DOCUMENT RESUME

ED 116 785 PS 008 207

AUTHOR Milkovich, Mark; And Others
TITLE The Effects of Television Advertising on Children. Report No. 3: Exploring the Relationship Between Television Viewing and Language Development. Final Report.
INSTITUTION Michigan State Univ., East Lansing. Coll. of Communication Arts.
SPONS AGENCY Office of Child Development (DHEW), Washington, D.C.
REPORT NO OCD-DB-346
PUB DATE Jun 75
NOTE 36p.; For other reports, see PS 008 205-209 and PS 008 380

EDRS PRICE MF-$0.76 HC-$1.95 Plus Postage
DESCRIPTORS Child Language; Correlation; *Elementary Education; *Language Development; *Language Research; *Television Research; *Television Viewing
IDENTIFIERS *Television Advertising and Children Project

ABSTRACT

This report, the third in a series of six reports on television advertising and children, describes a study designed to determine how the massive exposure to television affects children's language development. A total of 153 children in grades K-6 were interviewed about the entertainment, informational, and advertising content of 24 programs popular with children. The language maturity of the children was assessed using a word association paradigm to measure the complexity of their recognition of the relationships among words in the language. Respondents were divided into four age groups, and partial correlations were computed between television viewing and language maturity, controlling for intelligence, number of older siblings, and socioeconomic status. Averaging across the four age groups indicated a slight negative partial correlation between viewing and each language variable, suggesting that television exposure generally inhibited language development. Slopes were graphed to determine how television viewing affected the rate of development across each point in time compared to the previous norms. This analysis provides further evidence of the retarding effect of television viewing, especially in the 8- to 11-year-old range. (JMB)

MICHIGAN STATE UNIVERSITY

Department of
COMMUNICATION
College of Communication Arts

EFFECTS OF TELEVISION ADVERTISING ON CHILDREN --

EXPLORING THE RELATIONSHIP BETWEEN TELEVISION VIEWING AND LANGUAGE DEVELOPMENT

Mark Milkovich and Mark Miller
with Erwin Bettinghaus and Charles Atkin

REPORT #3

TV ADVERTISING AND CHILDREN PROJECT

THE EFFECTS OF TELEVISION ADVERTISING ON CHILDREN:

EXPLORING THE RELATIONSHIP BETWEEN TELEVISION VIEWING AND LANGUAGE DEVELOPMENT

-- FINAL REPORT --

June, 1975

Mark Milkovich and Mark Miller,
with Erwin Bettinghaus and Charles Atkin

Department of Communication
Michigan State University

Submitted to:

Office of Child Development
Department of Health,
Education and Welfare

Abstract

Since American children are now exposed to massive amounts of language via television, this study sought to detemine whether this mediated language exposure enhances or retards language development. Interviews were conducted with 153 kindergarten through sixth grade children in a socially diverse midwestern town. Rather than focus narrowly on television advertising, this exploratory investigation broadly considered all television stimuli most heavily consumed by children. This included exposure to entertainment, informational and advertising content in 24 popular programs during the late afternoon, early evening, and weekend mornings.

Language maturity was assessed using a word association paradigm to measure the complexity of the child's recognition of relationships among words in the language. Children were verbally presented with a series of 96 stimulus words and asked to respond with a single word. Coders categorized the relationships between each stimulus-response word pair along 12 dimensions in these basic categories: part of speech, paradigmic and syntagmic, and semantic. Item analysis reduced the number of suitable items to 54 words.

Respondents were divided into four equal sized age groups, and partial correlations were computed between TV viewing and each language variable while controlling for intelligence, number of older siblings, and socio-economic status. Averaging across the four age groups, there was a slight negative partial correlation between viewing and each language variable, with the exception of distant syntagmaticity; these data indicate that television exposure is generally inhibiting language development. However, the relationships differed by age: within the youngest and the oldest age quartiles, the pattern of associations were half positive and half negative, although the negative correlations were somewhat stronger.

Slopes were graphed to determine how television viewing affects the rate of development across each point in time, compared to the previous norms. This analysis provides further evidence of the retarding effect of television viewing, especially in the semantic category of variables. Thus, television exposure appears to hinder the child's development of language. The impact is most negative in the eight-to-eleven-year-old age range. More refined investigations will be needed to assess the relative contribution of advertising and various types of programs to the process of language development.

Introduction

A substantial body of literature supports the contention that unless severely mentally or physically handicapped, a child will learn a language given sufficient exposure to that language (cf Lenneberg, 1964; Deese, 1970; Dale, 1972). The nature of that exposure, however, can be shown to have profound effects on both the child's cognitive abilities (John, 1962; Loban, 1963) and the position he eventually takes in the social structure (Falk, 1973) because it directly affects the rate and extent of his language development (Bernstein, 1969; Labov, 1970). Until recently the majority of such exposure came from interpersonal sources, i.e., the child's family and peers. However, over the past two decades children have been increasingly exposed to massive amounts of language via television. Research has shown that children as young as three years old watch about an hour of television a day; that five-year-olds watch about three hours a day and the amount gradually increases until adolescence (Schramm et al., 1961; Lyle and Hoffman, 1971; Roberts, 1973).

