was seen in the kitchen preparing their regular Friday night pizza. Dad commented that the boys had done other things as well as watching TV since the sets were returned. The family had now started to restrict the use of TV before teatime and watched it only after tea. [However, on this particular evening the boys were seen eating their tea in front of the telly.] This last observation about restricting viewing to certain times was borne about by the general activity diary data for the TV deprived group which showed that pre-tea-time viewing in the late afternoon and early evening had dropped well below pre-ban levels. There was also a ban in this household on turning on the TV first thing in the morning especially on weekdays.

Dad commented further that he and his wife now played and interacted with their kids more than they used to. So far the boys had not rebelled against the new viewing regime. Boy 9 was shown on camera saying he thought it was a good thing that they don't watch as much TV as they used to.

Boy 10

Boy 10 had a TV and computer in his bedroom before the ban. He scored 70 TV viewing slots during weeks one and two before the screen ban (10.4% of his time). In week five, after the ban, he scored 21 viewing slots or 6.3% of his time. Thus, his post-ban viewing was 34% lower than his pre-ban viewing.

The video evidence indicated that Boy 10 watched TV regularly and played with computer games. Before the ban got underway, Boy 10 expressed a wish that his parents would play with him and his sister more. His sister felt there were advantages and disadvantages to not having TV. She would miss her favourite shows, but there might be more opportunities for interaction with her parents. She thought her brother would find it hard managing without TV.

Once the TV ban had begun, Boy 10 was seen at home playing games with his sister. Some of these activities included board games and others were imaginary. At one point, brother and sister pretended that they were on TV as presenters, while their mother filmed them. Boy 10's sister enjoyed this extra attention from her brother and from her parents. She and her brother got on very well together. She noted that Boy 10 had been transformed by the absence of TV. He could become so transfixed by it that he would not pay attention to anyone. She now enjoyed the fact that she had got her brother back. Their mother was seen on screen saying during the ban that they have not missed television and that it had created more opportunities for the family to socialise together.

After the ban, Boy 10 was pictured watching the TV again. When interviewed on camera by their mother, both Boy 10 and his sister said they had coped well without TV and did not miss it that much. He noted that they had broken the habit of watching it. His sister remarked that

more social things had gone on with family and friends without the TV. She also noted that she and her brother had got more tired because they had had to find other things to do that had generally been more active than watching TV.

Girl 2

Girl 2 scored 55 TV viewing slots during weeks one and two prior to the screen ban or 8.2% of her time. By week five, after TV was returned, she recorded just eight TV viewing slots (2.4% of her time). Here, then, we can see a significant drop in amount of TV viewing post-ban compared with pre-ban. Overall Girl 2 exhibited the biggest fall in TV viewing after the screen ban compared with beforehand (71%).

Video evidence revealed that Girl 2 and her sister watched quite a bit of TV before the ban. Their father commented that they would be able to manage without TV. There was observational evidence that the family watched TV while eating and tended therefore to eat in silence. Girl 2 stated that she would probably miss the TV during the ban.

Girl 2 and her sister tended to watch television when they got up in the morning and last thing at night on the set in their bedroom. Mum reported that she and her husband had different viewing preferences from their children. The absence of TV might lead them all to do more things together.

Once the TV had been taken away the family had a problem coping with silence and substituted music straight away. However, the two girls started to play together more and got on with their homework better. The family were observed eating together during the ban and actually conversed together over meals. Girl 2 did express missing TV during the first ban week and put music on instead. Once again, this behaviour indicated how much the family had got used to having something on in the background to fill the silence.

The children were resourceful in finding other things to do. Girl 2's mum noted that the experience was having a big positive effect on the family. The children had 'calmed down'. Girl 2 was getting on with her homework better. She was even found doing her homework while waiting to be picked up from an after-school activity. The children also went to bed more readily and slept better. While Girl 2 did not, according to her mum, seem to have become sharper in her thinking or responding to things, she was more willing to do her homework. It was possible therefore that her concentration at school might also improve. Both girls were going to bed earlier and getting up earlier during the screen ban.

