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# Stimulus determinants of children's attention to Sesame Street

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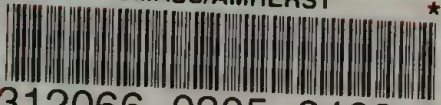
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STIMULUS DETERMINANTS OF CHILDREN'S  
ATTENTION TO SESAME STREET

A Thesis

By

STEPHEN R. LEVIN

Submitted to the Graduate School of the  
University of Massachusetts in partial  
fulfillment of the requirements for the degree of

MASTER OF SCIENCE

March

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Psychology


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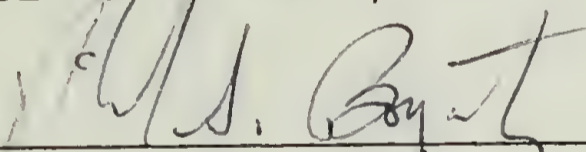
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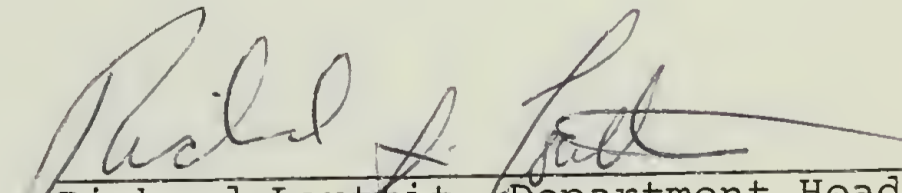
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## INTRODUCTION

While television has increasingly woven itself into the fabric of American life over the past 25 years, it has been only recently that the psychological and educational communities have recognized its potential effect on the developing child. Most television research that has dealt with children has been greatly influenced by the 1961 Schramm, Lyle, and Parker study, the first comprehensive study of television and North American children. This and subsequent research has examined what effects television has on the child. Questions have revolved around such areas as physical effects (e.g., eye strain), emotional effects (e.g., effects of high levels of excitement), cognitive effects (e.g., I.Q.) and behavioral effects (e.g., violence). Even the research in these areas has been particularly scarce, although the recent five volume Surgeon General's report on television and social behavior (Rubenstein, Murray, and Comstock, 1972) has sparked an increase in interest in television and its role in personality development.

An equally intriguing aspect of television is its ability to attract and hold attention. For years, preschool children have been characterized as having short attention spans, ranging in length from a few seconds (Yendovitskaya,



1971; Van Alstyne, 1932) to about 30 minutes (Moyer and Gilmer, 1955). Yet these same children who will shun toys and other materials in a short while will watch television sometimes for hours on end. What is it in the nature of television that enables it to gain and hold the attention of young children? A first step in determining why children watch television for considerable lengths of time is to determine what they watch.

#### Verbal Reports of Television Viewing

Several methods have been used to determine what materials (television and otherwise) will attract and hold children's attention. The most obvious is simply to ask them (or if they are not verbal, to ask their parents). Self-reporting measures such as questionnaires, diaries, and interviews have been used extensively in studies of the television viewing behavior of the American public (Schramm, et al., 1961; LoSciuto, 1971; Lyle and Hoffman, 1971). Recent evidence indicates, however, that such self-reporting techniques may be sufficiently inaccurate to render them invalid (Bechtel, Achelpol, and Akers, 1971; Mayer, 1972). The A. C. Nielson Company, whose ratings determine which commercial television programs survive or die, has attempted to circumvent these inaccuracies by installing in the home a device which records each time the television is turned on and the channel to which it is tuned. Although still in use, this method has