A literature review revealed no empirical studies which focused on the language exposure received via television and its possible effects on language development; scholars have, however, speculated on the subject. While discussing linguistic differences between socio-economic classes, DeVito (1970) states that, because of television, "the environments of children from different status groups do not seem to differ as much as they did twenty years ago. . . . The results of previous studies, conducted before widespread access to television, do not seem applicable today." Despite speculation, data are not available to make possible a judgment about the effects of television exposure on language development.

The purpose of the present study was two-staged: (1) to determine whether or not mediated language exposure, i.e., to television, affected the language development of the child, and (2) if such effects were found, to determine whether they enhanced or retarded language development. On the one hand it seems that television should have an effect on language development. For one thing, a child watching television is certainly being exposed to language, almost a constant barrage of it. Secondly, there is considerable evidence that children do learn from mediated communication. Peterson and Thurston (1933) found that 7- to 12-year-olds' attitudes could be influenced by films and that the effects lasted up to 18 months. Laboratory and field studies of the relationship between televised aggression and interpersonal violence (summarized by Baker and Ball, 1969; Chaffee, 1972; Goranson, 1970; and Liebert, Neal, and Davidson, 1973) led the Surgeon General of the United States (1972) to conclude that the two were sufficiently linked to warrant immediate action. Similarly, Friedrich and Stein (1973) as well as Paulson, McDonald, and Whittemor (1972) have found that children can learn prosocial behavior from specially designed television programming. Research has also shown that television commercials affect children's behavior (Ward and Wackman, 1972) and that children can learn discrete information, e.g., knowledge of the Miranda warning, from televised entertainment shows (Dominick, in press). Thirdly, the variables I.Q. and S.E.S. have been shown to be related to television viewing habits. Specifically, working class children (Schramm et al., 1961; Greenberg and Dominick, 1969) and children with lower I.Q.s are the heaviest viewers (Schramm et al., 1961). These same variables have been shown to be at work in determining the linguistic maturity of the child (Entwisle, 1966).

On the other hand, there are reasons to suspect that television might not have much or any effect on language development. For example, television presents few opportunities for the child to engage in vocal activity of his own or to receive feedback on the appropriateness of his own vocal behavior. Bernstein (1969) makes a special point of noting that there is a relationship between the child's language development and the responses his speech production efforts elicit from his mother. Secondly, Hymes (in prep.) and others have argued that as children are becoming linguistically mature they are developing "a general theory of the speaking appropriate in their community." To the extent that television language does not represent the appropriate speech for a particular language community it might not be expected to affect language development in it.

Due to the conflicting predictions which could be made on the basis of research related to the issue in question, the present research must be considered exploratory in nature. A substantial number of possible relationships between television language exposure and linguistic development are examined involving variables with suspected potentials for explaining the phenomena.

Methods

Data for this study were collected from all kindergarten through sixth grade students at an elementary school in a small midwestern city. The subject pool for the study was particularly diverse including children of industrial workers, farmers, supervisory personnel, and professionals. A total of 153 subjects completed the questionnaire.

Measurements were made in the following three areas:

Demographics - Sex, number of older siblings, and socio-economic status

were determined by questioning the respondents individually. Age and I.Q. were provided by school officials. Since these officials are not allowed to reveal exact I.Q. scores the following coding scheme was used: (1) below average - below 95, (2) average - 96-110, (3) above average - over 110. Breadwinner's occupation was provided by the respondents and where necessary clarified by school personnel.

Television Exposure.- Viewing habits were assessed by asking subjects to indicate how often they watch shows selected on the basis of their popularity with children up to age eleven according to local Nielson ratings. The subjects were asked about their viewing behavior with respect to the most popular show for each time slot between the hours of 4 and 9 p.m. on weekdays and 8 a.m. to noon on Saturday and Sunday. In addition to the 20 shows selected in this manner, data were also gathered on Sesame Street, The Electric Company, and national and local news. In individual interviews the subjects were asked to indicate whether they watched the shows "almost always," "sometimes," or "almost never." A total viewing index was compiled by weighting the shows for their length and frequency watched and summing across shows.

Language Maturity - The word association paradigm has been used throughout this century to tap a wide range of psychological phenomena. Recently, Entwisle (1966) has been able to demonstrate its worth in assessing linguistic maturity. It was on the basis of her work that our measurement of language development was made. The key to the scheme is that, as they grow in linguistic maturity, children begin to recognize increasingly complex relationships among the words in the language. In the test children are provided with a single stimulus word and asked to give a single word

response. Later, coders go through the data and note the relationships between each stimulus-response pair. Since there are several types of relationships for each pair of words and each of these is complex, they will be examined individually and examples provided.

1. Part of Speech - Up until the age of five or six children tend to respond to any word stimulus with nouns. Only later do they begin to employ verbs, adjectives, adverbs and other minor parts of speech. This is the case because the younger children have not yet begun to recognize relationships between words and are apparently randomly selecting words from their lexicon or internal dictionary of the language. Nouns in particular are used because they comprise the largest single group of words which make up the younger children's lexicon, up to 47% in the very young. Thus it is not uncommon for younger children to respond to the stimulus "run" with "boys" while older children would respond with something like "jump."

