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ABSTRACT

A study investigated several questions concerning the amount of viewing and types of programs children and parents watched alone and together and the relation of viewing patterns to children's development. Investigated over a 2-year period were coviewing patterns, differences between younger and older children in their viewing with parents, changes in coviewing patterns, and the relation of parental coviewing to children's: (1) language development; (2) social behavior toward peers and adults; and (3) cognitive processing of television. Participants were 271 children of 3-7 years of age and their families. It was found that when children watched adult programs, a parent was present 75 percent of the time; only 22 percent of children's viewing of child-oriented programs was done with a parent. A history of coviewing informative programs with parents was positively related to children's attention to television and use of print. However, a history of coviewing general entertainment programs with parents was negatively associated with children's visual and auditory attention to television, preference for print media, and prosocial behavior. The paucity of findings favoring positive developmental outcomes from coviewing suggests that family viewing time is not used as an occasion for beneficial or instructional interactions. (Author/RH)

Television and Families:

Parental Coviewing and Young Children's Language Development, Social Behavior, and Television Processing

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Abstract

There is disagreement about the value of families watching televsion together. Proponents claim that coviewing provides opportunities for parents to teach children about TV and moderate negative effects. Critics argue that television blocks communication among family members and does not facicilitate meaningful interaction. This study investigated the relationships among television viewing patterns of parents and young children and the how parental coviewing is related to children's language development, social behavior, and processing of television. 271 children and their families participated in a two-year longitudianl study. When children watched adult programs, a parent was present 75% of the time; only 22% of children's viewing of child programs was with a parent. A history of coviewing informative programs with parents was positively related to children's attention to TV and use of print. However, a history of coviewing general entertainment programs with parents was negatively associated with children's visual and auditory attention to TV, preference for print media, and prosocial behavior. The paucity of findings favoring positive developmental outcomes from coviewing suggests that family viewing time is not used as an occasion for beneficial or instructional interactions.

Concern about the effects of television violence or deceptive advertising on children has led to suggestions that parents coview with their children in order to modify negative influence. Proponents claim that coviewing provides opportunities for parents to teach critical viewing skills, enhance learning, reinforce positive messages and moderate negative ones (Collins, Sobol, & Westby, 1981; Dorr, 1986). Critics argue that television blocks communication among family members and does not allow for meaningful interactions (Winn, 1977). This study investigated the relationships among television viewing patterns of parents and young children and the relations of parental coviewing to children's language development, social behavior, and processing of television.

Parent-child coviewing

Studies report that nearly half (McDonald, 1986) to two-thirds (Carpenter, Huston, & Spera, in press) of children's viewing is done with parents. Parental viewing patterns, both amount viewed and reasons for viewing, predict children's viewing patterns (Brown & Linne, 1976; McLeod, Fitzpatrick, Glynn, & Fallis, 1982; Timmer, Eccles, & O'Brien, 1985). Moreover, most parent-child coviewing occurs during prime time rather than during hours when programs designed for children are shown (Nielsen, 1975).

Family Interaction During Television Viewing

Television's effects on the quality of time children and parents spend together have been hotly debated since the medium was first introduced. Opinions range from condemnation of television as blocking communication among family members (Bronfenbrenner, 1973; Maccoby, 1951; Steiner, 1963), to support for television as a stimulus for family interaction through conversation (Brown & Linne, 1976; Lyle & Hoffman, 1972), games (cf. Williams, Smart, & Epstein, 1979) and opportunities for learning (Messaris & Sarett, 1981).

Indeed, studies about the effects of television on family interaction have been equivocal. Early research reported very little conversation among family members during viewing (Himmelweit, Oppenheim, & Vince, 1958; Maccoby, 1951). Given the novelty of the medium, these findings are not surprising. As television entered more households and became a common leisure activity, families may have adopted a more casual viewing atmosphere. In one study, half of the families said that television reduced conversation, whereas 33% said it had no effect (Walters & Stone, 1971). Based on interviews with families, Lyle and Hoffman (1972) reported that coviewing was characterized by interactions among viewers rather than simply watching the screen. Filmed observations of family viewing in the home have also found that talking was the most frequent activity during viewing (Bechtel, Achepohl, & Akers, 1972).

More recent studies have focused on family interactions other than conversation. When preschoolers were observed with their parents in a laboratory setting, they touched each other more often during television viewing than during a "family playtime" session when the television was off (Brody, Stoneman, & Sanders, 1981).

Parents as Moderators of Television's Effects

As responsive coviewers, parents can be powerful moderators of television's positive and negative effects on children. Their extensive world knowledge allows them to reinforce certain values, challenge others, enhance learning, and influence children's ideas about other people. Greater experience with television makes it possible for them to help children understand the medium. Of course, parents' potential as moderators is limited by their awareness of this role and their willingness to take advantage of these opportunities.