been severely criticized on the grounds that it is impossible to determine which family members are watching the program, or indeed if anyone at all is watching (Liebert, Neale, and Davidson, 1973). A refinement of this technique was the patented Dynoscope, a device used by researchers in the home to photograph both the family members viewing the television program and the program itself (Allen, 1965). In Allen's studies Dynoscopes were installed in the home and instructions were given to the family to circle in the weekly magazine, TV Guide, those programs they viewed each day. The Dynoscope used a time-lapse camera and a set of mirrors to produce a photograph of both the television screen and the viewing area in front of it at a rate of one every 15 seconds. Allen found that 19% of the time the television set was on there was no audience watching it. In addition, "inattentive audience" time was recorded. An inattentive audience referred to one or more people in the viewing area of the set who were engaged in other activities, such as eating, playing, sleeping, fighting, or loving. In an "inattentive minute" at least one person was in the viewing area but no one was looking at the set for three of the four Dynoscope pictures. Average "inattentive audience" measures were recorded 21% of the time. Thus, for 40% of the set-in-use time there was either no audience or an inattentive audience. Comparison of the actual programs as recorded by the Dynoscope and as

recorded by the family in the TV Guide diary showed discrepancies from family to family. The reliability of the diary technique compared to the Dynoscope technique was not measured, but enough major discrepancies appeared to warrant Allen to point out the need for such measurement.

Bechtel, Achelpol, and Akers (1972) used a technique similar to Allen's in an attempt to correlate actual television viewing behavior with responses on a questionnaire. Videotape recorder cameras and microphones were placed in homes to continually record family viewing times (as opposed to the time-lapse Dynoscope). Families were also given questionnaires to complete, including a daily diary of viewing, responses specifying programs viewed the previous day and estimates of viewing time. The results indicated a tendency for subjects to overreport about 25% in their diaries and to overestimate their average day's (and previous day's) viewing time by 40-50%.

In sum, data obtained from diaries and questionnaires dealing with what programs were watched and how long they were watched have been unreliable at best. An improvement over this interview method has been the recording of viewers watching television in the home. However, as a technique to determine stimulus attributes of attention, research in the home has two disadvantages. Its cost is prohibitive both in terms of equipment and manpower, and it enables little control

over the stimulus materials. A reasonable alternative is the laboratory. The laboratory situation provides both suitable control over stimuli and standardized viewing conditions. Two laboratory approaches to determining stimulus attributes of attention are the sequential analysis and the simultaneous analysis, the former having methodological precedents in the psychological literature.

#### Sequential and Simultaneous Presentations of Stimulus Attributes

The sequential approach is exemplified by the research conducted in the area of infant perception. Hershenson (1967) described two procedures generally used to determine variables which will attract and hold visual fixations of the infant. In one procedure the infant is presented with a geometric form or pattern and an ocular recording is made as the infant scans the figure (or fixates on one point). With this method a detailed analysis can be made of those salient features of the geometric form. Salapatek and Kessen (1966), for example, found that a newborn presented with a triangle will tend to fix his gaze at a single vertex rather than continually scan the figure.

Most researchers in the field tend to use a second procedure in which the infant is presented with visual stimuli either singly or in a paired comparison situation. Stimuli in these experiments generally have been treated as uni-dimensional along continua of complexity, novelty, or



movement. Unfortunately, the results of such research have been rather disappointing. After over 15 years of experimentation, concepts such as complexity and novelty are as elusive as ever and few generalizations are possible (Hutt, 1970). One source of confusion might lie in the stimuli themselves. Infants have been presented with checkerboards, random shapes, schematic faces, and blinking lights without regard to any naturalistic considerations.

An alternative to this sequential approach to determining the salient attributes of the environment is to simultaneously present a large number of stimuli to the child. The experimenter then examines closely those stimuli which are actually attended to. While there is no precedent for this methodology in the psychological literature, researchers at Children's Television Workshop (C.T.W.), the creators of the highly successful television programs Sesame Street and The Electric Company have taken this approach in their formative research for these programs.

#### Children's Television Workshop

Reeves (1970) described the procedure used in producing programs in the television series, Sesame Street. Using both their experience and intuition, members of the production staff at C.T.W. developed notions of television material which they thought would have high appeal for the three to five-year-old age group. The research staff was asked to determine if these assumptions were correct.

While the procedures and statistics used by C.T.W. may appear a bit sloppy to the academician, it is important to point out that Sesame Street was the first instance in the history of television of a television program being dependent on laboratory research for its production. Unlike most university researchers the C.T.W. research people were under extreme time constraints to obtain results the writers could incorporate as guidelines in production. For this reason many analyses of the data were casual and were certainly not meant to be definitive in any sense. The criticisms of their work put forth in this section are to be viewed in this light and are not intended so much as criticisms as possibilities for improvement in methodology.

