

The Diversifying Use of Media by Children: A Report on the 2003 Children's Time Use Survey

NAKANO Sachiko

Few surveys have previously aimed to establish a scientific grasp of the day-to-day life of infants and children raised in a social environment undergoing diverse changes, not least in terms of its media environment. The NHK Broadcasting Culture Research Institute's "Better Broadcasting for Children" project was conceived in order to clarify the relationships between media information and children's development. In collaboration with external researchers, it investigates the impact of visual media such as television, videos, and electronic games, which have become an inextricable part of children's daily lives, on their mental and physical development. Based on scientific findings thus revealed, the project further aims to enable the creation of a healthy information environment for children. The Children's Time Use Survey, therefore, was organized and conducted in order to provide the requisite basic data on children's daily activities on which to base the project. It had been twenty-four years since NHK had last conducted this kind of survey, the previous instance being the "Children and Television"¹ survey of 1979. These twenty-four years, and the 1990s in particular, marked "a period during which the media world experienced transformation of unprecedented scale and pace" and during which, at the same time, dramatic changes occurred in the family and educational environments in which children are raised.² The findings of the 2003 survey include data that clearly illustrate the contemporary features of children's day-to-day life that reflect these changes in the times. This paper reports on the results of the survey with reference to such issues. The outline of the survey is as follows:

¹ Both the 2003 Children's Time Use Survey and the previous "Children and Television" survey investigated time use; however, since survey methods and topics covered were completely different, it has not been possible to conduct direct time series comparisons of doers ratios and average times.

² See Kodaira Sachiko, "Kodomo to terebi kenkyu: Gojunen no kiseki to kosatsu" [Studies on Children and Television in Japan: The Fifty Years of Television with Some Observations], *NHK Hoso Bunka Kenkyujo nempo* (annual bulletin of the NHK Broadcasting Culture Research Institute), no. 47, 2003.

Date of survey: March 2 (Sun.)–March 3 (Mon.), 2003

Survey target: Children over the age of 4 months who have not yet entered school (born between April 1996 and October 2002) living in the Tokyo metropolitan area (within 50 kilometers of Tokyo)

Survey sample: Stratified two-stage random sampling from the Basic Resident Register.

1,500 subjects (10 subjects x 150 locations)

Survey method: Placement method. Survey sheets using the same format as the National Time Use Survey conducted by NHK every five years (where the names of activities are printed on a diary-style survey sheet and a line drawn in the appropriate row at fifteen-minute intervals) were used. The surveys were completed by a guardian of the survey target child.

Number of valid surveys (percentage): 1,144 subjects (76.3 percent)

The activities surveyed are listed in figure 1. In order to investigate the link between the television viewing habits of children and their guardians, guardians were asked to describe their own viewing habits in addition to those of their children.

THE CHILD'S HOUSEHOLD: BREAKDOWN OF THE SAMPLE

Prior to proceeding with the analysis of children's daily activities, the paper first outlines certain attributes of the surveyed children and their guardians.

Firstly, among the "guardian[s] principally responsible for raising the child" who filled in the questionnaire, 39 percent were in the 30–34 age bracket, comprising the largest age grouping, with a further 32 percent in the 35–39 age bracket, such that over 70 percent of guardians were in their thirties. Ninety-six percent of guardians were the children's mothers.

Secondly, with respect to the employment circumstances of the mothers (fig. 2), 64 percent of the mothers of all children were full-time housewives. As the age of the child increases, however, the proportion of full-time housewives decreases and that of mothers with part-time jobs rises. The proportion of mothers with full-time jobs remains between 10–16 percent regardless of the child's age (except for children aged zero).

Concerning the children themselves, with respect to siblings, 31 percent were only children with no siblings, 44 percent had only elder siblings, 19 percent only younger siblings, and 6 percent both elder and younger siblings. Half of the children, therefore, had elder siblings.

Figure 1. Children's Time Use Survey: Activity Classification**(1) Children's activities**

| | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| At Home | Time spent at home or in the garden |
| Sleep | Sleep at night; naps; catnaps (longer than 30 minutes) |
| Meals | Breakfast; lunch; dinner; eating between meals; breast feeding; snacks; eating out |
| Personal chores | Lavatory; diaper changes; shower; hair cut, etc. |
| Kindergarten/daycare | (Includes travel between home and preschool, and eating, sleeping etc., at preschool) |
| Out with parents | Accompanied a parent on daily business outside the home |
| Television | (Time when the child was judged to be actually watching and listening to the television) |
| Solitary television | Time when only the child watched television |
| Video | Watching videos, video disks or DVDs (does not include video recording) |
| Solitary video | Time when only the child watched videos |
| Electronic games | Using television, computer or portable electronic games |
| Solitary electronic games | Time when only the child played electronic games |
| Picture books/comics | Looked at or read picture books or comics |
| Radio/CD | Listened to the radio, CDs, MDs, or cassettes |
| Outdoor play | Play in parks or the garden; bicycle or tricycle riding; walks |
| Indoor play | Indoor play at home, a friend's home, or a relative's home, helping around the house, or putting away playthings |
| Play in unknown location | Play when it is not known whether outdoor or indoor |
| Hobbies and pursuits | Sport or music lessons; cram school; children's learning materials; practice at home |
| Excursions | Went to sightseeing spots, amusement parks, or zoos; festivals; drives; hiking; trips; entertainment or events; cinema or theater, etc. |
| Rests | Sleep for less than 30 minutes; doing nothing in particular; peevish behavior, etc. |
| Convalescence and recuperation | Going to a hospital or doctor; medical examination or treatment; in hospital or in bed with illness; vaccinations or health checks |
| Activity unknown | Time when neither guardian nor child remembers what the child was doing |
| Other | Activity that is not classifiable under any of the above |

(2) Television or video viewing by the guardian

| | |
|----------------------------|---------------------------------------------------------------------------------|
| Television: With the child | Time when the guardian watched television together with the survey target child |
| Video: With the child | Time when the guardian watched videos together with the survey target child |

Figure 2. Mothers' Employment Circumstances (by Child's Age)

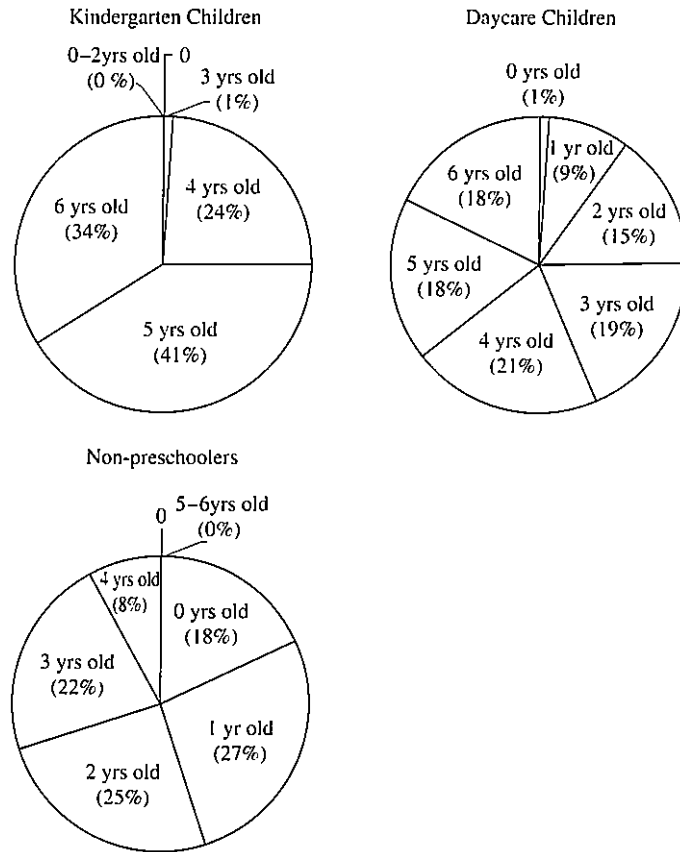
| | Full-time Housewife | Part-time Job | Agriculture/ Family Business/ Self-employed | Other/No answer |
|-----------|---------------------|---------------|---------------------------------------------------|-----------------|
| All | 64% | 17 | 12 | 5 |
| 0 yrs old | 77 | 2 | 8 | 8 |
| 1 yr old | 76 | 5 | 12 | 4 |
| 2 yrs old | 67 | 18 | 10 | 3 |
| 3 yrs old | 65 | 18 | 10 | 4 |
| 4 yrs old | 57 | 21 | 16 | 3 |
| 5 yrs old | 60 | 19 | 10 | 7 |
| 6 yrs old | 48 | 29 | 12 | 6 |

With respect to preschool, 45 percent of 4 year-olds, 76 percent of 5 year-olds, and 72 percent of 6 year-olds attended kindergarten (*yochien*). Between 20–30 percent of children aged 2 years and over attended daycare (*hoikusho*). Separating the children according to whether they attended kindergarten, daycare, or neither, and looking at how these groups are composed by age, it is evident that almost all children attending kindergarten are between 4 and 6 years old, while over 90 percent of children attending neither kindergarten nor daycare (hereafter, “non-preschoolers”) are aged 3 or below (fig. 3).