Mum observed that after the ban the TV would not be switched on as much. As the end of the ban approached, she even went as far as to say that she did not really care whether the TV came back or not. The children seemed to have calmed down in the absence of TV. In this household, the children had been allowed to watch DVDs in bed. The parents decided, however, that after the end of the ban no TV sets or computer games would be returned to bedrooms.

Girl 7

Girl 7 recorded 71 TV viewing slots in weeks one and two before the screen ban (10.6% of her recorded time) and 23 slots (6.8%) in week five after the end of the ban. Her viewing during the post-ban week was 36% lower than its average across the two pre-ban weeks. She had neither a TV set nor a computer in her bedroom at any time.

Girl 7 was seen watching television and playing with video games before the ban. In fact she played with her Gameboy almost right up to the moment when it was taken away. After the TV and other equipment were removed, her mother commented on the silence that had been created. Girl 7 collected a radio at one point and placed it where the TV set used to be. Despite showing some signs of missing the physical presence of the TV set, however, she was shown entertaining herself with drawing, colouring, and listening to music during the ban.

The family was shown getting excited about the return of the TV. But they observed that the absence of TV had caused them to think about the way they use it. Mum noted that it had been pleasant without the television. She also volunteered that it had probably been switched on more than it needed to be. Significantly, once the TV set had been re-installed the family switched it on straight away and began arguing about what to watch.

Girl 12

Girl 12 recorded 45 TV viewing slots across weeks on and two before the ban (6.7%). No post-screen ban viewing figures were provided for this girl. Before the screen ban, Girl 12 was shown on video watching TV with her brother. They were also seen using the computer. After the TV was removed, she entertained herself by drawing. The family also listened to the radio after the TV had first been taken away. Girl 12 also attended after-school clubs. Her parents' main concern initially was centred on the weekend. The family normally watched TV on Saturday mornings. On the first Saturday without TV, the children played Twister and then played with their guinea pigs. The family later took a bike ride in a local park. This exercise tired the children who were ready for bed by the early evening.

Conclusions

Two weeks of TV, personal computers and computer game deprivation in a small number of family households was found to have produced interesting effects on the way families used their time and on certain internal family dynamics.

There is compelling evidence from activity diaries maintained by participants and from the personal video observations of participants themselves that enforced abstinence from television caused families to conduct a re-appraisal of the way they use their time and interact with each other.

The absence of TV, personal computers and computer games resulted in children in participating households using audio forms of entertainment as a partial substitute for audio-visual entertainment, reading slightly more than usual and engaging interactively in games with other family members. The substitution of audio and print media for audio-visual media appeared to be a temporary fix that was applied during the period of the screen ban. After this ban had ended consumption of these other media returned to more usual levels.

The absence of TV, computers and computer games meant that family members were encouraged to seek other ways of amusing themselves, many of which entailed them doing more things together as a family. They engaged in more sociable activities inside and outside the home and appeared to enjoy the company of each other more than they had for a long time.

The major benefits of this experience for families were showing them that they could manage without screen-based entertainment and demonstrating to them how they had fallen into the habit of using television without deliberation as a noise maker and child control device. Television would demand their attention so acutely that they could and would ignore other family members. The removal of television revealed to them, perhaps, just how much they had been missing as a family. Without the distraction of television, these families learned to appreciate each other more. They learned that there were many more active things they could be doing with their time and were often more fulfilling than watching television.

Of course, the benefits of this experience varied between the families that took part. There were shared experiences, such as observations that doing things together as a family were often more fun than watching even favourite TV programmes or that when there was no TV, the kids went to bed more readily. But the benefits of this experience depended upon the starting points of different families in respect of how dependent they were already on TV and on the extent to which they engaged in a range of other activities together. There was some interesting evidence that the most introverted child in the group (Girl 2) had perhaps begun to emerge from her shell during the screen ban and that the additional attention she received from her parents could have played a part in this outcome.

This experience did not demonstrate that television is an inherently bad thing. In fact, virtually all the televised families who took part in the deprivation condition acknowledged that television could bring some very positive experiences and was highly valued for specific types of programming. They also recognised how they had allowed themselves to become habitual users of this medium and all too often switched it on without thinking in advance about why they were doing so.