The experimental viewing room contained a television set, a chair for the child, and a chair for an adult observer. Subjects were introduced to the room for three successive days before the study began. In the experiment the child was brought into the viewing room and seated 4 feet from the set. Originally, there were no distractions in the viewing room, but it was found that the children tended to be overly cooperative--their eyes never left the set. This presented a problem. If there were no variability in attention it would have been impossible to determine which attributes were powerful and which were not. A distractor was then developed which consisted of a Kodak Carousel slide

projector housed in a rear projection box. The box was placed next to the television set (also 4 feet from the child) such that the television, the child, and the distractor formed a 45 degree angle with the child at the vertex. A selection of slides was projected at a rate of one every 7.45 seconds. The order of presentation remained constant for each subject. Each slide was preceded by a distinct click from the projector which served as a signal to the child that a new slide would appear. Next to the child was seated an adult observer (in front of the distractor) who depressed a pushbutton when the child's eyes left the television screen and released it when they returned. Thus, a continuous pen recording of visual fixation was obtained for each 7.45 second interval.

Several criticisms can be made of this experimental situation. First, the experimental room as described by Reeves was unnaturalistic. In the home, television programs compete for the child's attention with a host of items including toys, books and magazines, and food, but in this study the child had nothing to do but to watch the television or the slide show. In addition, the preschool children in the study may have been uncomfortable, having been brought alone into a barren room, seated in the only piece of furniture available to them, and stared at by a strange adult pushing a button whenever they moved their heads. There was no mention of subject attrition in this report. Second, for

all subjects the observer was seated on the distractor side of the child. In order for the child to look at the slides he would have to turn toward the adult. At the very least, C.T.W. should have counterbalanced the situation so half the subjects would turn away from the observer to look at the slides. Of course, it would have been best to have removed the observer altogether, perhaps behind a screen. Third, the external environment (the distractor) was constantly in a state of fluctuation. It is possible that variation in attention was more under the control of the external environment than under the control of changes in the television material.

This experimental situation was used to collect data from over 30 pieces of pre-existing children's television programming as well as from original material produced by the C.T.W. staff. The continuous pen recordings were scored for each 7.45 second interval according to the following scale:

0--the child's eyes were never on the television screen,

1--the child's eyes were on the television screen for less than one-half the interval,

2--the child's eyes were on the television screen for more than one-half the interval,

3--the child's eyes never left the screen.



The research staff then constructed what they called "cumulative graphs" by adding the subjects' scores interval by interval. The intervals were plotted along the abscissa while the ordinate ranged from zero to the maximum cumulative attention score for the group of subjects. For example, for 10 subjects the ordinate would range from 0-30. Once the graphs were drawn the researchers and producers sat down and viewed the television material while watching the graph for low and high points. Unfortunately, the conversion of the attention data to ordinally scaled data resulted in an excessive loss of information and limited the statistical analyses which could be done. Reeves mentioned no statistical procedures to determine if in fact any fluctuations in attention across the program were significantly different. It appears that the C.T.W. staff "eyeballed" the data to reach their conclusions. Those conclusions were as follows (Reeves, 1970):

1. Dramatic changes in visual attention were observed from child to child, program to program, and moment to moment within a program.

2. Attention is generally higher for animated segments.

3. Segments which show adults talking are generally low.

4. Pixillation is an effective attention sustaining technique.

5. Commercials usually bring the attention level up near the maximum.

6. There are rather marked sex differences in the appeal of certain program elements, but many have common appeal for preschoolers.