2. Paradigmicity and Syntagmicity - Note that in the above example the older child is responding with a word that is of the same part of speech or form class as the stimulus word. "Run" and "jump" for example are most often used as verbs while "boys" is a noun. It is conceivable that the stimulus and response of the younger child could be physically proximal to one another in a sentence (e.g., "Boys run.") and are thus said to be syntagmatic. The stimulus and response words of the older child, on the other hand, are substitutable for one another in a sentence (e.g., "Boys run." and "Boys jump."). While such a substitution would alter the meaning of a sentence, it would not alter its syntactic, i.e., grammatical, integrity. Such stimulus-response pairs are said to be

paradigmatic. At about the ages of five and six children will tend to respond syntagmatically but will gradually provide more and more paradigmatic responses. This change, referred to as a paradigmatic shift, represents a gain in linguistic maturity. Syntagmatic responses indicate a familiarity with the stimulus word to the extent that the child has heard it used in the context of the response word. Paradigmatic responses indicate this contextual knowledge by virtue of their substitutability (i.e., if a stimulus word is appropriate in a context, the response will also be appropriate in that context). In addition, paradigmatic responses indicate knowledge of the abstract categorization scheme existing in many languages, the grouping of words according to their part of speech. A problem exists which does complicate the coding of stimuli and responses both in terms of their part of speech and their paradigmicity/syntagmicity. That is, words typically used as one part of speech may also be used as other parts of speech. While "run" and "jump" are usually employed as verbs, they are nouns in "The salmon run has just begun." and "Did he make the jump?" Rather than ignore this problem, as has been done in the past (cf Entwisle), we have attempted to take it into account in our coding scheme. As a result many responses are coded as more than one part of speech, making it also necessary, in some cases, to code them as both syntagmatic and paradigmatic. The response "fly" to the stimulus "bird" falls in this category. "Fly" can be both a verb, as in "Did you see the bird fly?", and a noun, as in "There's a fly in my soup." This response would therefore be added to both the syntagmatic and paradigmatic indexes.

3. Semantic Relationships - Overlaying the syntactic relationships between stimulus and response just discussed, there are also developmental changes in their meaning relationships. In very young children there is seldom a meaning relationship between stimulus and response. First through third graders, however, show an increase in antonymic responses (e.g., good-bad, fast-slow). Entwisle found that almost all paradigmatic responses to adjective stimuli for children in this age group could be accounted for by responses which had a meaning opposite that of the stimulus. More complex semantic relationships develop in older children. For example, a response word might have as its referent a class of objects which contains the specific object referred to in the stimulus. Such would be the case in the pattern "mosquito-insect." The converse also occurs as in "bird-robin." In addition a response may be definitional in the sense that it means the same thing as the stimulus, e.g., "fast-swift." All five of these types of semantic relationships: no relationship, contrasts, superordinate, subordinate, and definitional, were coded. In some cases the semantic relationships are not specifiable. For example the pairs "needle-pin" and "once-always" are not exactly definitional and contrasts respectively. Since there appears to be some sort of semantic relationship between them they were coded in an "other" semantic relationship category. An increase in any of the semantic categories as measured by total number of responses in that category is taken as an indicant of increasing maturity with the exception of the "no semantic relationship" category.

Procedures

The interviewers for the study were 11 female college students who had received one hour's instruction in the use of the instrument. While

they knew the subject matter of the study, they were not aware of the exact coding scheme being used. As arranged with the school, the interviewers entered the classroom where teachers paired them with a subject. The interviewers then escorted the subjects to either the library or multi-purpose room where both were seated for the interview.

The interviews began with the collection of demographic data, proceeded to the television exposure questions, and ended with the word association test. The length of the interviews varied considerably depending on the age of the child but averaged about 15 minutes. Interviewers all worked with a wide range of subjects and with both sexes.

Results

In order to achieve reliability, the individual test items were subjected to an item analysis. Given the low number-of-subjects to number-of-items ratio, a significance level criterion of .10 was used for selecting items for further analysis. In order to assure all items opportunity for selection, those coded as multiple parts of speech were analyzed for each of their possible individual usages. The procedures yielded 54 items suitable for further analysis.

Factor analysis was then used as a possible means of grouping all the response categories into a smaller and more manageable set of factors. Our analysis yielded factors containing groups of response categories for which no single underlying concept could be specified. Since there was no theoretic or research basis for splitting these factors, it was necessary to continue the analysis using individual response categories. However, the factor analysis did indicate that interpreting the data using all of the original response categories produced explanations which

were at best too cumbersome to be useful and at worst subject to error. The problem stems in part from a lack of variance in some of the response categories being used as criterion, i.e., dependent variables. Response categories lacking sufficient variance were eliminated. Those remaining are the ones which have been most often used by researchers including Entwisle. They are listed in Table 1.

Table 1 contains the correlations between the number of responses in each of the categories and the mental age of the subjects. Predictions of the directionality of these correlations for the response categories: Noun, Paradigmatic, Immediate Syntagmatic, and Contrasts could be made on the basis of Entwisle's research. In each of these cases the direction of our correlations were identical to hers. With the exception of the Verb and Adverb categories all correlations were significant at the .05 level.