Enhancement of Learning

As coviewers, parents can reinforce lessons presented during educational shows designed for children. Through actions such as repeating specific phrases, asking questions, calling attention to central information, and encouraging children to participate at home, they enhance children's learning from such programs. At least two studies demonstrated that children who watched Sesame Street with one or both parents learned more than those who watched it alone (Lesser, 1974; Salomon, 1977). In a pair of studies designed to compare "live" and televised instruction for teaching number conservation to preschoolers (Butt, 1979; Raeissi & Wright, 1983), a responsive adult coviewer was found to be essential for training to generalize from the televised instructional mode to real objects. The adult coviewer was included in the second study (Raeissi & Wright, 1983) in order to simulate the home viewing experience as closely as possible.

Studies have shown that verbal abilities can be enhanced when their parents actively coview television with them. Lemish and Rice (1986) observed mothers watching television with their children varying in ages 6 to 29 months. Coviewing interactions centered around language issues, such as naming objects, identifying objects, repetition of new words, asking questions, and relating television content to the child's own experience. They found that verbal interactions were frequent when the program being coviewed was age-appropriate for the child, such as "Sesame Street".

Field (1987) studied the relation of coviewing with mothers to 5 year-olds' verbal ability as measured by the Peabody Picture Vocabulary Test. Regression analysis revealed that parent-child coviewing was not a significant predictor of Peabody scores, but children's verbal ability was positively predicted by the total amount of time children spent with television.

Attention and Comprehension of Television

The frequency and duration of visual attention to television dramatically increases during the preschool years and levels off during middle childhood (Anderson & Levin, 1976). Studies have revealed that children can divide their attention between the television and other activities in the viewing environment without affecting their understanding of a program. Children selectively attend to program content that is understandable to them and use production features to guide their attention to the most informative parts of the program (Anderson, Lorch, Field, & Sanders, 1981; Wright,

Huston, Ross, Calvert, Rolandelli, Weeks, Raeissi, & Potts, 1984). As noted earlier, Lemish and Rice (1986) noted that parents often direct children's attention to the television.

Parents can help children interpret the conventional devices used in television narratives, including formal features (eg. zooms, pans, parallel editing, flashbacks), and fantasy-reality discriminations (eg. animation vs. live action, stunts). There is evidence that children must learn that scenes in a sequence are parts of a whole story, not simply unrelated bits (Collins, 1975, 1979; Messaris & Gross, 1977; Noble, 1975). Experimental studies show that comments by an adult coviewer can lead to improved comprehension of central program themes (Watkins, Calvert, Huston-Stein, & Wright, 1980) and to improved inferences about implied events (Collins, 1981). Messaris and Sarett (1981) posit that such learning probably occurs during or just after coviewing, and may be accomplished through parents' explicit teaching, or indirectly through corrections to the child's interpretation of the narrative. During interviews, superhero stunts were often cited by parents as the first evidence children used the question to absolute reality of television portrayls. One mother reported that her children imitated their father's skepticism toward the medium. The authors propose that learning to evaluate television reality may develop from the "cumulative pattern of parental comments on particular types of programming or on television in general" (p. 369). Indeed, the family's use of the medium may set a "tone" within the family, promoting general attitudes about the credibility of television or specific types of programming.

Values and Social Behavior

Early studies by Bandura and his colleagues (1963) have provided strong evidence that exposure to filmed aggression portrayed by both human and animated characters increases aggressive reactions in children.

Parents' attitudes toward television and discussion of programs can moderate the effects of television content either directly or indirectly. Brown and Linne (1976) compared frequent and infrequent viewers of a popular Western program which contained "justified" violence, for their typical activities after viewing the program, and their choice of solutions to a hypothetical conflict situation. Nearly all of the frequent viewers who chose aggressive solutions to the conflict situation went to bed directly after viewing the program in the evening. By contrast, none of the infrequent viewers, nor the frequent viewers who chose non-aggressive solutions to the conflict situation went to bed directly after viewing. Instead, they usually played or talked about the program. The authors suggest that this activity, which was under the control of parents, moderated the negative effects of violence viewing.

Messaris and Sarett (1981) have proposed a theoretical model describing the potential consequences of parent-child coviewing. They suggest that coviewing creates opportunities for parents to reinforce or introduce moral standards. During or immediately following viewing, parents can refer to something a character has done that was

particularly good or bad. Parents can also influence children's overt behavior when they make connections between the child's behavior and the behavior of a television character.

There have been several attempts to teach children critical television viewing skills, but most of these projects have been school-based programs (Dorr, Graves, & Phelps, 1980). In general, these programs were sucessful in training 5 to 8 year olds about TV production, the economics of the television industry, and how to evaluate the reality of television content by comparing it to other information sources. The few studies cited above have observed parent-child coviewing and how parental input facilitates children's understanding of TV content, language development, and interpretation of characters' behavior. However, the long term influence of parent-child coviewing on children's processing of television content or viewing habits has not been assessed.

Purpose of the Study

The present study investigated several questions concerning the amount of viewing and types of programs children and parents watched alone and together and how these viewing patterns related to children's development. The first purpose was to describe the patterns of childrn's viewing with and without parents. To this end, two questions were asked:

1. What did children watch with their parents?
2. How did younger (3 to 5 years) and older (5 to 7years) children differ in their viewing with parents, and how did this pattern change over the course of two years?