ONE DAY IN THE LIFE OF A CHILD

The following section of the paper analyzes children's daily activities. Tracing trends in the “doers ratio” (the percentage of the sample which engages in even a small amount of a specific activity during the course of one day) by time of day for each daily activity on a weekday (Monday), we first outline the pattern of activity over the course of one day. While there were of course differences in daily schedules according to age, there were also significant differences according to whether or not a child attended preschool of any kind, as well as to whether the attended preschool was kindergarten or daycare. The

Figure 3. Breakdown of Kindergarten, Daycare, and Non-preschool Children by Age (%)



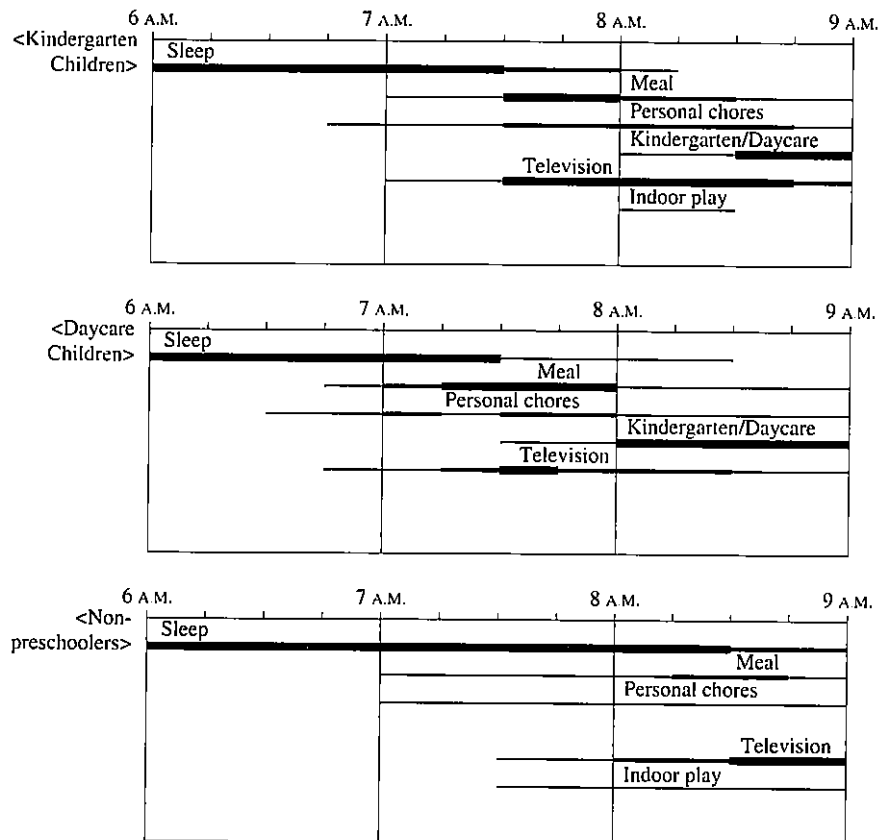
following analysis was, as a rule, conducted according to type of pre-school attended.

Early Morning Activity

Figure 4 shows the principal activities during the early morning (6 A.M. to 9 A.M.) represented by a line marking the period during which more than a certain number of subjects engaged in the activity concerned. A thicker line represents a greater number of subjects engaging in the activity. This figure gives an approximate picture of the pattern of a day's activities.

On Monday, "standard rising time"—the time of day when the total number of children sleeping has fallen below 50 percent—is 7:30 A.M. for kinder-

Figure 4. Early Morning Activity (by Preschool; Monday)

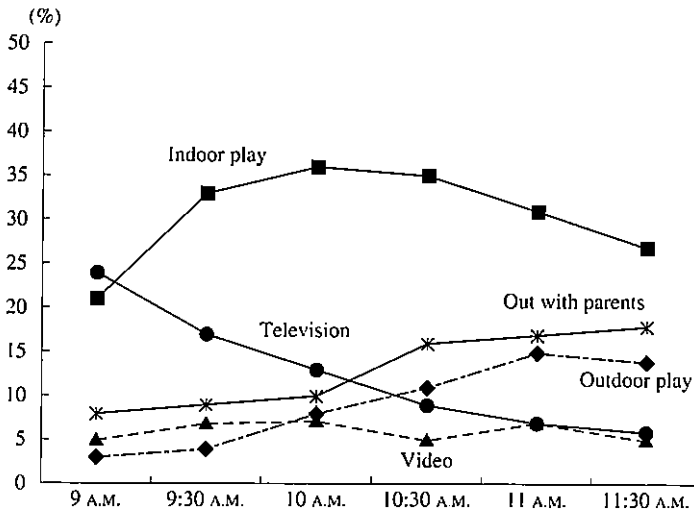


Note: Does Ratio by Time of Day (15 minute intervals)

— 5-19% — 20-30% — More than 30% engaged in the indicated activity

garten children, 7 A.M. for daycare children, and 8 A.M. for non-preschool children. After rising, for kindergarten and daycare children, eating the morning meal and personal chores (washing, brushing teeth, etc.) are at their peak during the period before 8 A.M. After this, the peak period for television viewing for kindergarten children continues until about 8:30 A.M., after which more than 30 percent of the children leave home for kindergarten. More than 30 percent of daycare children, however, have already left home for daycare at 8 A.M., taking less time to complete the succession of activities between rising and leaving home than kindergarten children. Non-preschoolers are able to rise later as there is no need for them to leave home by a certain time and,

Figure 5. Doers Ratio by Time of Day for Media Use and Play (Non-preschoolers; Monday; 30 minute intervals)



consequently, the peak periods for breakfast and television viewing also fall later, both after 8 A.M.

Morning–Early Evening Activity

After 9 A.M., while over 90 percent of both kindergarten children and daycare children each are at these facilities and involved in activities there,³ non-preschoolers mainly spend their time playing indoors (fig. 5). However, a certain proportion of non-preschoolers (5–18 percent) are, at all times, either having breakfast, doing their personal chores, or out of the house (for example, taken shopping by their parents). There is no concentration on a particular activity, with type of activity varying widely from child to child. As for the television and video viewing of this group, between 9 A.M. and 10 A.M. television viewing decreases while indoor play increases. After 10 A.M., both indoor play and television viewing taper off, while going out with parents and outdoor play gradually increase. The percentage of non-preschool children

³ For the purposes of this survey, all time spent at kindergarten and daycare is classified as the activity "Kindergarten and Daycare." Consequently, the survey has obtained no information regarding children's activities, such as sleep, eating meals, play or media use, while at preschool.

watching videos, moreover, remains between 5–7 percent throughout the morning.

In the afternoon, both kindergarten and daycare children return home, but at quite different times. “Standard leaving time”—the time when the number of children at either kindergarten or daycare has fallen below 50 percent—is 2:30 P.M. for kindergarten children and 5:30 P.M. for daycare children. One in four daycare children (26 percent), moreover, stay at their daycare center beyond 6 P.M. Consequently, there is a difference of roughly 3 hours between the average amounts of time children spend at kindergarten (5 hours 37 minutes) and at daycare (8 hours 26 minutes).

A high proportion of kindergarten children, returning home earlier than daycare children, have an afternoon snack at about 3 P.M. and then play indoors.⁴ Between 5–10 percent of children watch videos and/or play electronic games between 3 P.M. and 6 P.M. The same percentage also engages in “hobbies and pursuits.” Compared to the children who remain at daycare during this time, then, it is clear that kindergarten children have greater opportunity between afternoon and early evening to engage in a number of free activities or to be exposed to various media. For non-preschoolers, the peak afternoon nap period is between 2 P.M. and 4 P.M. After 4 P.M. the number of non-preschoolers watching television increases, with the peak period for television viewing between 4:30 P.M. and 5:15 P.M.

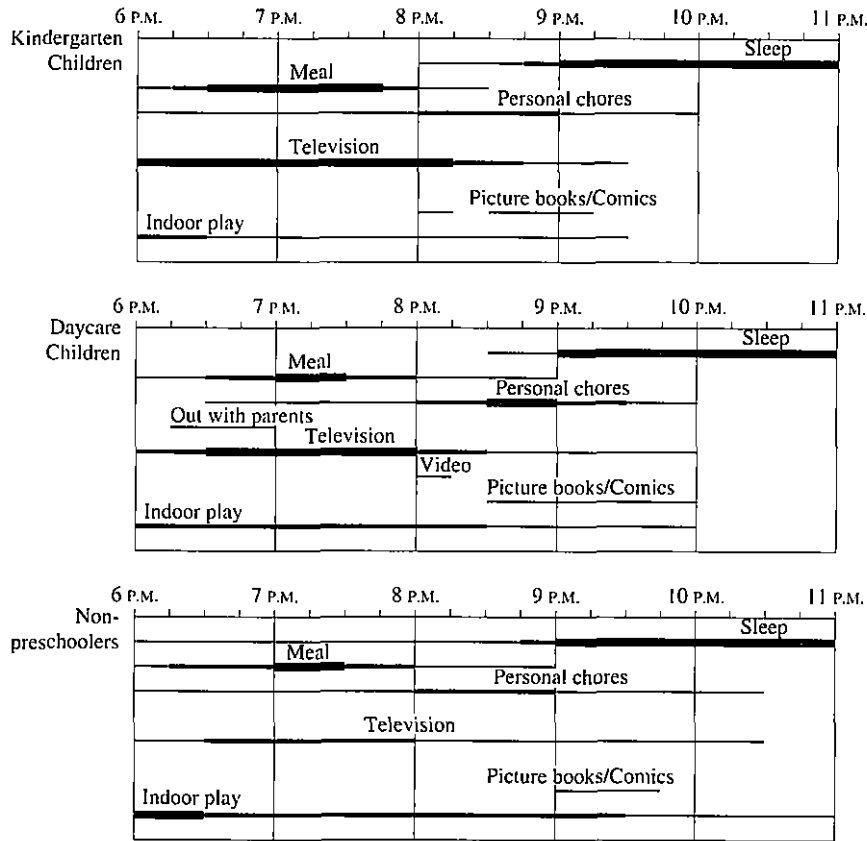
Evening Activity

After 7 P.M. on Monday evening, the peak period for the evening meal is between 7 P.M. and 7:30 P.M., with personal chores (bathing, etc.) peaking between 8 P.M. and 9 P.M., and the percentage of children going to bed rising after 9 P.M. The peak times for each activity and the sequential pattern of activities are largely the same irrespective of whether the child attends kindergarten, daycare, or neither. Evening to nighttime, therefore, is the period in the day when children’s patterns of activity show the greatest similarity (fig. 6).