The procedures discussed thus far served to abstract from the original instrument a set of measures of language development which were valid and reasonably reliable. They consist of responses to 54 of the original 96 items coded into 12 response categories. Each of the categories represents a separate measure of language development.

The second phase of the analysis focused on identifying the effects of television viewing, intelligence, number of older siblings, and socio-economic status on language development. The last three of these variables were included because they have been shown to have substantial direct effects on development. Using multiple regression the relationships were found to be decidedly nonlinear. It was felt that a better understanding of the relationships could be gained by dividing the subjects into four equal sized age groups and applying linear regression rather than

employing the more precise but less comprehensible nonlinear formulas for the entire sample. The mean ages, in months, for the four groups are 84.88, 110.62, 130.65, and 152.79. The multiple correlations between the predictor and criterion variables for each of the groups are presented in Table 2.

In order to isolate the effects of television viewing on language development the effects of intelligence, number of older siblings, and I.Q. were statistically controlled using third order partial correlations. The partial correlation coefficients between television viewing and language development for each of the age groups are presented in Table 3. The most striking aspect of the data is that the effects differ drastically from one age group to the next. Thus, while there are substantial relationships between the variables for particular age groups, they wash out in an analysis of overall effects. One-way analyses of variance computed on the partial correlation coefficients across age groups produced F-ratios of 3.34 and 7.15 respectively for the syntactic and semantic sets of response categories. Both of these are significant beyond the .05 level. This analysis cannot be meaningfully employed for the part of speech categories because, as a group, they do not fall under a single developmental concept as do the other two.

Using partial correlation coefficients as slopes, the effects of television viewing on language development are graphed in Table 4. Since it is possible that television had effects on development before the children reached school age it is not possible to determine whether a child is above or below the linguistic ability norms for his age group. It is possible, however, to determine how television is altering the rate

of that development. That is, heavy viewers may enter kindergarten with language abilities greater than their light viewing counterparts; even if television then had strong negative effects, we would not be able to determine the point in time at which they would fall below the norms. What we can say is that at a particular point television is either speeding up or slowing down the ongoing development and we can talk about the magnitude of that aid or hindrance.

With the exceptions of Nouns, Adverbs, and Immediate Syntagmatic, an upward or positive slope of the line indicates an increase in the developmental rate. In these three cases the opposite is true because frequency of response is negatively correlated with the mental age of the subjects (see Table 1). A higher incidence of such responses indicates progressively lower levels of development. The horizontal line in the graphs is a comparator which allows us to determine if, after connecting the lines drawn for each of the four age groups as determined by the partial correlations, viewing results in an overall increase or decrease in the rate of development. In all but the three cases noted above, if the graphed line terminates above the comparator an overall increase in the rate has occurred while lines terminating below it indicate an overall decrease in developmental rate.

The most clear cut case of viewing's ability to hinder development appears in the semantic category. The development of Superordinate, Definitional, and Other Semantic relationships are consistently below the norm. While the development of Subordinate and Contrast relationships occurs both above and below normal rates, the strongest influences occur in a negative direction. This oscillation is also observed for the

syntactic categories but here again the strongest influences are in a negative direction. Allowing for the exception of Adjectives, which vary little from the comparator in either direction, the part of speech responses also reflect this inhibition effect of viewing.

Discussion

Our data show that television viewing has a consistent negative effect on the rate of langaage development. The fact that the effects are not larger than they are in terms of magnitude is not sufficient reason to avoid giving them careful consideration. Even if one child is judged as having outstanding linguistic abilities while another child's are considered very insufficient, the observable differences in their actual behavior will correspond to only a small percentage of their total output. It is a situation where a small difference makes a big difference.

This research has demonstrated that television has effects on language development, and provides indications of the nature of those effects. More importantly, it has brought into focus the research problems which must be overcome if we are to provide a definitive statement on the effects of viewing on language development and suggested means for their solution.

First, a much larger sample size is needed. Given the size of the effects, a sample of 800 to 1000 is needed to achieve the statistical power for the tests we have used. Ideally the sample would also include older children up to and including those of senior high school age. At that point adult patterns of speech will have been reached. It is impractical to determine the absolute levels of language development by measuring children before they are first exposed to television but the same

information could be provided by examining the developmental levels of heavy and light viewers once they have become linguistically mature and then trace the developmental pattern backwards to the younger children.

Second, the correlations between frequency of response and mental age as provided in Table 1 provides an acceptable external criterion for measuring the rate of development. Another measure is required for assessing the extent of development at particular points in time. Available standardized tests are needed for this purpose and should be used in future research.

Third, we were not able to expand our coding categories beyond those of Entwisle. Although we place greater confidence in the validity of our coding procedures than we do in hers, greater precision is required. Not only must the subject provide a response to a stimulus, he must also be able to provide a clear indication of the part of speech, syntactic and semantic relationships between them. That is, he must provide a sentence incorporating each stimulus response pair so that unquestionable coding decisions can be made.

Fourth, our sample is racially and ethnically homogeneous. Societal needs and concerns dictate that we not only be able to specify television's effects on the majority population of white anglo-saxon children but also on children who are members of minority groups. If, as our data indicate, viewing impedes the language development of children who use the social dialect most often portrayed on television, the chances are good that it has more profound effects on children who do not employ that dialect.