The second purpose was to determine how parent-child coviewing is related to children's development. Three specific areas of development were examined: 1) language development, including vocabulary and use of print; 2) cognitive processing of television, including attention and comprehension; and 3) social behavior toward peers and adults.

Three features of this study make its contribution to the coviewing literature unique: 1) viewing for all family members was categorized by program type; 2) two cohorts of young children were studied (3 to 5 years and 5 to 7 years) permitting age comparisons; and 3) families were followed for two years in order to study changes in coviewing patterns over time.

Method

Sample and Subject Retention

The initial sample consisted of 326 children and their families in Topeka, Kansas. The children were within 3 months of their third (N=160) or fifth (N=156) birthdays at the beginning of the study. They were recruited through newspaper birth records, preschools, churches, mass media publicity, and posters placed in large office

buildings, laundromats, and grocery stores. The sample was predominantly Caucasian, and all but 18 families had both parents living in the home at the beginning of the study. Educational level of each parent was coded on a scale in which 1=less than high school, 2=high school graduate, 3=some post-high school training, 4=Bachelor's degree, 5=some post-graduate training, and 6=graduate or professional degree. For fathers, mean = 3.78, s.d. = 1.40; for mothers, mean = 3.35, s.d. = 1.23. Most parents were high school graduates (96.6% of the fathers; 98.1% of the mothers). Slightly over half (53%) of the fathers and 41.1% of the mothers had completed Bachelor's degrees.

Occupational status was rated on the Duncan scale, which has a range from 1 - 99 (Duncan, 1961). Although individual occupations receive different ratings on the Duncan, they can be understood from the following average ratings: professional and technical workers = 75; managers, officials and proprietors = 57; clerical and sales workers = 17-18; laborers = 7. For fathers, the mean = 52.73, s.d. = 23.90; for mothers, mean = 52.18, s.d. = 18.52. Using 1980 census data, approximate mean Duncan scores were calculated for adults in Topeka. They were 40.5 for men and 50.6 for women. The sample represented a wide range of educational and occupational levels, but it was a volunteer sample in which white, intact, relatively stable families with husbands above the average occupational status were overrepresented. (One necessary criterion for inclusion in the study was the intention to stay in Topeka for at least two years.)

Design

The design was a combination of cross-sequential and cohort sequential methods (Nesselroade & Baltes, 1979). It is illustrated in Table 1. Two cohorts, aged 3 and 5 at the beginning of the study, were followed for a two-year period. Within each of these groups, there were two "sub-cohorts": children with birthdays from February through August began in the spring of 1981; children with birthdays from September through the following February began in the fall of 1981. For clarity, these subcohorts are referred to as Spring and Fall start times.

Viewing was measured from diaries maintained by the parents for one week in the spring and one week in the fall for two years (a total of 5 diaries). Viewing by all members of the household was recorded in 15-minute intervals from 6:00 a.m. to 2:00 a.m. for each day. In addition, if children were in regular day care, their viewing was recorded by the caregiver. Spring and fall were sampled to avoid the extremes of heavy viewing in winter or light viewing in summer. Although each family kept a diary for only one week, each time of measurement lasted approximately three weeks with families spread across them in order to reduce the effects of weather and idiosyncratic events (such as the Sadat assassination) on the viewing measure.

Parents were instructed to record as a "viewer" anyone who was present for more than half of a 15-minute interval in which the television was turned on. This definition was adopted to avoid parental judgments about when the child was "watching", but it

undoubtedly resulted in a slight overestimate of true viewing. One recent investigation included a comparison of diary measures with videotapes made in the home during viewing (Anderson, Field, Collins, Lorch & Nathan, 1985). Diaries slightly overestimated children's viewing time, but the correlations between the two methods were .84, indicating that diaries are a valid method of assessing individual differences.

In the present study, validity was also assessed indirectly by examining errors in the diaries (e.g. wrong program title for time and channel listed). Two subjects were eliminated because their diaries contained large numbers of errors.

A total of 271 subjects returned four (N=27) or five (N=244) diaries and were, therefore, considered to have sufficient data for analyses of viewing. The retained sample was comparable to the original sample on demographic variables, family composition, and television viewing environments. The only significant correlate was the child's score on the Peabody Picture Vocabulary Test, $r(324) = 0.16$. Children whose parents returned more diaries have slightly better vocabularies than the low return rate children.

Classification of Television Programs and Viewers

An extensive coding system was developed for categorizing available television programs (CRITC, 1983). Programs were classified on four dimensions: 1) intended audience (child or adult); 2) informative purpose (yes or no); 3) animation used (full, partial, none); 4) program type (real world events and information; variety; comedy; drama; or action adventure). All programs in the TV Guide and cable guides for viewing weeks were coded on the basis of raters' knowledge of the series and descriptions in the TV Guides. Of the 5007 titles in the list, the proportion that could be coded on each dimension was: audience = 95.7%; purpose = 95.9%; animation = 95.1%; program type = 90.2%. Any programs viewed that did not appear in the TV Guides (eg., videotaped movies) were also coded whenever possible.