The peak television-viewing period for kindergarten and daycare children is between 6 P.M. and 8 P.M., overlapping with the peak period for the evening meal. About 20 percent of children eat their evening meal while watching television. Further, the percentage of children reading or listening to picture books or comics rises between 8:30 P.M. and 10 P.M.—the period when they

⁴ The weather in the Tokyo region on the day the survey was conducted (Monday, March 3, 2003) was cloudy followed by rain. The doers ratio for “Outdoor Play” in the afternoon, therefore, was likely somewhat lower than usual. The doers ratio for “Outdoor Play” on the day was 22 percent for all children, and 14 percent for kindergarten children.

Figure 6. Evening Activity (by Preschool; Monday)



Note: Does Ratio by Time of Day (15 minute intervals)
 — 5-19% — 20-30% — More than 30% engaged in the indicated activity

begin to get ready for bed. This is likely due to their parents reading them bedtime stories.

“Standard bedtime,” when more than 50 percent of children have gone to bed, is 9 P.M. for kindergarten children, 9:30 P.M. for daycare children, and 9:45 P.M. for non-preschoolers. Thus the non-preschoolers, who are the latest risers, are also the latest to bed.

Time Distribution during the Course of One Day

The above has presented a general outline of the patterns of daily activity for children in terms of time period. The following describes the characteristics of

Figure 7. Time Distribution during One Day

| | Necessary Activity | | Supervised Activity | Free Activity | | |
|-----------------------|--------------------|-----------------------|-------------------------------|-------------------------------|-----------------------------|-------------------|
| | Sleep | Meals/Chores, etc. | Preschool/Out with parents | Mass media use (exclusive) | Play/Hobbies/ Rest, etc. | Other/ unknown |
| | Hours: minutes (%) | | | | | |
| All children | 10:44 (45) | 3:06 (13) | 4:10 (17) | 1:48 (8) | 3:39 (15) | 0:32 (2) |
| 0 yrs old | 11:51 (49) | 4:12 (18) | 1:13 (5) | 0:56 (4) | 5:09 (21) | 0:40 (3) |
| 1 yr old | 11:31 (48) | 3:26 (14) | 1:58 (8) | 1:40 (7) | 4:44 (20) | 0:40 (3) |
| 2 yrs old | 11:01 (46) | 3:14 (13) | 2:44 (11) | 1:52 (8) | 4:26 (18) | 0:42 (3) |
| 3 yrs old | 10:46 (45) | 3:09 (13) | 3:19 (14) | 2:04 (9) | 4:04 (17) | 0:38 (3) |
| 4 yrs old | 10:16 (43) | 2:49 (12) | 5:33 (23) | 1:58 (8) | 2:58 (12) | 0:27 (2) |
| 5 yrs old | 10:14 (43) | 2:40 (11) | 6:27 (27) | 1:54 (8) | 2:22 (10) | 0:22 (2) |
| 6 yrs old | 9:58 (42) | 2:36 (11) | 6:47 (28) | 1:53 (8) | 2:24 (10) | 0:21 (1) |
| Kindergarten children | 10:17 (43) | 2:49 (12) | 5:56 (25) | 1:51 (8) | 2:43 (11) | 0:24 (2) |
| Daycare children | 9:33 (40) | 2:23 (10) | 8:41 (36) | 1:22 (6) | 1:36 (7) | 0:25 (2) |
| Non-pre-schoolers | 11:31 (48) | 3:34 (15) | 1:09 (5) | 1:58 (8) | 5:07 (21) | 0:41 (3) |

Note: Figures in parenthesis () indicate the time spent on the activity in question as a proportion of twenty-four hours.

children's daily life in terms of time distribution over twenty-four hours (fig. 7).⁵

⁵ In NHK time use surveys, daily activities are classified under the following three general categories:

"Necessary Activity" = Activity that is necessary, even vital, to the maintenance and improvement of individual well-being.

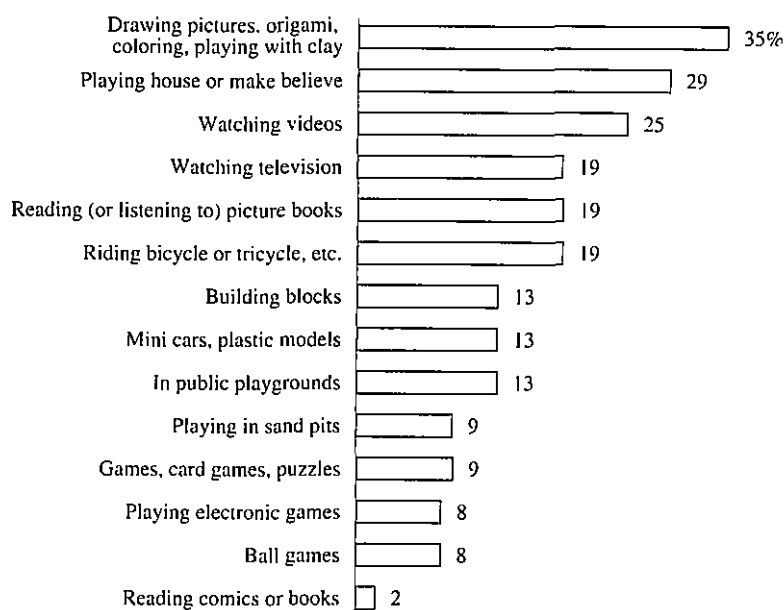
"Supervised Activity" = Activity, with a high element of duty or obligation, aimed at the maintenance and improvement of the household or society.

"Free Activity" = Activity carried out freely and at one's own discretion that maintains and improves one's humanity.

The activities of children investigated by the 2003 survey were assigned to the above three categories as follows:

Necessary Activity: "Sleep," "Meals and Personal Chores" (meals, personal grooming, and convalescence and recuperation). Supervised Activity: "Kindergarten and Daycare," "Out with Parents." Free Activity: "Mass Media Use, Exclusive" (television, video, electronic games, picture books and comics, and radio and CDs), "Play, Hobbies and Pursuits, Breaks, etc." (play, hobbies and pursuits, excursions, breaks).

When simultaneous activity spread over two or more of the general categories, priority was assigned in the order Necessary > Supervised > Free, and calculated without overlap, such that the total time spent on all activities did not exceed twenty-four hours.

Figure 8. Children's Play (All children 2 years old and over; up to 3 responses)

To begin with, the average amount of time spent asleep for all children is 10 hours 44 minutes, nearly half of one day. The younger the child, the more time spent asleep and, moreover, non-preschoolers sleep for longer than kindergarten children who, in turn, sleep longer than daycare children. The relatively short length of time spent asleep by daycare children is explained by the factors discussed in the sections “Early Morning Activity” and “Evening Activity” above, in that the length of time spent at daycare contributes to a lifestyle of rising early and going to bed late.

The amount of time spent in “supervised activity” for children either at kindergarten, at daycare, or out with parents varies greatly according to age. At 4 years old and above, when more children begin attending kindergarten, there is a marked increase in time spent in “supervised activity,” amounting to 20–30 percent of the day. There is an even greater difference in the distribution of supervised time according to type of preschool, which is also linked to variations in time asleep and free time, such as use of mass media or playtime.

As regards free activity, when divided under the broad classifications of

Figure 9. Preferred Mode of Play (by Age)

| | | % |
|-------------|-----------------------------------------|----|
| 2 years old | Watching videos | 48 |
| | Playing house or make believe | 40 |
| | Reading (or listening to) picture books | 34 |
| | Drawing, origami, etc. | 27 |
| | Playground | 26 |
| 3 years old | Playing house or make believe | 43 |
| | Drawing, origami, etc. | 42 |
| | Watching videos | 31 |
| | Reading (or listening to) picture books | 27 |
| | Bicycle/tricycle | 26 |
| 4 years old | Drawing, origami, etc. | 48 |
| | Playing house or make believe | 43 |
| | Watching videos | 32 |
| | Watching television | 28 |
| | Reading (or listening to) picture books | 27 |
| 5 years old | Drawing, origami, etc. | 61 |
| | Playing house or make believe | 37 |
| | Bicycle/tricycle | 30 |
| | Watching television | 28 |
| | Watching videos | 26 |
| 6 years old | Drawing, origami, etc. | 55 |
| | Watching television | 31 |
| | Playing electronic games | 30 |
| | Bicycle/tricycle | 29 |
| | Playing house or make believe | 26 |

“mass media use (exclusive)” and “free activity not involving mass media” such as playtime, hobbies and pursuits, and rests,⁶ between 1 and 2 hours are spent in the use of mass media as free activity regardless of age or type of preschool, showing little significant difference in time distribution. Rather, for elder children between the ages of 4 and 6 and children attending preschool,

⁶ The actual amount of time spent on “Mass Media Use,” further to time spent exclusively on use of mass media, also includes overlap with necessary activity such as meals, and with free activity such as play. For the purposes of the survey, only time spent devoted solely to mass media use has been included as “Mass Media Use as Free Activity.” Further, the amount of time spent on “Play, Hobbies and Pursuits, Breaks, etc.” is obtained by subtracting “Mass Media Use (Exclusive)” from free time.

for whom supervised time is longer and free time shorter, time spent using mass media means relatively less time spent on free activity not involving mass media. Time distribution for children over the course of one day, therefore, is to a large extent controlled by whether or not a child attends preschool, and also by whether the preschool attended is kindergarten or daycare.

Children's Play and Hobbies/Pursuits

Time spent at play, which takes up the greater part of a child's free activity, is as important to children as work is to adults, in that it is an integral and indispensable part of their daily life. One of the survey's supplementary questions concerned children's most preferred type of play, with up to three responses chosen from a list of fourteen (the question was limited to children aged 2 years and over; see figs. 8 and 9). The most popular responses from the whole sample were "Drawing pictures, origami, coloring, playing with clay" (35 percent) and "Playing house or make believe" (29 percent), followed by "Watching videos" (25 percent) and "Watching television" (19 percent). While the next most popular response was outdoor play "Riding bicycle or tricycle, etc." (19 percent), it is clear that indoor play was more popular overall.