Placing this research in an appropriate context we can say that: (1) there is reason to be concerned about and pursue additional research

on the effects of television viewing on language development, and (2) this study has provided insights as to how that course of action can be directed if it is to be fruitful.

TABLE 1

Correlations between subjects' mental age and frequency of responses in each language development category.

Parts of Speech	
Nouns	-.44
Adjectives	.45
Verbs	.09
Adverbs	-.06
Syntactic Relationships	
Paradigmatic	.77
Immediate Syntagmatic	-.17
Distant Syntagmatic	.08
Semantic Relationships	
Superordinate	.33
Subordinate	.29
Contrasts	.57
Definitional	.40
Other Semantic Relationships	.25

TABLE 2

Multiple correlations between the predictor variables: television viewing, intelligence, number of older siblings, and socio-economic status; and frequency of responses in the language development categories.

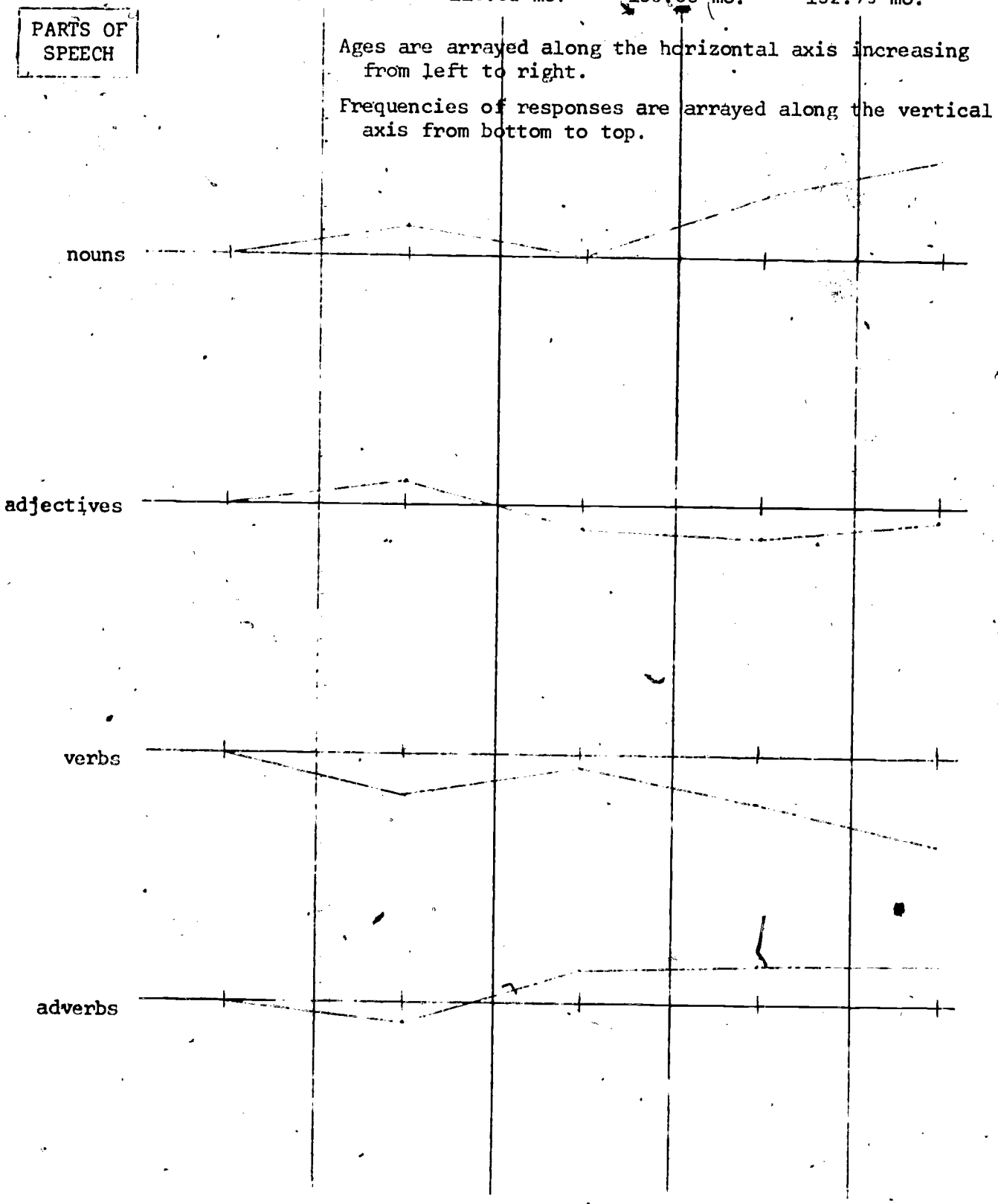
Parts of Speech	Group 1	Group 2	Group 3	Group 4
Noun	.16	.19	.33	.48
Adjective	.38	.25	.27	.32
Verb	.37	.18	.33	.23
Adverb	.46	.42	.12	.49
Syntactic Relationships				
Paradigmatic	.43	.29	.21	.54
Immediate Syntagmatic	.38	.27	.40	.41
Distant Syntagmatic	.21	.36	.41	.47
Semantic Relationships				
Superordinate	.39	.38	.22	.29
Subordinate	.34	.23	.41	.41
Contrasts	.35	.30	.34	.27
Definitional	.53	.23	.46	.36
Other Semantic Relationships	.62	.17	.32	.09

TABLE 3

Third order partial correlations between television viewing and language development.