Viewing frequencies were calculated as the number of 15-minute intervals the child and/or parents viewed for any program category defined by a single dimension or a combination of dimensions. For the purpose of this study programs were classified as 1) child informative (eg., Sesame Street); 2) child entertainment, such as cartoons; 3) adult informative (news and sports); and 4) adult entertainment (comedy, drama, action adventure, and variety-game).

Viewing patterns among family members were also classified along several dimensions. Children's viewing with parents was classified as follows: 1) viewing with mother; 2) viewing with father; 3) viewing with both parents; and 4) viewing with neither parent. In this classification, siblings or others might or might not be present in any cell.

Distributions of viewing in most categories were positively skewed; therefore, square root transformations were used in the final analyses after determining that they produced more normal

distributions than logs or raw scores. For the 27 families with one missing diary, values were estimated using BMD least squares program for estimating missing data. Approxiamtely 2% (27 out of 1355) of the values in the final data set consisted of such estimated data. Those missing more than one diary were excluded from the analysis.

Parent Measures

The sample is predominantly Caucasian, and all but 18 families had both parents living in the home. The median educational level of the fathers is slightly less than years of college; the median for mothers is "some post-high school training." The median occupational status of both mothers and fathers is near 50 on the Duncan Scale, which has a range of 1 through 99. The sample appears to be representative of a wide range of educational and occupational levels, but white, intact, relatively stable families are probably overrepresented. (One necessary criterion for inclusion in the study was the intention to stay in Topeka for at least two years.)

Parents' use of print was measured at Wave 4 and again in the post-viewing questionnaire. They were asked to indicate how often they used books, newspapers, magazines. The purpose of these measures was to assess the relation of parents' overall media use to the patterns developed by their children.

Parent attitudes about television were measured using a questionnaire from the Television Addiction Scale developed by Smith (1981). The items in the questionnaire fell in two groups on a factor analysis: positive attitudes (agreement with favorable statements about television, eg., TV is educational; TV brings the family together) and negative attitudes (agreement with unfavorable statements, eg., TV makes people passive; TV takes up too much time, TV is violent). The Cronbach alphas for the two scales were 0.74 and 0.73, respectively.

Shortly before or after their last diary wave, parents and children participated in individual interviews and tests at a laboratory facility in Topeka. Parents were interviewed and filled out a questionnaire. Children participated in several individual testing procedures. A total of 261 children were tested. Each measure is described below.

Measures of Children's Language Development

The Peabody Picture Vocabulary Test (Revised) was readministered to all children. The PPVT is a standardized instrument measuring vocabulary. It contains norms for ages 2 through adult. It is highly correlated with verbal IQ scores on individual tests of intelligence.

An expanded set of questions about the child's liking and use of print was obtained from interviews with parents. Children's print use was assessed through parents' ratings of the frequency their children used books, magazines, and newspapers. Liking print media was the sum of rated enjoyment of books and the frequency of library visits.

Measures of Children's Social Behavior

Parent ratings were selected as the best possible method, given that circumstances did not permit observing children directly in settings that were familiar to them. The aggression rating scale was used by Eron, Walder, and Lefkowitz (1971) in their 20-year longitudinal study of children's aggressive behavior. Although the entire scale had good internal consistency (alpha = 0.87), it factored into two theoretically coherent scales: peer directed aggression (alpha = 0.78) and adult-directed disobedience (alpha = 0.84).

The ratings for prosocial behavior were derived from several sources. including peer rating scales (e.g. Mussen, Harris, Rutherford, Keasey, 1970) and observational categories (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983; Stein & Friedrich, 1975). The total scale had good internal consistency (alpha = 0.90), and three subscales emerged from factor analyses: empathy (alpha = 0.88), helping and sharing (alpha = 0.83), and intervention (alpha = 0.83).

Measures of Children's Processing of Television

Children viewed two animated seven-minute programs which were originally made with music and sound effects, but without narration or dialogue. Narration was added to the sound tracks for each program. Each child saw one program as originally made (without narration) and one with narration. The stories shown with and without narration were counter-balanced across subjects, as was order of presentation.

The visual attention procedures were identical for all children. They were seated at a low table containing a variety of toys. The chair was at right angles to a television color monitor placed approximately 2 meters away. The experimenters played videotapes and recorded visual orientation to the television from the other side of a partition containing a one-way mirror. All looks to and away from the television were recorded on a Datamyte and later stored directly in computer files. Inter-observer agreement on this measure is 92-95%. The resulting scores include average duration of viewing .

Auditory attention was also measured to the two programs with and without narration, described above. Many investigators have speculated that auditory attention is an important mediator of children's comprehension of television, but measurement has been a serious problem because listening has no easily observed indicators that are analogous to visual orientation. In an earlier study (Rolandelli, Wright, & Huston, 1982), we developed the technique for assessing auditory attention that was used in the present study. At selected plot-critical intervals throughout the program, the sound track degrades continuously in quality over a ten-second period. The child is pretrained to use a large, soft lever on the table to restore sound quality. If the child does not restore the sound quality, it is automatically restored after twelve seconds. The child's latency in performing this task was automatically recorded on a Datamyte.