If we look at these preferences by age, "Drawing pictures, origami, coloring, playing with clay" and "Playing house or make believe" were the most popular two categories for children aged 3–5 years. "Watching videos" was the most popular response for 2 year-olds, also figuring prominently in the preferences of 3–5 year-olds. "Watching television" was popular for 4–6 year-olds, and 6 year-olds also favored "Playing electronic games." This data is largely consistent with the features of media use explained in full later and as far as children are concerned, it seems that the use of various media represents one kind of leisure activity that generates enjoyment in the same way as other types of play.

A further supplementary question to the survey concerned "Hobbies and pursuits." Responses to this question indicate that roughly 40 percent of children aged two or over do some such pursuit, with the two most popular being "Swimming, gymnastics, or sport" (18 percent) and "Study materials received on a regular basis" (12 percent) (fig. 10). Examining this data by gender and age, while "Swimming, gymnastics, or sport" is by far the most popular for both boys and girls aged 5–6 years, there is little difference for "Study materials received on a regular basis" between age groups (fig. 11). A significant number of 5–6 year-old girls also attend classes to learn "Musical instruments." Moreover, from the results of the daily activity section of the survey, the doers ratio for hobbies and pursuits for one day—the percentage of the sample engaged in even a small amount of this activity during the course of

Figure 10. Children's Hobbies and Pursuits (All children aged 2 years old and over; multiple responses)

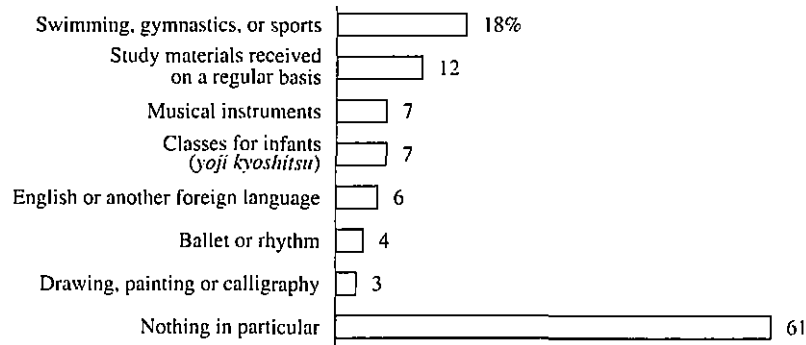


Figure 11. Children's Hobbies and Pursuits (by Age and Gender)

| Male 3-4 years old | | Female 3-4 years old | |
|-------------------------|----|-------------------------|----|
| Swimming, sport | 18 | Regular study materials | 17 |
| Classes for infants | 12 | Swimming, sport | 13 |
| Regular study materials | 10 | Musical instruments | 10 |
| Nothing in particular | 60 | Nothing in particular | 54 |
| Male 5-6 years old | | Female 5-6 years old | |
| Swimming, sport | 45 | Swimming, sport | 34 |
| Regular study materials | 17 | Musical instruments | 26 |
| Classes for infants | 12 | Regular study materials | 16 |
| Nothing in particular | 36 | Nothing in particular | 33 |

one day—was 9 percent on Monday and 5 percent on Sunday. By type of preschool, the doers ratio was highest for kindergarten children, reaching 20 percent (on Monday).

The Trend toward a More Nocturnal Lifestyle

The final part of this section of the paper touches on changes in the daily life of children, using the results of the "Children and Television" survey conducted twenty-four years previously. As is explained in footnote 1, direct comparisons of data from the two surveys are not possible; therefore, the "standard rising time" and "standard bedtime" (Monday) described above have been compared.

Standard rising time

| | 1979 | | 2003 |
|---------------|-----------|---|-----------|
| Under 1 year | 7:30 A.M. | → | 8 A.M. |
| 1–3 years old | 7:30 A.M. | → | 7:45 A.M. |
| 4–6 years old | 7:30 A.M. | → | 7:30 A.M. |

Standard bedtime

| | 1979 | | 2003 |
|---------------|--------|---|-----------|
| Under 1 year | 9 P.M. | → | 10 P.M. |
| 1–3 years old | 9 P.M. | → | 9:30 P.M. |
| 4–6 years old | 9 P.M. | → | 9:15 P.M. |

For children under 1 year and the lower age bracket, both waking and bedtime hours have shifted to later in the day. The reason why there has been no significant shift for the older age group of children (aged 4–6) is likely that their day-to-day life is built around activities that are regulated by schedules conforming to social norms; that is, by their attendance at kindergarten or day-care. The results of the National Time Use Survey confirm that bedtimes have also become later for the national total over the course of the past quarter century, revealing an overall trend toward a more nocturnal lifestyle,⁷ and it would seem that the lifestyles of children in the 0–3 years-old age group in particular, among which less children attend preschool, are being directly influenced by their parents' schedules.

CHILDREN'S USE OF MEDIA

The following focuses on the use of three media: television, videos, and electronic games.

Two out of Three Children Start Watching TV before the Age of One

Responses to the supplementary question on the age (in months) when children begin to watch television indicate that 28 percent start before they are 6 months old, and a further 38 percent between the ages of 7 months and 1 year, which means that two out of three children have already started watching television before they reach the age of 1 (fig. 12). The fact that they are watching television well before they understand their surroundings also appears to be influencing the way children interact with television.

⁷ Time series change in the standard bedtime of the national total:

1975: 10:30 P.M. → 2000: 11 P.M.

Changes in the standard bedtime of the parental generation (30–39 years old)

1975: 11 P.M. → 2000: 11:45 P.M.

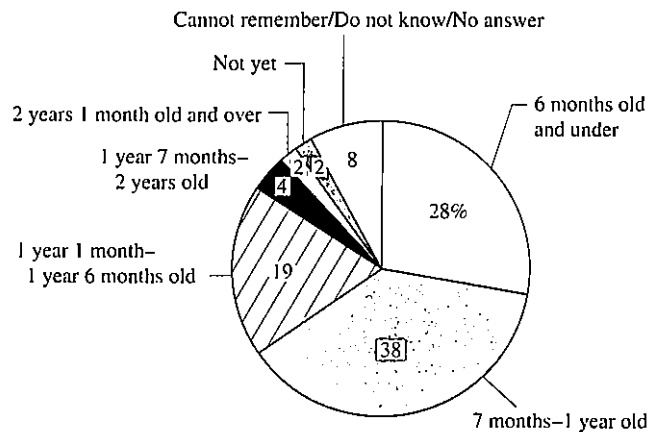
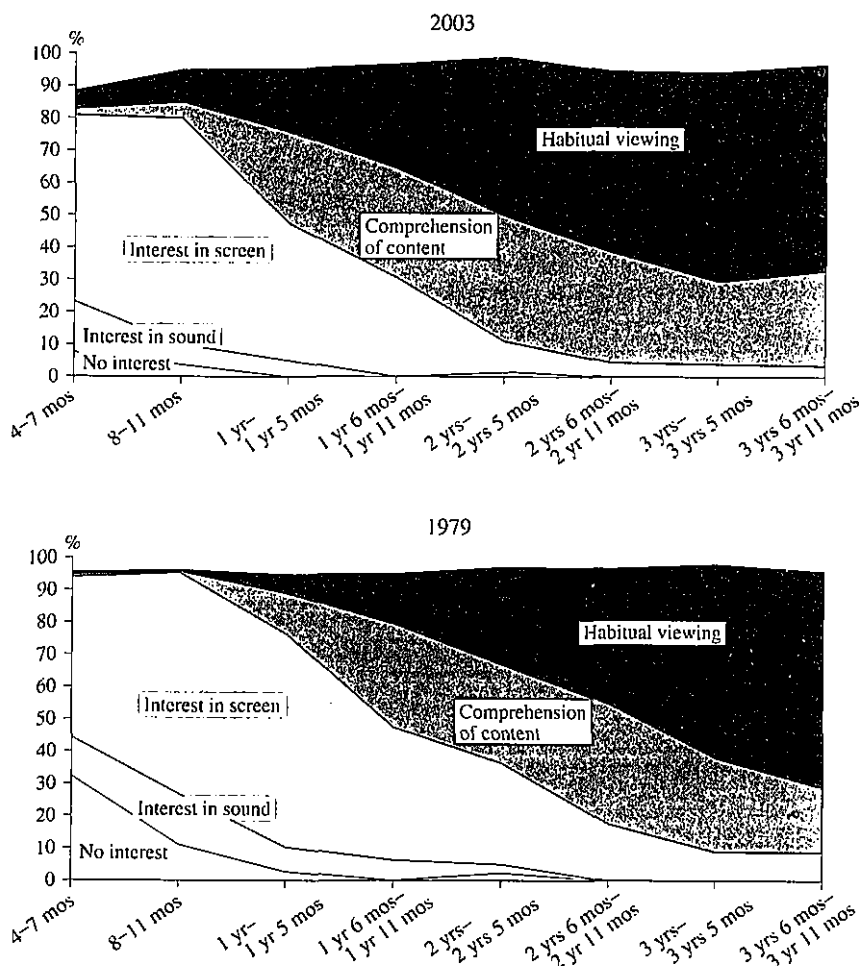
Figure 12. Starting Age of Television Viewing

Figure 13 shows, by age, the successive stages of interaction with television today for children less than 4 years old. As the same question was asked in the 1979 "Children and Television" survey, it has been possible to compare the results. Today (2003), more than half (57 percent) of children 4-7 months old have begun to display "an interest in the television screen," while one tenth of children 8-11 months old already "basically know what programs they want to watch," a response that indicates that television viewing has become habitual. When compared to the results of the 1979 survey, the proportion of 0 year-old children with "no interest in television whatsoever" has greatly decreased (4-7 months: from 33 percent to 7 percent; 8-11 months: from 11 percent to 3 percent), while children 8-11 months old who have begun to understand "a certain amount of television content" (from 1 percent to 5 percent) and who "basically know what programs they want to watch" (from 0 percent to 10 percent) have both increased (or, perhaps, one might say, "developed"). In other words, compared to twenty-four years previously, today the process whereby television becomes part of a child's life progresses rapidly, beginning at the extremely early stage of 0-1 years old.