Parts of Speech	Group 1	Group 2	Group 3	Group 4
Noun	.14	-.13	.31	.20
Adjective	.10	-.19	-.16	.13
Verb	-.18	.12	-.18	-.13
Adverb	-.11	.27	.04	.00
Syntactic Relationships				
Paradigmatic	.07	-.18	-.08	-.12
Immediate Syntagmatic	.25	-.26	.11	.19
Distant Syntagmatic	.28	-.32	.11	.20
Semantic Relationships				
Superordinate	-.15	-.17	-.07	.08
Subordinate	.11	-.18	-.24	.16
Contrasts	.04	-.09	-.18	.16
Definitional	-.30	-.14	.08	-.02
Other Semantic Relationships	-.31	-.19	-.05	-.01

TABLE 4

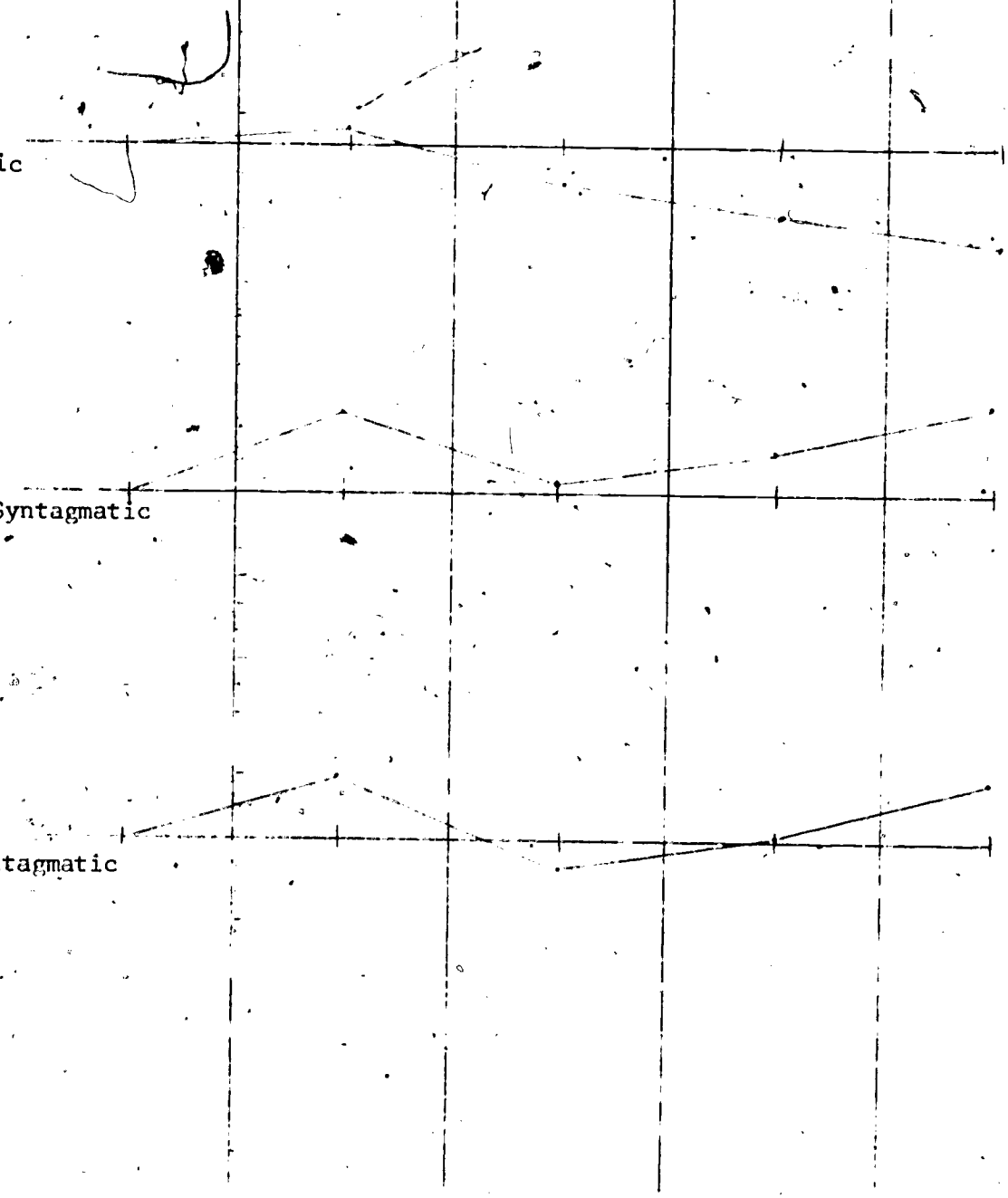

84.88 mo.
110.62 mo.
130.65 mo.
152.79 mo.
PARTS OF SPEECH
Ages are arrayed along the horizontal axis increasing from left to right.
Frequencies of responses are arrayed along the vertical axis from bottom to top.
nouns
adjectives
verbs
adverbs