Comprehension of story content was measured for both stories described above. For each story, recall of concrete and inferential

content was measured by cued recall and recognition items. Questions were designed to measure content that was presented only in the visual modality, only in the auditory modality (in the narration), or in both modalities. Children saw both stories before the comprehension questions were administered. Recall of the second story seen was measured first; recall of the first story seen was measured last.

Results and Conclusions

Several questions were explored concerning the amount and type of programs children coviewed with their parents, developmental changes in coviewing, and how children's viewing histories with and without their parents affect language development, social behavior, and processing of television.

Frequencies of Parent-Child Coviewing

Coviewing of child and adult programs. What did children view with their parents? Viewing frequencies and percentages were calculated for the four program categories selected on the basis of intended audience and program type. The results appear in Table 2.

Most of children's viewing of child programs occurred without a parent. Parents coviewed these programs with their children only 22% to 25% of the time. In contrast, children's viewing of adult programs typically occurred with one or both parents, 81% for adult informative programs and 67% for adult entertainment programs.

Analyses of variance were performed on viewing frequencies in each program category using child's sex (2), cohort (2), start time (2), wave (5), and absence/presence of parent coviewer (2) as independent variables. The results of these analyses are reported in St. Peters, et al. (1988). There were significant main effects for coviewer in all eight program categories. Mean differences in coviewing the eight program categories are displayed in Figure 1. Children in both cohorts watched more child programs without parents than with parents; they viewed more adult programs with parents than without parents.

Age differences in coviewing. How did younger and older children differ in their viewing with parents? Cohort by coviewer interactions revealed that significant age-related changes occurred in all categories of television programs: younger children coviewed all program categories more with one or both parents than older children; older children viewed more entertainment programs (child or adult) without parents.

For children's programming, interactions between cohort, coviewer, and wave indicated different patterns of change with age for coviewing and viewing without parents. Coviewing children's informative programs declined steadily from age 3 to age 7. By contrast, children watched child informative programs without parents with increasing frequency from age 3 to 4, then frequencies began to decline. Coviewing children's entertainment programs also declined

slightly over the age period studied. The frequency of viewing children's entertainment programs without parents increased rapidly from age 3 to 5, then leveled off.

For adult audience programs, age changes in coviewing with parents occurred for adult informative, drama, and action-adventure programs. Children's coviewing of adult informative programs with parents declined after the age of 4, whereas their coviewing of drama with parents declined after the age of 6. Conversely, children in both cohorts increased their coviewing of action-adventure programs with parents over time. Figure 1 displays these age-related changes in coviewing.

Relationships Between Parental Coviewing and Children's Language Development, TV Processing, and Social Behavior

Regression analyses were performed to determine the relations of children's histories of viewing television with and without their parents to several developmental outcomes. Blockwise multiple regressions were used. In each analysis, a block of control variables was entered first: parents' education, parents' use of print media, child's verbal ability, parents' positive and negative attitudes to television. For the analysis of coviewing, the second block contained four variables representing the child's frequency of coviewing each of the four program categories. Frequencies for two years (five waves of data) were summed to form these variables. Parallel regressions were calculated using the frequencies of viewing each of the four program categories without an adult. (There was virtually no viewing with adults other than parents when parents were not present.) The results of these analyses appear in Tables 3 and 4.

Language Development

The Peabody Picture Vocabulary Test is a measure of receptive vocabulary. Children's scores on the PPVT during the initial year of the study and parents' educational level were entered as control variables in the regression analysis. Children's prior vocabulary abilities predicted their current PPVT scores, and parent's education was an additional predictor for 7 year-olds. Coviewing of any type of programs was not related to children's vocabulary development. For the younger children (age 5) a history of viewing child informative programming without their parents predicted improved vocabulary.

Parents watched child informative programming with their children only 22% of the time, suggesting that parents do not make a special effort to coview child appropriate programs and thus miss opportunities to enhance the educational benefits of such programs. There is little evidence that beyond very early childhood parent-child coviewing time is used by parents for productive facilitation of cognitive verbal skills. It appears however that informative programming that is age-appropriate does stimulate language development among preschool children without parent intervention.

A second measure hypothesized to contribute to children's language development was the use of and preference for printed

materials. Parents' use of print, parents' education, and children's PPVT scores were entered in the first block of the regression analyses. For both age groups, parents' print use was a significant predictor of children's use of print. Parents' coviewing of adult informative programming was positively associated with their print use. A history of viewing adult entertainment programs without parents was negatively associated with print use for older children.

A similar analysis was conducted for children's preference for printed materials. Parents' use of print positively predicted 5 year-olds' preference for print, whereas PPVT and parent education predicted older children's preference for print. Parental coviewing of child entertainment programs was negatively associated with older children's preference for print. Viewing adult entertainment programming without parents was negatively associated with young childrens' preference for print.