The next supplementary question concerned the reactions displayed by the same group of children, those less than 4 years old, while watching television (multiple answer; fig. 14). The earliest forms of mimicry displayed by children were "mimicking clapping" and "mimicking bodily movement," with 30 percent of 8-11 month-old children, and 70 percent of children between 1 year and 1 year 6 months old, exhibiting these responses. These were followed by "mimicking singing" and "mimicking words," both of which

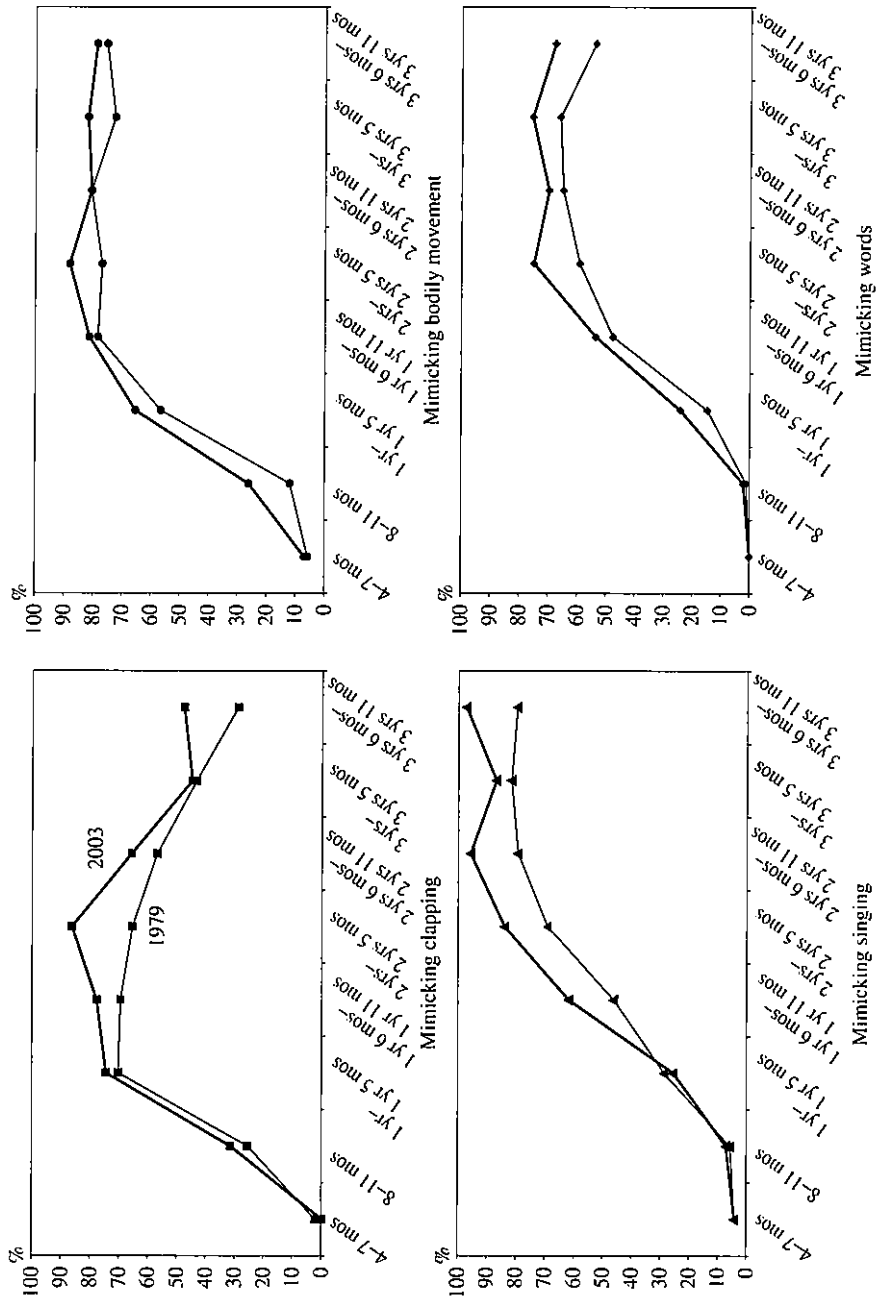
Figure 13. Development of Television Viewing Habits (Comparison of 1979 and 2003)



Note: Habitual viewing = Basically knows what programs he/she wants to watch

involve the use of words, and which start to become evident in children between 1 year and 1 year 6 months old, going on to be displayed by 80 percent of children between 2 years and 2 years 6 months old. Comparing these results to those of the 1979 survey, it is clear that children have started to exhibit these various reactions at slightly earlier ages respectively. The age by which more than half the children surveyed had begun to mimic songs and words, for example, had moved forward in both cases from the first half of

Figure 14. Television Viewing Reaction Behavior (Comparison of 1979 and 2003)



their third year to the latter half of their second year. Opinion remains divided over whether or not exposure to television from an earlier age actually quickens the development of children's cognitive faculties. However, while it is certainly the case that the answers to the survey on these reactions and other topics are influenced by the subjective judgments of the children's guardians, it is surely not an exaggeration to say that due to the contemporary raising of children in environments where from soon after birth they are never far from a television, a trend towards earlier initial television viewing, where children begin watching television well before the age of 1 year, and concomitant changes in their viewing habits, are clearly evident.

Television Viewing Time of more than 2 Two Hours

The following examines the specifics of television viewing during the course of one day. For the purposes of this survey, the activity of "watching television" indicates that the guardian has judged that the child concerned is "actually watching and listening to the television," and does not include situations where the television is merely switched on.

The doers ratio and amount of time for children's television viewing (on Monday and Sunday) is shown in figure 15. Despite their young age, between 80-90 percent of children 1 year old and over, and 68 percent of children less than 1 year old, watch television. The average television viewing time for all children (the average time spent watching television for all survey targets including those who do not watch television) is 2 hours 12 minutes on Monday, and 2 hours 3 minutes on Sunday. There is little difference by age in viewing time on Monday; on Sunday, however, viewing time is slightly longer for older children aged 4 and over.

On the question of whether television viewing takes place simultaneously with other activities such as eating meals or playing, or whether viewing is exclusive, survey results indicate that "simultaneous viewing" comprises roughly half of all viewing. As the children become older, however, the proportion of exclusive viewing increases somewhat. As regards other activities during "simultaneous viewing," it is common for younger children to play while viewing, while eating meals is more common for older children.

Forty Percent of Children Watch Videos

The following concerns video viewing (fig. 16). The doers ratio for all children was 39 percent on Monday and 41 percent on Sunday, and the doers average time (the average amount of time only for subjects who watched videos, even if only a little) was 1 hour 16 minutes on Monday and 1 hour 20 minutes on Sunday. When this is compared to the results of the National Time

Figure 15. Television Viewing Time (Amount) and Doers Ratio (by Age)

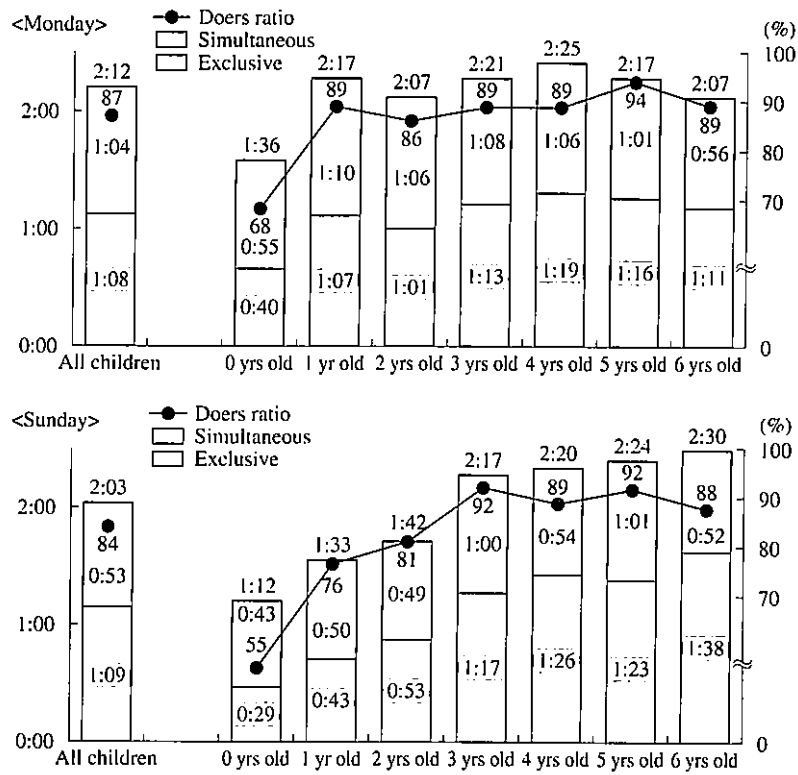
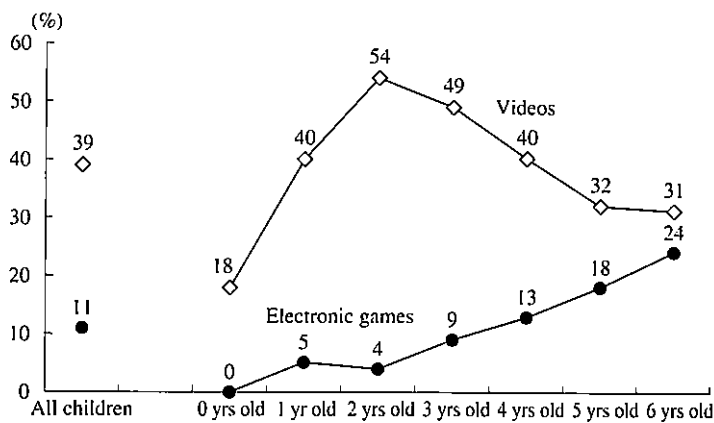


Figure 16. Doers Ratio for Videos and Electronic Games (by Age; Monday)



Use Survey (2000), which found that the doers ratio for video viewing for all respondents aged 10 and over was 7 percent on a weekday, the number of small children watching videos is clearly extremely high.