7. Children are generally attentive to animals on television.

8. Children particularly enjoy seeing other children on television.

9. Rapidly paced programming is generally more appealing than slower paced segments.

Rust (1971) described a method for analyzing the "cumulative graphs" of five The Electric Company pilot shows compiled by the C.T.W. research staff. Both Sesame Street and The Electric Company programs are constructed by piecing together individual segments or episodes, called bits. Rust's method essentially attempted to break down these bits into component attributes. The presence or absence of certain attributes would then account for the variability in attention levels across bits. Unfortunately, this paper lacks a great deal of information and detail underlying the analysis. In addition, Rust used some rather unorthodox statistical techniques in his analysis. Since this unpublished paper is the only piece of research directly relevant to the proposed research, some details of his procedure will be given along with several criticisms of his quantification. Rust reasoned that since each show differed in average attention per bit,

the original distractor data had to be converted to standard attention scores for each bit relative to the norm of the show in which it was found. He neglected, however, to describe the original distractor data he used. Was each 7.45 second interval described in terms of visual fixation time, or was each interval categorized on a scale of 0-3 as described by Reeves? If indeed the data he used was ordinal, the loss of information is excessive and standardized scores are essentially meaningless. For the sake of argument it is assumed that he used visual fixation time. He then listed the 15 highest scoring bits and the 15 lowest scoring bits. A prototype attribute was arbitrarily chosen and defined and the list was scanned for those bits which fell under this definition. If the attention scores of those bits did not reflect a trend of high or low appeal the attribute was abandoned. If a trend did appear, the definition was refined so as to eliminate those bits with inappropriate attention scores. The definition was modified until no further improvement was possible. This process was then repeated with a new attribute. Definitions of attributes were obtained until all bits in the scan list could be accounted for. Finally, the definitions were examined for similarities and combined into a more general definition where possible. The end result was a list of high and low appeal attributes and a set of rules to predict levels of response to any particular

bit. To test his model, Rust applied the rules to 122 new bits to predict their appeal and compared this with the actual attention scores supplied by C.T.W. Significance was tested by a Chi-square analysis. The table below illustrates his results.

<u>Prediction</u>	<u>Actual Number of High Scoring Bits</u>	<u>Actual Number of Low Scoring Bits</u>
High (67)	48	19
Low (21)	7	14
Indeterminate (34)	10	24

Chi-square with 2df was equal to 20.2 and was significant at the .001 level. Rust apparently took the actual attention scores and calculated a mean (he used the word "average") in order to classify the observed bits. Any score above the mean was classified as high and below the mean, low. He should have used the median instead as his measure of central tendency. One would assume that the writers of the television program were trying to produce bits with as high a level of attention value as possible and the resulting frequency curve of bits should be negatively skewed. Even so,  $\chi^2 = 20.2$  is significant with 2df and Rust's predictions are significantly different from what was observed. This is not necessarily a telling criticism in itself, but Rust misinterpreted the use of the test and concluded that the observed attention scores supported his model.



One example of an unorthodox statistical procedure he used is his calculation of interobserver reliability scores. Four observers rated 20 bits for the presence or absence of a particular attribute. For some unspecified reason, Rust calculated the percentage of two-person agreements. If, for example, all four agreed on the absence of the attribute in 8 bits (48 two-person agreements), and were split 3 to 1 on the remaining 2 bits (6 two-person agreements), the two-person agreement index would be .95 for that attribute-- $(60 + 48 + 6) / (20 \times 6) = .95$ . Scores for the final 8 attributes of the model ranged from .76 to .99. Interpretation of these index scores is rather confusing. While the index appears to be continuous, for any given bit it is impossible to have 0, 1, 4 or 5 two-person agreements. Any combination of 4 people must yield 2, 3, or 6 two-person agreements. Since the minimum two-person agreement is 2, the minimum index is .33. Also, assuming an equal probability of scoring presence or absence of an attribute in a bit, the chance value of the index is .50. In light of these constraints, it is difficult to determine the level of significance of differences between any two index scores.

In the final test of his model, Rust had 9 observers predict levels of attention (high, low, or indeterminate) using his model, and 9 observers made predictions using only their intuition. Rust acknowledges that there might be a

bias favoring his model since the program material used in this final test was used in developing the model. Regardless, the conclusions from the data (not Rust's conclusions) are as follows.