Children appear to model their parents' use of print and older children who coview informative programs with their parents are more print or information oriented. Those parents who encourage viewing of entertainment programming, either by coviewing or permitting large amounts of viewing without adults, may be teaching their children to watch programs indiscriminately and discouraging the use of print as an alternative activity.

Processing Television

Children were observed watching cartoons in an experimantal laboratory session. The relationship between attention and comprehension of cartoons and children's viewing histories were assessed through regression analyses. The first block entered into the analysis consisted of children's PPVT scores and parents' education; the second block contained childrn's viewing in four program categories with or without their parents.

For younger childfen, visual and auditory attention to cartoons and comprehension were positively associated with their general vocabulary abilities and negatively associated with their parents' education. Coviewing adult entertainment programming with parents was negatively related to both visual and auditory attention. Watching child informative programming without parents was negatively associated with young children's visual attention and comprehension.

For younger children, a history of viewing adult entertainment programming with parents was associated with decreased visual and auditory attention, suggesting that children may learn to tune out television, especially programming which is not comprehensible to them, and thus may become inattentive to TV in general. Conversely, this analysis showed that parental coviewing of child informative programs with older children enhanced their visual attention to the lab cartoons, one of the few "positive" outcomes of coviewing.

The negative associations of visual attention and comprehension to watching child informative programs without parents again suggests that parents are missing opportunities to enhance their children's

learning from educational programs by watching these programs with them or that children are not interested in the programs and therefore do not attend to them.

Social Behavior

Three measures of children's social behaviors -- peer aggression, adult compliance, and prosocial behavior -- were examined in relation to children's viewing histories. Parents' education and attitudes about television were used as control variables. It was hypothesized that parents' negative attitudes toward television would lead parents to criticize TV violence and other social behaviors on TV. Positive attitudes might lead them to convey approval.

Among 5 year-olds, peer aggression was highest for children whose parents had lower levels of eduacation and expressed negative attitudes about television. For 7 year olds, a history of coviewing child entertainment programs with their parents was positively related to peer aggression. For younger children, a history of viewing adult informative programming without parents was positively associated to peer aggression. Both types of programming, adult informative (news and sports) and child entertainment, consisting mainly of cartoons, contain violent content. If parents do not actively discourage the values conveyed by these programs, then perhaps children are more negatively influenced by the social messages these programs contain.

Both positive and negative attitudes about television were associated with 5 year-olds' noncompliance to adults. Television viewing histories were not associated with this measure for younger children. Parents' education and coviewing of adult informative programs positively predicted noncompliance for 7 year-olds.

Apparently parents' negative attitudes about television were not sufficeint to modify the effects of TV viewing. In an earlier analysis of these data, we found that attitudes about TV were correlated with parents regulation and encouragement of viewing (St. Peters, et al., 1988). Positive attitudes were positively associated with parents' encouragement of viewing certain types of programs. Negatives attitudes were positively related to regulating children's TV viewing. Those parents who both regulated and encouraged discriminating viewing had children who viewed less television than parents who were high on encouragement of viewing. However, the present analysis shows that while parents appear to critcize and regulate television's content because of its negative influence and coview violent programming (news and cartoons) with their children, parents may not be taking advantage of the opportunity to discuss the programs they watch with their children and moderate the effects of television content either directly or indirectly.

Parents' education and attitudes about television were not associated with children's prosocial behavior toward others. A history of coviewing adult entertainment programs with parents was negatively associated with prosocial behavior for 5 year-olds, while a history of coviewing child informative programs was negatively related to prosocial behavior for 7 year olds. While most of children's

viewing of adult programs is done with parents, only a small portion of children's programs are coviewed with parents. When parents do coview with their children they may not be interacting with them in ways that might help children to understand the messages portrayed in programs.

In sum, these findings give little support to the hypothesized benefits of parental coviewing of television. A history of coviewing informative programs with parents was positively related to children's attention to TV and the use of print. However, a history of coviewing general entertainment programs with parents was negatively associated with children's visual and auditory attention to TV, preference for print media, and prosocial behavior.

When young children watch television designed for general audiences, they usually do so with their parents. When they watch programs aimed at a child audience, parents are present only about one-fourth of the time. Futhermore, coviewing with parents for most types of programming declines with age. These descriptions of coviewing among family members indicate that parents may be encouraging their children to watch programs not intended for children and missing opportunities to coview the ones that are intended for educational use by children. This data set does not allow us to determine what goes on while parents and children are coviewing television. However, the frequency with which certain programs are coviewed, the decrease in coviewing with parents over time, and the paucity of findings favoring positive developmental outcomes from coviewing suggest that family viewing time is not used as an occasion for beneficial or instructional interactions. In fact, parents who set the tone in the household by heavy viewing of entertainment programs appear to preclude some beneficial parent-child interactions that might take place in other contexts.