By age, the peak video doers ratio is claimed by 2 year-olds (54 percent; Monday). The doers ratio for children less than 1 year old, moreover, was 18 percent (Monday).

One out of Four 6 Year-olds Play Electronic Games.

The percentage of children using electronic games is 11 percent on Monday and 13 percent on Sunday (fig. 16). The doers average time was 1 hour 1 minute on Monday and 1 hour 13 minutes on Sunday. By age, however, it seems that use of electronic games is preponderant among older children—because such games require some manual dexterity—with, in particular, a quarter of 6 year-olds using them. Further, when siblings are taken into consideration, with the doers ratio (Monday) for children with no siblings at 4 percent, children with only elder siblings at 16 percent, and children with only younger siblings at 8 percent, it would appear that the use of electronic games by elder siblings increases the opportunities for children to use them.

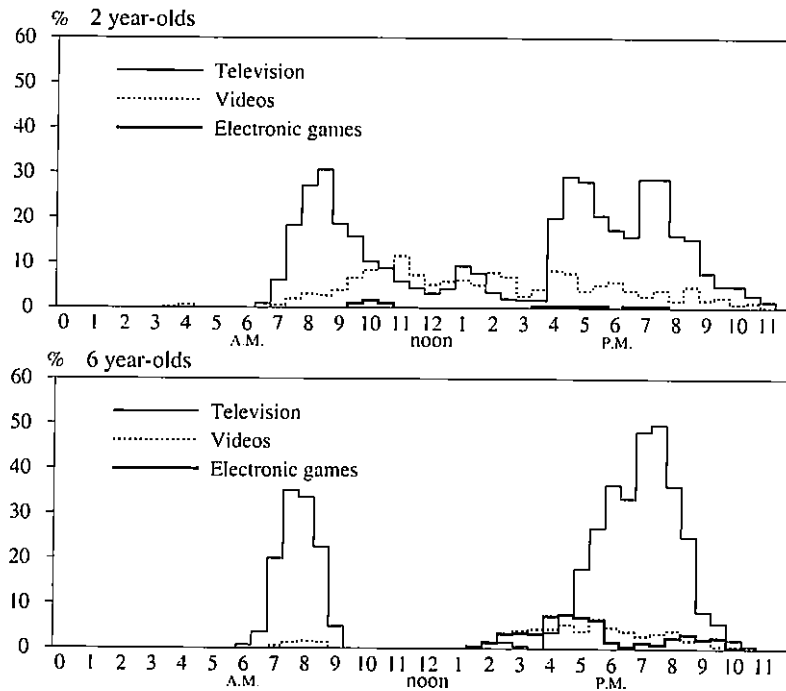
Changes in the Time of Day of Media Use

How, then, are television, videos, and electronic games being viewed or used during the course of a day? Since we have established that patterns of peak television viewing can be broadly divided between the younger and older children in the sample, the following takes 2 year-olds to represent the younger group and 6 year-olds the older and examines changes in the hours of viewing or use (fig. 17).

Beginning with television, a great deal of television viewing occurs in the early morning and early to late evening periods for both 2 year-olds and 6 year-olds. However, while the peak viewing period in the morning for 2 year-olds is between 8 A.M. and 9 A.M., for 6 year-olds it is from 7:30 A.M. to 8:30 A.M., showing a slight discrepancy. This no doubt reflects the fact that, as we saw earlier, the day starts at a different hour for 2 year-olds, nearly none of whom attend preschool, and 6 year-olds, nearly all of whom attend kindergarten or daycare.

Again, in the evening, while the viewing time of 2 year-olds peaks twice—between 4 P.M. and 6 P.M. and then between 7 P.M. and 8 P.M.—the viewing time of 6 year-olds starts to increase after 5 P.M., peaking between 7 P.M. and 8 P.M. The double peak for 2 year-olds can be explained by the fact that children's educational television programs such as *Okasan to issho* [With Mother], which are broadcast between 4 P.M. and 6 P.M., are popular with

Figure 17. Average Doers Ratio for Television, Videos and Electronic Games at 30 minute intervals (2 year-olds and 6 year-olds)



young children. In general, peak television viewing times are determined to a large extent by the physical conditions of both being at home and having relatively free time at one's disposal. One feature of children's television viewing, however, is that it is not only controlled by such physical conditions, but that viewing is also concentrated at times when programs popular with children are being broadcast. Moreover, differences in peak viewing times for older and younger children are linked to the fact that different programs are popular with the two age groups.

With respect to video viewing, 5–12 percent of 2 year-olds consistently use this media between 9 A.M., when the early morning peak television viewing time finishes, and about 7 P.M., when the evening peak television viewing time begins. Six year-olds start watching videos after returning home from kindergarten at around 3 P.M., and about 5 percent of them consistently watch videos, with a small peak at around 5 P.M. They use electronic games roughly the same amount that they use videos, with a small peak in the use of the former between 4 P.M. and 6 P.M.

It is clear that videos and electronic games are principally used between afternoon and evening (and also during the morning for 2 year-olds) during the intervals when few children's programs are being broadcast. Between the hours of 3 P.M. and 6 P.M. in particular, the majority of children—both non-preschoolers and children who have returned home from kindergarten—have free time on their hands, during which, if they like, they can enjoy videos and electronic games as they might a wide variety of other recreational pastimes or pursuits.

The Attributes and Television Viewing of the Mother

Where children's television viewing is concerned, it is pertinent to also consider the attributes and television viewing habits of the guardian who shares much of the child's daily life, and the relationship between those attributes and the viewing habits. Since 96 percent of the guardians who filled in this survey were, in fact, the child's mother, we will use the term "mother" instead of "guardian" for the sake of convenience.

Figures 18 and 19 show children's television viewing time (Monday) by mother's job type and viewing time. Further, the tables differentiate between viewing time where mother and child watch television together (Mother and child together) and other viewing time (where the child watches television alone or with another adult; because in practice the proportion of viewing by child alone in such cases is by far the greater, this has been called "Solitary viewing"). Figure 18 shows that children's viewing time is longest when their mothers are full-time housewives, followed by mothers with part-time jobs and then mothers with full-time jobs. We can assume that a mother's employment circumstances, which are closely linked to whether or not a child attends preschool, influence a child's television viewing time. Trends in television viewing by mother and child together correspond to trends in overall viewing time, with the proportion of the former staying at about 45 percent of the latter in all employment categories.

Figure 19 shows that the longer a mother's viewing time, the longer the child's. The differences between overall viewing times are greater than for the figures according to job type. The breakdown of viewing time shows that there are much greater differences between viewing times for mother and child together than for solitary viewing. That is to say that when a mother spends a lot of time watching television, a child's overall viewing time is increased to a greater extent by time spent watching television with the mother.

The children's doers ratio for television by time of day according to mother's television viewing time (fig. 20) shows that children with mothers who watch the most television are watching television over extended periods dur-

Figure 18. Television Viewing Time (Amount) by Mother's Employment Situation (average time for all respondents; Monday)

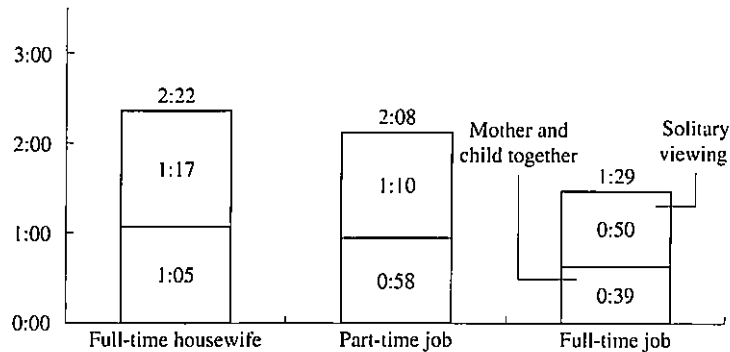
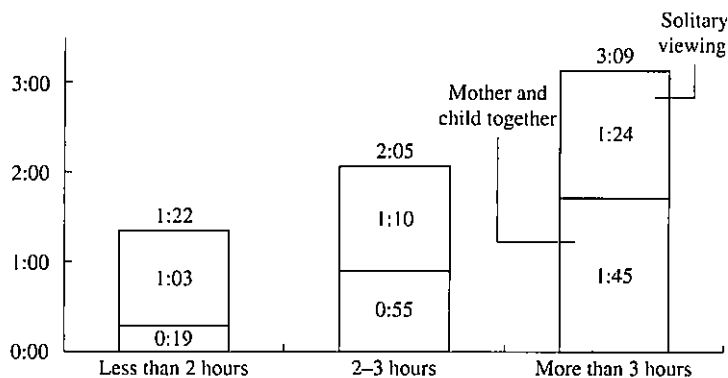


Figure 19. Television Viewing Time (Amount) by Mother's Viewing Time (average time for all respondents; Monday)

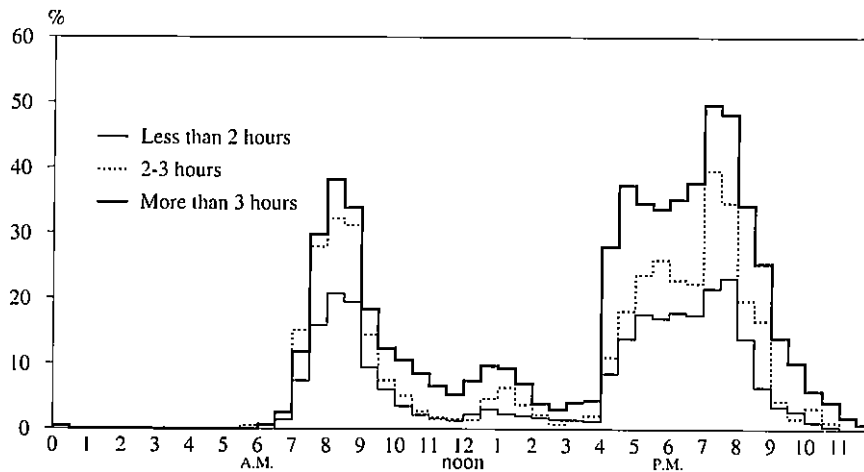


ing the day—principally from 10 A.M. until 1 P.M. and then again from 4 P.M. until 11 P.M.—and more often than the other groups. The fact that there appear to be plenty of children watching television during the day or late at night when no children's programs are being broadcast indicates that viewing time for mother and child together does not simply consist of mother and child watching children's programs together but also of children watching the programs their mothers watch.