In its absence, there was silence. Silence could lead to calmness and clarity of thought and facilitate or even demand creativity in the way they used their time. Often this had very positive results for the family. The TV would prove so distracting that they would ignore each other and fail to bother to think of alternative ways of filling their time.

While parents used television to control their children before the ban, the absence of television had demonstrated how certain of their children's behaviours, not least going to bed without making fuss or getting ready quickly and efficiently for school, could be more readily managed in the absence of TV. While no effects were measured in respect of children's school behaviour, there were signs that in the absence of TV, some of these children got stuck into their homework more enthusiastically and proactively. Should such behaviour persist, one could hypothesise that it would eventually reap positive benefits for school performance.

The most important lesson learned by the participants of this study, however, was possibly that it is family life that really counts. If children – even from stable households - misbehave or lose focus, and inevitably they will from time to time, often the roots are to be found in the nature of the attention they receive from their parents. TV can be an easy way of keeping the peace, but ultimately children need to feel valued. This feeling is reinforced when the family works together as a unit to entertain each other rather than relying on technology to do so.

APPENDIX A: HOUSEHOLD AUDIT

1. TYPE OF PROPERTY	PLEASE TICK
01 Detached house 3+ bedrooms	
02 Detached house less than 3 bedrooms	
03 Bungalow 3+ bedrooms	
04 Bungalow less than 3 bedrooms	
05 Semi-detached house 3+ bedrooms	
06 Semi-detached house less than 3 bedrooms	
07 Terraced house 3+ bedrooms	
08 Terraced house less than 3 bedrooms	

2. IS THE PROPERTY OWNED OR RENTED?	PLEASE TICK
01 Owned	
02 Rented	

3. HOW LONG HAVE HOUSEHOLDERS LIVED IN PROPERTY?	PLEASE TICK
01 Up to one year	
02 More than one year and up to three years	
03 More than three years and up to five years	
04 More than five years	

4. NUMBER OF PEOPLE (UNDER AND OVER 18) LIVING IN HOUSEHOLD	PLEASE TICK
01 Two	
02 Three	
03 Four	
04 Five	
05 Six	
06 Seven or more	

5. NUMBER OF ADULTS (OVER 18) LIVING IN HOUSEHOLD	PLEASE TICK
01 One	
02 Two	
03 Three	
04 Four or more	

6. NUMBER OF CHILDREN (UNDER 18) LIVING IN HOUSEHOLD	PLEASE TICK
01 One	
02 Two	
03 Three	
04 Four or more	

7. NUMBER OF TV SETS IN HOUSEHOLD	PLEASE TICK
01 One	
02 Two	
03 Three	
04 Four or more	

8. HOW MANY CHILDREN IN HAVE TV SETS IN THEIR BEDROOMS?	PLEASE TICK
01 One	
02 Two	
03 Three	
04 Four or more	

9. DOES THE CHILD INVOLVED IN THE STUDY HAVE A TV SET IN THEIR BEDROOM?	PLEASE TICK
01 Yes	
02 No	

10. DOES HOUSEHOLD POSSESS ANY OF FOLLOWING ITEMS OF EQUIPMENT?	PLEASE ENTER NUMBER OWNED
01. Desk-top computer	
02. Laptop computer	
03. Video recorder	
04. DVD player	
05. DVD recorder	
06. Sky Plus	
07. Sky Digital or cable TV reception	
08. Digital camera	
09. Computer games	
10. Computer games console	
11. Pre-recorded videotapes	
12. Movies/TV programmes on DVDs	

11. DOES THE CHILD INVOLVED IN THE STUDY HAVE A COMPUTER AND/OR GAMES CONSOLE IN THEIR BEDROOM?	PLEASE TICK
01 Yes	
02 No	

APPENDIX B: WEEKLY ACTIVITIES DIARY

KEY TO ACTIVITIES

Mark each box in the diary with the number appropriate to the activity you engaged in for each half hour period.