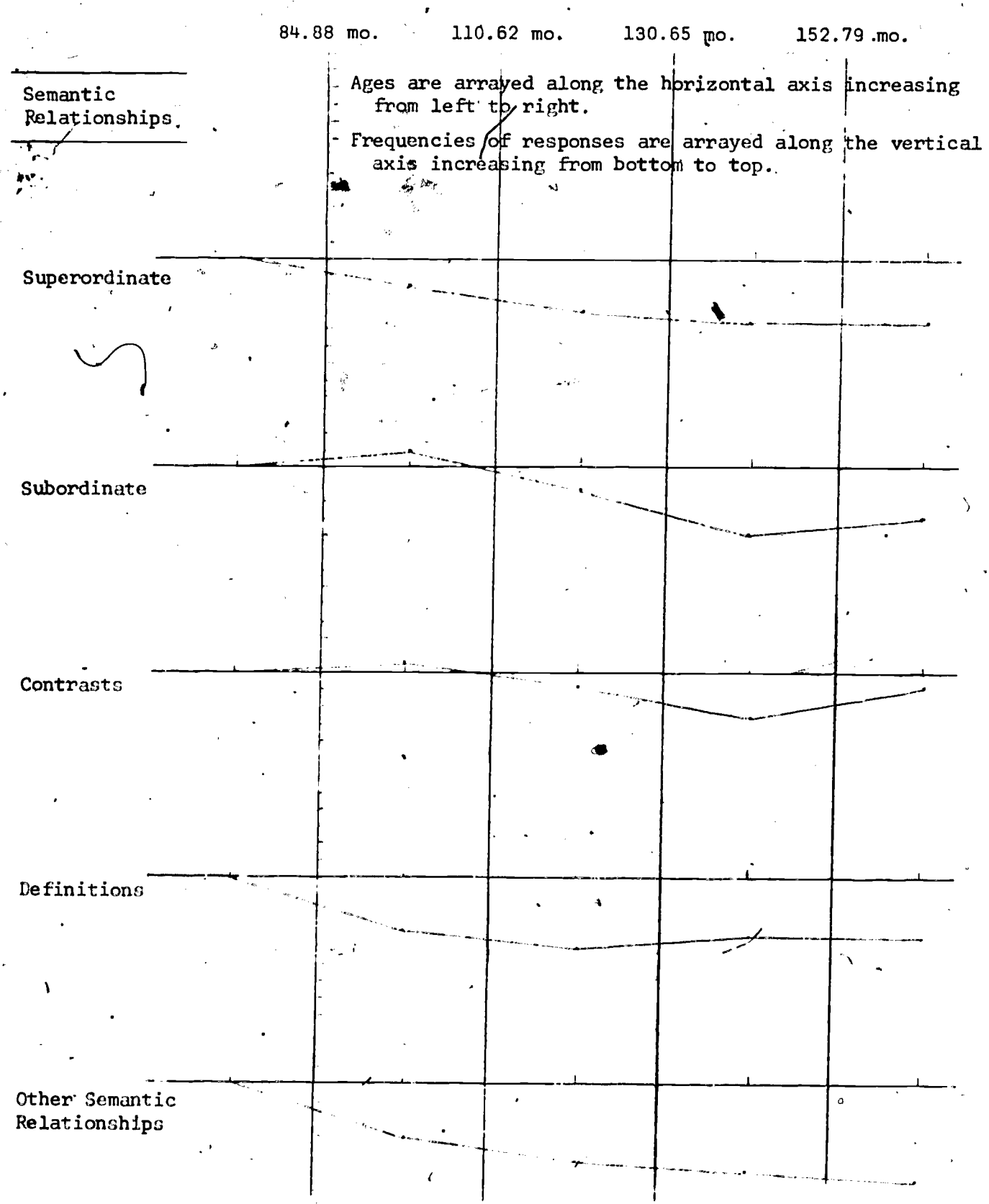
84.88 mo. 110.62 mo. 130.65 mo. 152.79 mo.

SYNTACTIC RELATIONSHIPS

Ages are arrayed along the horizontal axis increasing from left to right.

Frequencies of responses are arrayed along the vertical axis increasing from bottom to top.




84.88 mo.
110.62 mo.
130.65 mo.
152.79 mo.
Semantic Relationships
- Ages are arrayed along the horizontal axis increasing from left to right.
- Frequencies of responses are arrayed along the vertical axis increasing from bottom to top.
Superordinate
Subordinate
Contrasts
Definitions
Other Semantic Relationships

APPENDIX A

TELEVISION AND LANGUAGE DEVELOPMENT SURVEY INSTRUMENT

WHERE POSSIBLE CIRCLE THE APPROPRIATE RESPONSE

GRADE K 1 2 3 4 5 6

SEX BOY GIRL

RACE WHITE BLACK CHICANO OTHER(specify)