The Increasing Diversification of Media Use

Lastly, the paper considers the changes in media use by children over the course of the past quarter century, by drawing comparisons with the results of the "Children and Television" survey conducted twenty-four years previously.

Figure 20. Doers Ratio for Children's Television Viewing by Time of Day (according to mother's viewing time (amount); Monday)



At the time of the "Children and Television" survey, the household penetration rate for video cassette recorders (VCRs) was 2 percent (Cabinet Survey on Consumer Behavior), and prior to the sale of Nintendo's "Family Computer" ("Famicon") in 1983 hardly any households had either VCRs or electronic games. Consequently, the survey made mention only of television. Since, as is explained above, direct comparisons cannot be made between television viewing times, here we compare ratios of time distribution (fig. 21). For children aged less than one year old, the proportion watching 0 minutes (that is, watching no television) had greatly decreased. This bears witness, as we saw earlier, to the way in which television viewing has come to begin at an ever earlier age over the past twenty-four years, with the amount of television viewing by children less than one year old steadily increasing. In contrast, the proportion of children one year old and over watching relatively small amounts of television (less than two hours) has increased, with that for extended viewing (three hours or more) decreasing. In other words, it seems that there has been a trend towards fewer hours spent watching television by children aged one year and over.

If we add the time spent using videos and electronic games to the recent survey's television viewing times in order to calculate "visual media exposure time," the figure comes to 2 hours 48 minutes for all children, and to roughly 3 hours for each age group excluding children less than one year old (fig. 22). This numerical value roughly corresponds to the amount of television viewing time from the 1979 survey. Figure 22 further shows that 20-30 percent of

Figure 21. Distribution of Television Viewing Time (Amount) (Comparison of 1979 and 2003; Monday)

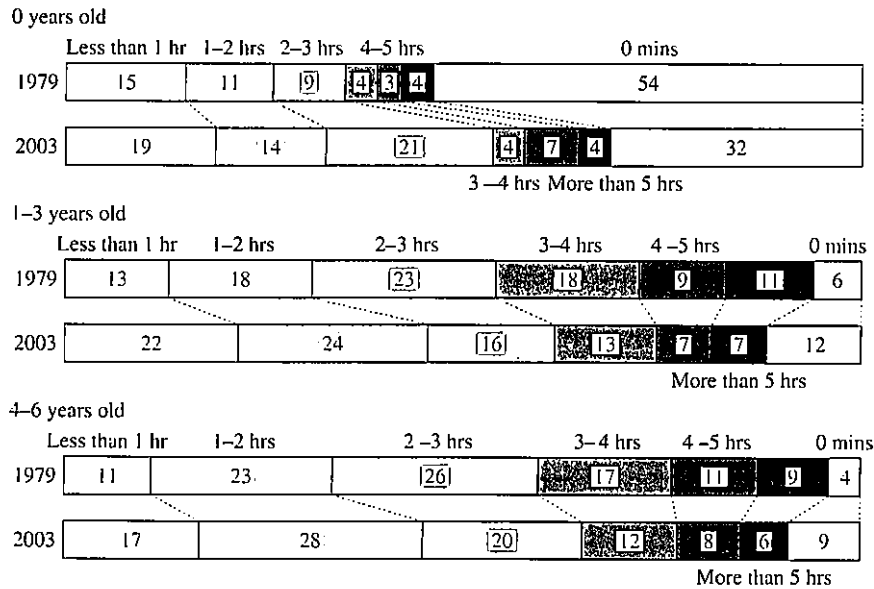
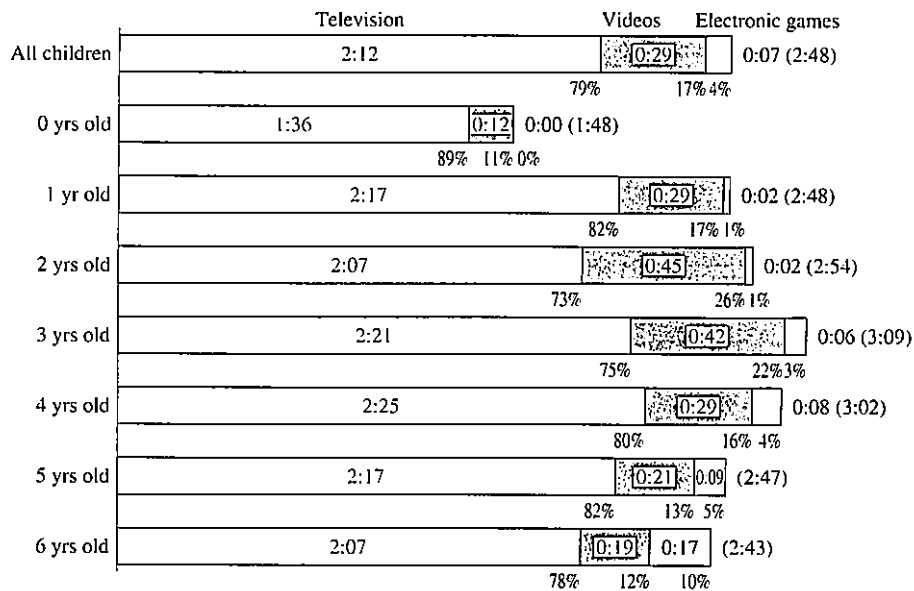


Figure 22. Visual Media Contact Time (by Age; Monday)



Note: Percentages (%) given below the bars indicate the proportion of the time spent in contact with the medium in question vis- -vis the total time spent in contact with all visual media

visual media exposure time is taken by time spent using videos or electronic games. It can, therefore, be assumed that a part of the time that was spent watching television twenty-four years ago has come to be replaced by time spent using new media that have appeared in the intervening years.

CONCLUSIONS

The results of the survey conclusively confirm both that the trend toward a more nocturnal lifestyle on the part of parents is drawing the lives of children in the same direction, and that videos and electronic games, which twenty-four years ago did not exist in most households, are now an integral feature of the daily lives not only of adults but of children as well. The former finding can conceivably be understood to reflect the state of contemporary family relations, such as the way in which parents seem less inclined to view their own use of time separately from that of their children. The latter reflects the fact that in the midst of a rapidly diversifying media environment, even the lives of children have without exception assumed a multimedia dimension.

Changes in attitudes towards media on the part of the parental generation have, of course, been identified as a major factor in the penetration of videos and electronic games into children's lives.⁸ Those in their thirties now raising children are of the generation that experienced the appearance of electronic media such as videos, CDs, and Famicons (electronic games) during their own formative years, and are well versed in acquiring and selecting information from a wide range of media, from magazines to television to the Internet.⁹ It is likely, therefore, that members of this generation have little resistance to the idea of their own children being exposed to these various media, in some cases even actively utilizing them in the raising of their children. Society, furthermore, appears to be responding to these circumstances in such a way as to even encourage media use by children, with increasing development and penetration of children's video software and the media-mix phenomenon where popular television characters also appear as characters in videos and electronic games.

⁸ On the relationships between a mother's own upbringing and the contemporary environment, and her attitude toward child rearing, see the Benesse Educational Research Center's *Kosodate seikatsu kihon chosa hokokusho* [Basic Survey on Child Rearing], 1998.

⁹ The results of the 2001 survey on "Time Use in the IT Age" shed light on the contemporary situation, where dramatic increases in the use of new media such as the Internet and mobile phones, particularly among persons in or below their thirties, are giving added impetus to the diversification of media use. For more on this see *Hoso kenkyu to chosa*, April, August, and September 2002.

This paper can only go so far as to report the above two changes and suggest possible reasons for them. However, the survey has also collected a significant amount of data that suggests that various aspects of contemporary society are being projected onto the daily lives of children. Building on the information about children's daily lives that the Children's Time Use Survey has brought into relief, it is hoped that the "Better Broadcasting for Children" project will proceed by examining in depth and detail how visual media influence the lives of children, and by clarifying the interplay of factors therein.

(Translated by Ian Martin)

"Children's Time Use Survey" Supplementary Questions

1. Objectives of the Survey
To obtain basic data clarifying the daily behavior of infants and children from birth until school entrance, including their use of various media.
2. Date of Survey
Sunday, March 2–Monday, March 3, 2003
3. Survey Method
Placement method
4. Survey Target
Children between the age of 4 months and school entrance living in the Tokyo metropolitan area (within 50 kilometers of Tokyo)
5. Survey Sample
Stratified two-stage random sampling from the Basic Resident Register
1500 subjects (10 subjects x 150 locations)
6. Number of valid surveys (percentage)
1144 subjects (76.3%)

Questions 1 and 2 are omitted as they concern basic attributes.