- | | |
|----------------------------------|---|
| 1. Watched television | 18. Did school homework |
| 2. Played video/computer game | 19. At school/college/work |
| 3. Used computer to surf the web | 20. After hours activity at school |
| 4. Used computer to do work | 21. Played games at home with my family |
| 5. Listened to radio | 22. Spent time with friends at home |
| 6. Listened to music | 23. Spent time with friends outside home |
| 7. Read book | 24. Played sport |
| 8. Read newspaper | 25. Outside home walking |
| 9. Read magazine/comic | 26. Spent time at club I belong to |
| 10. Played musical instrument | 27. Went out for meal |
| 11. Talked on home phone | 28. Went out for a drink |
| 12. Talked on mobile phone | 29. Driving car/travelling in car |
| 13. Texted someone on mobile | 30. Travelling to/from work/school by public transport |
| 14. Played games on mobile | 31. Other (Please state in the diary box what you were doing) |
| 15. Sleeping | |
| 16. Eating/drinking in home | |
| 17. Washing/bathing self | |

DATE : DAY TIME

6:00 AM – 6:00 PM

<i>6:00 – 6:30 am</i>	<i>6:30 – 7:00 am</i>	<i>7:00 – 7:30 am</i>
<i>7:30 – 8:00 am</i>	<i>8:00 – 8:30 am</i>	<i>8:30 – 9:00 am</i>
<i>9:00 – 9:30 am</i>	<i>9:30 – 10:00 am</i>	<i>10:00 – 10:30 am</i>
<i>10:30 – 11:00 am</i>	<i>11:00 – 11:30 am</i>	<i>11:30 – 12:00 midday</i>
<i>12:00 – 12:30 pm</i>	<i>12:30 – 1:00 pm</i>	<i>1:00 – 1:30 pm</i>
<i>1:30 – 2:00 pm</i>	<i>2:00 – 2:30 pm</i>	<i>2:30 – 3:00 pm</i>
<i>3:00 – 3:30 pm</i>	<i>3:30 – 4:00 pm</i>	<i>4:00 – 4:30 pm</i>
<i>4:30 – 5:00 pm</i>	<i>5:00 – 5:30 pm</i>	<i>5:30 – 6:00 pm</i>

KEY TO ACTIVITIES

Mark each box in the diary with the number appropriate to the activity you engaged in the half hour period.

- | | |
|------------------------------------|---|
| 1. Watched television | 21. Played games at home with my family |
| 2. Played video/computer game | 22. Spent time with friends at home |
| 3. Used computer to surf the web | 23. Spent time with friends outside home |
| 4. Used computer to do work | 24. Played sport |
| 5. Listened to radio | 25. Outside home walking |
| 6. Listened to music | 26. Spent time at club I belong to |
| 7. Read book | 27. Went out for meal |
| 8. Read newspaper | 28. Went out for a drink |
| 9. Read magazine/comic | 29. Driving car/travelling in car |
| 10. Played musical instrument | 30. Travelling to/from work/school by public transport |
| 11. Talked on home phone | 31. Other (Please state in the diary box what you were doing) |
| 12. Talked on mobile phone | |
| 13. Texted someone on mobile | |
| 14. Played games on mobile | |
| 15. Sleeping | |
| 16. Eating/drinking in home | |
| 17. Washing/bathing self | |
| 18. Did school homework | |
| 19. At school/college/work | |
| 20. After hours activity at school | |

<div style="text-align: center;"> <h1 style="margin: 0;">NIGHT</h1> <p>DATE:</p> <p>6:00 PM – 6:00 AM</p> </div>		
6:00 – 6:30 pm	6:30 – 7:00 pm	7:00 – 7:30 pm
7:30 – 8:00 pm	8:00 – 8:30 pm	8:30 – 9:00 pm
9:00 – 9:30 pm	9:30 – 10:00 pm	10:00 – 10:30 pm
10:30 – 11:00 pm	11:00 – 11:30 pm	11:30 – 12:00 midnight
12:00 – 12:30 am	12:30 – 1:00 am	1:00 – 1:30 am
1:30 – 2:00 am	2:00 – 2:30 am	2:30 – 3:00 am
3:00 – 3:30 am	3:30 – 4:00 am	4:00 – 4:30 am
4:30 – 5:00 am	5:00 – 5:30 am	5:30 – 6:00 am

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