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Table 1. Design of Longitudinal Study

Cohort & Start Time	Time of Measurement: 1981 Spring	1981 Fall	1982 Spring	1982 Fall	1983 Spring	1983 Fall
	Age of Children					
1978, Spring	3	3 1/2	4	4 1/2	5	
1978, Fall		3	3 1/2	4	4 1/2	5
1976, Spring	5	5 1/2[a]	6	6 1/2[b]	7	
1976, Fall		5	5 1/2	6[a]	6 1/2	7[b]

a. Entered kindergarten

b. Entered first grade

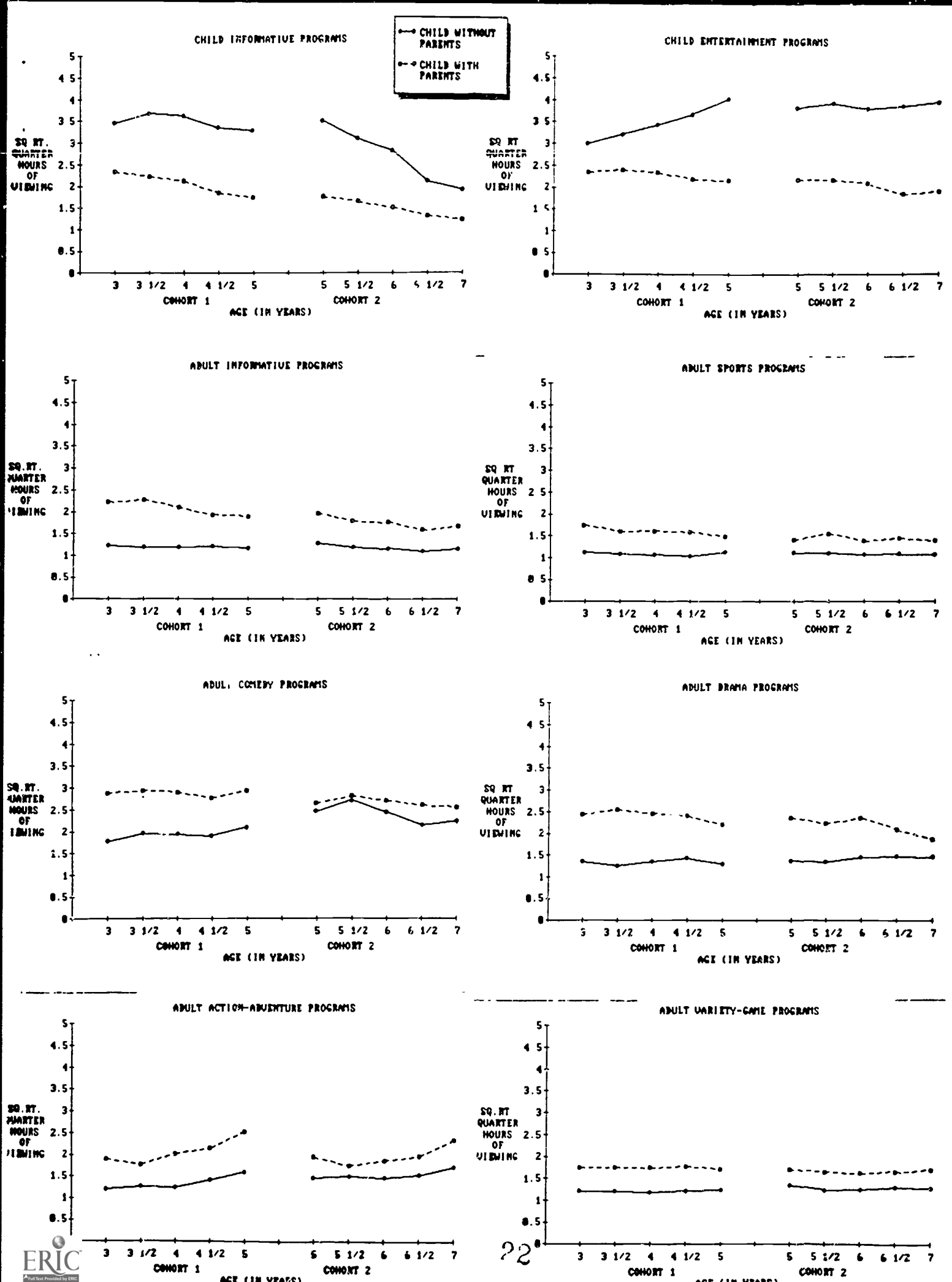
CHILD WITHOUT PARENTS
CHILD WITH PARENTS
CHILD INFORMATIVE PROGRAMS
CHILD ENTERTAINMENT PROGRAMS
ADULT INFORMATIVE PROGRAMS
ADULT SPORTS PROGRAMS
ADULT COMEDY PROGRAMS
ADULT DRAMA PROGRAMS
ADULT ACTION-ADVENTURE PROGRAMS
ADULT VARIETY-GAME PROGRAMS
SQ RT QUARTER HOURS OF VIEWING
3 3 1/2 4 4 1/2 5 5 5 1/2 6 6 1/2 7
COHORT 1
COHORT 2
AGE (IN YEARS)

Figure Captions

Figure 1. Mean viewing frequencies of child viewing without parents and child coviewing with parents at each age level for the eight program categories.