—Siblings—

Question 3. Does your child have any siblings?

| | |
|------------------------------------|-------|
| 1. Only elder siblings | 44.1% |
| 2. Both elder and younger siblings | 6.3 |
| 3. Only younger siblings | 19.0 |
| 4. No siblings | 30.5 |
| 5. No answer | 0.2 |

—Living with grandparents—

Question 4. Does your child live in the same house as his/her grandparents?

| | |
|--------------|-------|
| 1. Yes | 19.8% |
| 2. No | 80.2 |
| 3. No answer | 0.1 |

—Kindergarten and daycare—

Question 5. Does your child attend kindergarten or daycare?

| | |
|-------------------------|-------|
| 1. Attends kindergarten | 29.4% |
| 2. Attends daycare | 21.0 |
| 3. Attends neither | 49.0 |
| 4. None of the above | 0.6 |
| 5. No answer | 0.1 |

—Play (only for children aged 2 years or over)—

Question 6. How does your child usually play? Please circle up to 3 from the following.

| | |
|-----------------------------------------------------------|-------|
| a. Riding bicycle or tricycle, etc. | 18.5% |
| b. In public playgrounds | 12.5 |
| c. Playing in sand pits | 9.4 |
| d. Ball games | 8.0 |
| e. Playing house or make believe | 29.0 |
| f. Drawing pictures, origami, coloring, playing with clay | 35.2 |
| g. Games, card games, puzzles | 9.0 |
| h. Building blocks | 13.4 |
| i. Mini cars, plastic models | 13.1 |
| j. Reading (or listening to) picture books | 19.2 |
| k. Reading comics or books | 1.7 |
| l. Watching television | 19.4 |
| m. Watching videos | 24.7 |
| n. Playing electronic games | 8.2 |
| o. None of the above | 3.9 |
| p. No answer | 0.3 |
| q. Not applicable | 24.0 |

(N = 870)

—Hobbies and pursuits (multiple answer)—

Question 7. Is your child practicing or learning anything? Please circle whichever apply from the following.

| | |
|-----------------------------------|------|
| a. Musical instruments | 7.2% |
| b. Swimming, gymnastics, or sport | 18.1 |
| c. Ballet or rhythm | 3.8 |

| | |
|--------------------------------------------------|------|
| d. Drawing, painting or calligraphy | 2.9 |
| e. English or another foreign language | 6.2 |
| f. Classes for infants (<i>yoji kyoshitsu</i>) | 7.0 |
| g. Study materials received on a regular basis | 11.5 |
| h. None of the above | 0.9 |
| i. Nothing in particular | 60.6 |
| j. No answer | 1.5 |

—Involvement with child-care groups or facilities—

Question 8. Do you and your child participate in child-care groups with parents and children of the same age or use local child-care support facilities such as public health centers or children's halls?

| | |
|------------------------------------------------------|------|
| 1. 3 or more times per week | 0.8% |
| 2. Once or twice per week | 8.8 |
| 3. Occasionally (less than once per week) | 34.4 |
| 4. Have never done so | 50.7 |
| 5. Have never heard of any such groups or facilities | 4.5 |
| 6. No answer | 0.7 |

—Is the television always on?—

Question 9. Is the television at home usually left switched on?

| | |
|-----------------|-------|
| 1. Switched on | 51.2% |
| 2. Switched off | 48.6 |
| 3. No answer | 0.2 |

—Age when child started watching television—

Question 10. At what age did you allow your child to start watching television?

| | |
|------------------------------------------------------|-------|
| 1. 6 months old and under | 27.9% |
| 2. 7 months – 1 year old | 37.7 |
| 3. 1 year 1 month – 1 year 6 months old | 18.5 |
| 4. 1 year 7 months – 2 years old | 4.3 |
| 5. 2 years 1 month old and over | 1.8 |
| 6. Have not yet allowed my child to watch television | 1.7 |
| 7. Cannot remember or do not know | 7.5 |
| 8. No answer | 0.5 |

—Development of television viewing habits (for children less than 4 years old)—

Question 11. We have divided up the development of television watching habits for children between infancy and 3 years of age into the following stages. Which of the below best describes your child?

| | |
|--------------------------------------------------------|------|
| 1. Displays no interest in television whatsoever | 0.4% |
| 2. Displays an interest in the sound of the television | 1.4 |
| 3. Displays an interest in the television screen | 12.8 |
| 4. Understands a certain amount of television content | 15.1 |
| 5. Basically knows what programs he/she wants to watch | 22.2 |
| 6. Do not know | 0.3 |
| 7. Have not yet allowed my child to watch television | 0.8 |
| 8. No answer | 1.4 |
| 9. Not applicable | 45.5 |

(N = 623)

—Viewing reactions (multiple answer) (for children less than 4 years old)—

Question 12. Does your child, when watching television, exhibit any of the following behavior? Please circle as many as apply.

| | |
|--------------------------------------------------------------------|------|
| a. Displays no interest in television whatsoever | 1.4% |
| b. On seeing clapping, also claps | 31.8 |
| c. On seeing bodily movement, makes similar hand or feet movements | 38.5 |
| d. Tries to sing along with songs | 33.8 |
| e. Mimics short words | 29.2 |
| f. Watches television, but does not mimic anything | 6.1 |
| g. No answer | 1.3 |
| h. Not applicable | 45.5 |

(N = 623)

—Television as childcare tool—

Question 13. Do you ever let the television baby-sit your child?

| | |
|-----------------|-------|
| 1. Frequently | 21.8% |
| 2. Sometimes | 49.1 |
| 3. Infrequently | 21.1 |
| 4. Never | 7.9 |
| 5. No answer | 0.2 |

—Viewing limits—

Question 14. Do you set any limits on the television programs your child can watch or on the amount of time that your child can watch television?

| | |
|------------------------------------------------|-------|
| 1. Only limit viewing time | 23.3% |
| 2. Certain programs cannot be watched | 7.5 |
| 3. Both viewing times and programs are limited | 25.1 |
| 4. No limits of any kind | 38.8 |
| 5. None of the above | 2.4 |
| 6. No television viewing allowed at all | 2.5 |
| 7. No answer | 0.4 |

—Respondent—

Question 15. Is the person responding to these questions the child's mother, or another guardian?

| | |
|---------------------------------------------|-------|
| 1. Mother | 95.8% |
| 2. A guardian who is not the child's mother | 3.9 |
| 3. No answer | 0.3 |

—Respondent's age—

Question 16. Which age group do you belong to?

| | |
|----------------|------|
| 1. 19 or below | 0.4% |
| 2. 20-24 | 1.9 |
| 3. 25-29 | 15.4 |
| 4. 30-34 | 39.2 |
| 5. 35-39 | 31.7 |
| 6. 40-44 | 9.3 |
| 7. 45 or over | 2.0 |
| 8. No answer | 0.1 |

—Mother's employment circumstances—

Question 17. Does the child's mother have a job?

| | |
|-------------------------------------------------------------------|-------|
| 1. Full-time housewife | 63.6% |
| 2. Part-time job | 16.8 |
| 3. Full-time job | 11.5 |
| 4. Works in agriculture, the family business, or is self-employed | 4.8 |
| 5. None of the above | 3.1 |
| 6. No answer | 0.3 |

—Residential environment—

Question 18. What kind of residence do you live in?

| | |
|------------------------------------------------------------------------|-------|
| 1. A single family dwelling | 45.5% |
| 2. A housing complex or apartment building (on the 5th floor or below) | 48.3 |
| 3. A housing complex or apartment building (on the 6th floor or above) | 5.9 |
| 4. None of the above | 0.2 |
| 5. No answer | 0.1 |

—Amount of children’s video software—

Question 19. How many commercial children’s videos are there in your residence?

| | |
|---------------|------|
| 1. None | 9.5% |
| 2. 1–5 | 25.9 |
| 3. 6–10 | 24.0 |
| 4. 11–20 | 22.0 |
| 5. 21–30 | 8.4 |
| 6. 31 or more | 10.1 |
| 7. No answer | 0.1 |

—Hardware (multiple answer)—

Question 20. Please circle whichever of the following you have in your household.

| | |
|------------------------------------------------------------------|-------|
| a. VCR (including DVD) | 97.8% |
| b. Television games, portable game consoles or computer games | 68.1 |
| c. Personal computer connected to the Internet | 62.6 |
| d. Cable television or multichannel television for CS broadcasts | 24.4 |
| e. No answer | 0.6 |

Breakdown of the Respondents

| | Total number of children | Male | Female | 0 yrs | 1 yr | 2 yrs | 3 yrs | 4 yrs | 5 yrs | 6 yrs | Kindergarten | Daycare | Neither |
|--------------------------|--------------------------|------|--------|-------|------|-------|-------|-------|-------|-------|--------------|---------|---------|
| Actual number (subjects) | 1,144 | 563 | 581 | 102 | 172 | 176 | 173 | 180 | 182 | 159 | 336 | 240 | 560 |
| Composition ratio (%) | 100.0 | 49.2 | 50.8 | 8.9 | 15.0 | 15.4 | 15.1 | 15.7 | 15.9 | 13.9 | 29.4 | 21.0 | 49.0 |

| | Siblings | | | | Mother’s employment circumstances | | | | |
|--------------------------|------------|-------------------|--------------|-------------|-----------------------------------|---------------|---------------|---------------------------------------------|-------|
| | Elder only | Elder and younger | Younger only | No siblings | Full-time housewife | Part-time job | Full-time job | Agriculture, family business, self-employed | Other |
| Actual number (subjects) | 504 | 72 | 217 | 349 | 728 | 192 | 131 | 55 | 35 |
| Composition ratio (%) | 44.1 | 6.3 | 19.0 | 30.5 | 63.6 | 16.8 | 11.5 | 4.8 | 3.1 |