1. With the model, raters were correct in 48.5% of the bits and either were wrong or could not decide on the rest.

2. With a "modified model," raters were correct on 43% of the bits.

3. Raters not using Rust's model were correct on 55.5% of the bits.

Thus, it appears that raters do worse when using Rust's model than when using only their intuition. In reviewing Rust's paper one reaches the following conclusions:

1. Rust's procedure is largely unreproducible.

2. Interobserver reliability, or at least some of his attributes may be questioned.

3. Predictions using his model differ significantly from what is observed.

4. Raters do worse using his model than they do when using their own intuition.

#### Statement of the Problem

As the above review indicates, the methodology of the sequential approach to determining stimulus attributes of attention, while statistically sound, has not produced very

fruitful results. On the other hand, the simultaneous approach taken by Rust and the research staff at C.T.W. has lacked statistical and methodological rigor.

The aims of the present research were two-fold:

1. Since there was little precedent for the simultaneous approach in the psychological literature, this study was an attempt to establish such a methodology. As such it was exploratory in nature.

2. The methodology and statistical analyses were applied to data collected by C.T.W., and the results were related to their findings.

The general procedure in this study utilized attention data collected from 9 four-year-olds by C.T.W., the Sesame Street test program which the subjects viewed, and a Hewlett Packard 2100A Computer. The attention data, and data extracted from the television program were inputted to the computer, manipulated, and analyzed with standard statistical techniques.

The study is in two parts. In the Bit Analysis section, several analyses of attention to the Sesame Street test show were done using the bits as defined by C.T.W. as the units of analysis. In the Attribute Analysis section of this study, a linear multiple regression analysis was applied to the same Sesame Street program. The units of analysis in this section were visual and auditory attributes of the

television material. The resulting equation was of the form

$$Y' = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_k X_k$$

where

$Y'$  = predicted value of attention

$X$  = measurement of attribute occurrence.

The estimation of the  $\beta$ 's was arrived at by the standard least squares solution.



## THE BIT ANALYSIS

Sesame Street programs are created by piecing together short segments or bits much like television commercials. Their independent nature enables the research staff at C.T.W. to evaluate the attention value of each. From a practical point of view, if a bit has low attention value it will be thrown out and will not appear in any Sesame Street program. However, since bits are relatively expensive to produce, caution must necessarily be exercised in the decision process. An additional objective of studying the attention level of the bits is to seek common factors between high scoring and low scoring segments of the program. Identification of these factors is used to aid the production staff in the development of new program material.

Table 1 lists the bits making up Test Show 4 and the respective attention scores calculated by C.T.W. (C.T.W. Memo, 1970). This memo did not describe whether attention scores were calculated from the 0-3 scale described previously or from actual visual fixation times. In addition, there was no mention of any statistical procedures used to arrive at the final decision to keep or throw out the bit. Sufficient questions arise about their data to warrant additional analysis.

TABLE 1  
 ATTENTION TO SESAME STREET TEST SHOW 4  
 AS CALCULATED BY CHILDREN'S  
 TELEVISION WORKSHOP

Bit	Attention Level
<u>Animation:</u>	
D-Dog	1.00
Hensen 2	0.97
1, 2 Erase My Shoe	0.93
Countdown (1)	0.93
Countdown (2)	0.93
Wanda the Witch (1)	0.90
Wanda the Witch (2)	0.90
Greeblies	0.90
Jazz 3 (1)	0.90
Jazz 3 (2)	0.90
R Commercial (1)	0.83
R Commercial (2)	0.83
<u>Films:</u>	
Alphabet in Air	0.97
Over, Under and Around	0.90
Round	0.83
Man from Alphabet (Calendar)	0.77
<u>Music:</u>	
Everybody Dance (1)	1.00
Everybody Dance (2)	1.00
Child Sings Alphabet	0.97
Everybody Dance (3)	0.97
Susan Sings Alphabet	0.90