FATHER'S (breadwinners) JOB

NUMBER OF OLDER BROTHERS AND SISTERS

SIBLINGS IN GRADES 1
2
3
4
5
6

AGE

DO YOU WATCH....	ALMOST EVERY WEEK (DAY)	SOMETIMES	ALMOST NEVER
WEEKLY			
GUNSMOKE			
WAIT TILL YOUR FATHER COMES HOME			
HAWAII FIVE-O			
MISSION IMPOSSIBLE			
LETS MAKE A DEAL			
THAT GIRL			
TO TELL THE TRUTH			
THE WALTONS			
THE PRICE IS RIGHT			
THE SCOOBY DOO MOVIE			
THE JEANNIE CARTOON			
FAT ALBERT			
ALL IN THE FAMILY			
MASH			
MAUDE			
LOTSA LUCK			
HAIR BEAR			
THE CHAN CLAN			
DAILY			
I DREAM OF JEANNIE			
BEWITCHED			
LOCAL NEWS			
NATIONAL NEWS			
SESAME STREET			
ELECTRIC COMPANY			

I. # _____

INSTRUCTIONS

"Today I want to play a word game with you. You may not have played this game before, so let me explain it to you. I'm going to read some words, one at a time. Each time I read a word, I want you to tell me the first word that you think of. When you tell me the word, I'll write it down and then read you another word. To make sure you understand the game, let's try a few practice words. I'll say a word, and then you tell me the first word you think of, OK? The first word is:

Cat_____

"That's fine. Now, lets try another practice word, and then we'll start the regular game. The next word is:

Grass_____

"That's right. Now we'll play the game, and see if you can think of a word to tell me for every word I read to you. All right?"

USE MORE EXAMPLES IF NECESSARY

E.g. house _____

jump _____

ID # _____

1. add _____

2. allow _____

3. always _____

4. because _____

5. bee _____

6. begin _____

7. belong _____

8. between _____

9. bird _____

10. bitter _____

11. black _____

12. bright _____

13. bug _____

14. butterfly _____

15. carry _____

16. chair _____

ID # _____

17. clean _____

18. cocoon _____

19. cold _____

20. color _____

21. dark _____

22. deceive _____

23. enjoy _____

24. examine _____

25. flower _____

26. fly _____

27. fruit _____

28. gallop _____

29. gently _____

30. give _____

31. hand _____

32. happen _____

ID # _____

33. hard _____

34. he _____

35. her _____

36. high _____

37. him _____

38. inquire _____

39. insect _____

40. into _____

41. it _____

42. join _____

43. listen _____

44. long _____

45. loud _____

46. loudly _____

47. maintain _____

48. man _____

ID # _____

49. mix _____

50. moth _____

51. move _____

52. music _____

53. needle _____

54. net _____

55. never _____

56. obey _____

57. ocean _____

58. off _____

59. on _____

60. once _____

61. pleasant _____

62. prepare _____

63. pretty _____

64. quiet _____

ID # _____

65. restore _____

66. river _____

67. rough _____

68. run _____

69. sad _____

70. salt _____

71. seldom _____

72. sell _____

73. she _____

74. sheep _____

75. short _____

76. since _____

77. sit _____

78. slow _____

79. slowly _____

80. smooth _____

ID # _____

81. sometimes _____

82. sour _____

83. square _____

84. swift _____

85. table _____

86. tall _____

87. tell _____

88. them _____

89. they _____

90. thirsty _____

91. up _____

92. us _____

93. usually _____

94. wild _____

95. wing _____

96. yellow _____

WEDNESDAY NIGHT TV SHOWS

"WHAT TV SHOWS DID YOU WATCH YESTERDAY AND LAST NIGHT?

(PROBE AS NECESSARY)

(PLACE A CHECK MARK AFTER THE SHOWS WATCHED)

THE FLINTSTONES

NEW ZOO REVIEW

MERV GRIFFON

SESAME STREET

I DREAM OF JEANNIE

GILLIGAN'S ISLAND

THAT GIRL

I LOVE LUCY

TO TELL THE TRUTH

THE BEVERLY HILLBILLIES

NEWS LOCAL( ) NATIONAL ( )

THE ELECTRIC COMPANY

MOD SQUAD

BEWITCHED

LET'S MAKE A DEAL

SONNY AND CHER

CHASE

THE COWBOYS

MOVIES THE MORNING AFTER ( )
SPENCER'S MTN. ( ) HOUSE OF WAX ( ) NAKED RUNNER ( )

OTHER (specify)

OTHER

OTHER

OTHER

OTHER

OTHER

THURSDAY NIGHT TV SHOWS

"WHAT TV SHOWS DID YOU WATCH YESTERDAY AND LAST NIGHT?"

(PROBE AS NECESSARY)

(PLACE A CHECK MARK AFTER SHOWS WATCHED)

THE FLINTSONES

NEW ZOO REVIEW

MERV GRIFFON

SESAME STREET

I DREAM OF JEANNIE

GILLIGAN'S ISLAND

THAT GIRL

I LOVE LUCY

TO TELL THE TRUTH

THE BEVERLY HILLBILLIES

NEWS LOCAL ( ) NATIONAL ( )

MOD SQUAD

BEWITCHED

WHAT'S MY LINE

MICHIGAN OUTDOORS

THE WALTONS

FLIP WILSON

IRONSIDE

KUNG FU

MOVIES ROBINSON CRUSOE ON MARS ( )
THE CHRISTMAS TREE ( )

OTHER (specify)

OTHER

OTHER

OTHER

OTHER