Table 2. Hours Viewed Per Week and Average Percentages of Total Children's Viewing of Television Programs With and Without Parents

Program Types

Viewer(s):	Child Informative Hrs./Week	Child Entertainment Hrs./Week	Adult Informative Hrs./Week	Adult Entertainment Hrs./Week
Child Without Parent(s)	2.8	3.8	.22	2.22
Child With Parent(s)	.87	1.32	1.54	5.44
Both Parents	.09	.30	.65	2.03
Mother	.66	.69	.51	2.44
Father	.12	.33	.38	.96

Viewer(s):	Child Informative % Viewing	Child Entertainment % Viewing	Adult Informative % Viewing	Adult Entertainment % Viewing
Child Without Parent(s)	77.8	74.7	18.8	32.8
Child With Parent(s)	22.2	25.3	81.2	67.1
Both Parents	2.6	6.1	31.2	24.8
Mother	15.7	12.3	26.9	28.7
Father	3.9	6.9	23.1	13.6

Table 3. Regression Analyses of Language Development, TV Processing, and Social Behaviors as Predicted by Children's Television Viewing With Their Parents

		5 year-olds			7 year-olds		
Predicted Variables	Predictors	B	beta	R2	B	beta	R2
PPVT 2	PPVT 1	.48*	.52		.57*	.55	
	Parent Educ.	1.59	.14	33%	2.26*	.20	41%
Child's Print Use	Parents' Print	.31*	.52		.19*	.24	
	PPVT	-.02	-.07		.002	.008	
	Parent Educ.	-.16	-.04	24%	.70*	.22	12%
	Adult Inform.				.36*	.25	6%
Child Likes Print	Parents' Print	.05*	.26		.02	.08	
	PPVT	.02	.14		.02*	.18	
	Parent Educ.	-.04	-.04	12%	.28*	.25	16%
	Child Entertain.	-.15*	-.26	6%			
Visual Attention	PPVT	.009	.21		.006	.17	
	Parent Educ.	-.12*	-.30	6%	-.01	-.03	4%
	Adult Entertain.	-.04*	-.41	13%			
	Child Inform.				.12*	.39	15%
Audio Attention	PPVT	.14	.23				
	Parent Educ.	-.16	-.03	8%			
	Adult Entertain.	-.47*	-.31	8%			
Comprehension	PPVT				.16*	.34	
	Parent Educ.				1.41	.28	27%
Peer Aggression	Negative Attid.	.15*	.21		.10	.13	
	Positive Attid.	.18	.18		.13	.13	
	Parent Educ.	-.33	-.11	8%	.35	.13	3%
	Child Entertain.				.28*	.23	5%
	Adult Inform.	.68*	.21	5%			
Adult Non-Compliance	Negative Attid.	.37*	.35		.06	.05	
	Positive Attidue	.39*	.27		-.02	-.01	
	Parent Educ.	.27	.06	17%	.78*	.18	2%
	Adult Inform.				.55*	.28	7%
Prosocial	Negative Attid.	.15	.07		.31	.14	
	Positive Attid.	.29	.10		.33	.12	
	Parent Educ.	1.04	.11	6%	1.16	.15	
	Child Inform.				-.87*	-.20	3%
	Adult Entertain.	-.68*	-.28	6%			

* significant predictor $p<.05$

Table 4. Regression Analysis of Language Development, TV Processing, and Social Behaviors as Predicted by Children's Television Viewing Without Their Parents

		5 year-olds			7 year-olds		
Predicted Variables	Predictors	B	beta	R2	B	beta	R2
PPVT 2	PPVT 1	.48*	.49		.57*	.55	
	Parent Educ.	1.62	.14	33%	2.26*	.20	41%
	Child Inform.	.78*	.19	3%			
Child's Print Use	Parents' Print	.31*	.52		.22*	.27	
	PPVT	-.02	-.07		-.004	-.01	
	Parent Educ.	-.16	-.04	24%	.33	.10	13%
	Adult Entertain.				-.28*	-.21	4%
Child Likes Print	Parents' Print	.06*	.27		.02	.08	
	PPVT	.02	.14		.02*	.29	
	Parent Educ.	-.04	-.03	12%	.28*	.35	16%
	Adult Entertain.	-.11*	-.21	4%			
Visual Attention	PPVT	.01*	.28				
	Parent Educ.	-.07	-.17	6%			
	Child Inform.	-.04*	-.33	10%			
Audio Attention	PPVT						
	Parent Educ.						
Comprehension	PPVT	.16	.26		.16*	.34	
	Parent Educ.	.77	.13	10%	1.41	.28	27%
	Child Inform.	-.64*	-.30	9%			
Peer Aggression	Negative Attid.	.14*	.19				
	Positive Attid.	.17	.18				
	Parent Educ.	-.29	-.09	8%			
	Adult Inform.	.68*	.21	5%			
Adult Non-Compliance	Negative Attid.	.37*	.35				
	Positive Attid.	.39*	.27				
	Parent Educ.	.27	.06	17%			
Prosocial	Negative Attid.						
	Positive Attid.						
	Parent Educ.						

* significant predictor $p<.05$