TABLE 1, Continued

Bit	Attention Level
<u>Animals:</u>	
Bear Cub (Studio)	0.83
Muppets and Llama	0.83
<u>Sesame Street Sketches:</u>	
Gordon Fixes Window	1.00
Bubbles	0.90
R Things (Gordon)	0.90
Sesame St. Intro. Sign	0.90
Card Game (Bob and Kids)	0.87
Gordon Reads "What Kind of Feet Does a Bear Have?"	0.80
<u>Talking to Children on Set:</u>	
Dance Pose	0.97
Bubbles	0.90
Follow the Leader	0.90
Card Game (Bob and Kids)	0.87
Gordon Reads "What Kind of Feet Does a Bear Have?"	0.80
<u>Muppet Sketches:</u>	
Kermit and W (Monster)	0.93
Ernie, Bert, Three	0.90
Kermit and W (Wiggle)	0.87
Llama	0.83
<u>Magician:</u>	
R	0.90

1. Was there a statistically significant difference in attention level among the bits?
2. Did the attention level of any of the bits differ significantly from that of the mean attention level of the program?
3. Were attention levels to the bits independent?
4. Was there agreement between subjects in rank ordering the bits in attention level?
5. How much of the variability in attention level of the program was explained by using bits as the unit of analysis?

### Method

#### The Subject Data

Distractor data gathered by the Children's Television Workshop research staff using the procedure described previously (Reeves, 1971) was obtained for Sesame Street Test Show 4. The subjects participating in this C.T.W. study were 9 four-year-olds, 4 male and 5 female, from day care centers in the New York City area. Since Sesame Street was not yet "on the air" at the time of testing, these children were naive with respect to this now popular series. The data from the study was in the form of continuous pen recordings for each child. Deflections of the stylus upward indicated that the child's eyes had left the screen. The speed of the paper in the pen recorder was 1 inch/3 seconds. Two independent



observers painstakingly measured with a ruler the lengths of lines representing "eyes on" and "eyes off" the television for each subject. The ruler used was graduated in 60 parts/inch. Since visual acuity in this task appeared to be inversely proportional to the length of time the observer was engaged, a table of random numbers was used to resolve any questions that arose for those lines which appeared to end between two graduated marks on the ruler. A comparison was made of the two sets of measurements for each subject. In the event of a large discrepancy ( $2/60$ th inch or more) the pen recording was referred to and that line was remeasured.

#### Apparatus and Procedure

A videotape of Sesame Street Test Show 4 was obtained from C.T.W. and was viewed on a Sony Videomonitor, Model CVM-110VA. The tape was played on a Sony Videocorder, Model AV-360. A push-button microswitch combination was connected to a Hewlett Packard 2100A computer programmed to store on a computer disc on a running time basis the time at which the switch was opened and closed. The television program was played and an observer depressed and released the push-button at the beginning and ending of a bit for all bits in the program. Thus, it was determined at what times in the program the bits started and ended and how long the bits occurred.

The subject data were then matched with the bit data and percent of attention for each bit for each subject was

computed. The data appear in Table 2. The discrepancies in mean attention level to the bits as calculated by C.T.W., and the mean attention level to the bits in this analysis may have been due to the exclusion of any blank time between bits and short transitions (such as a character introducing the next bit) in the present study. It was unclear where C.T.W. defined the beginning and ending of a bit.

## Results and Discussion

### Bit Attention Differences

Was there actually any difference in attention among the bits? A one factor repeated measures analysis of variance was done of the 41 bits and is presented in Table 3. There was a significant difference in attention among the bits,  $F(40, 320) = 1.92, p < .01$ . While no further analyses were done to determine the nature of that difference, an examination of Table 2 points to the difference between the bit with 100% attention and that with 75% attention. These high and low scoring bits will be examined at a later time in light of the results of the attribute analysis.

If one wanted to construct a Sesame Street program with the highest attention level, one need only use those bits with the highest attention level and discard those with low attention levels. From a practical standpoint, however, bits are expensive to produce and one must be cautious in

TABLE 2  
SUBJECTS' PERCENT ATTENTION TO SESAME STREET TEST SHOW 4 BITS

Bit	Subjects									Mean	Standard Deviation	Length/Bit
	1	2	3	4	5	6	7	8	9			
Opening Song	95	63	100	99	96	50	94	100	82	87	18.2	85.2
Baseball	85	60	100	95	98	100	94	96	83	90	12.8	191.8
1, 2 Erase My Shoe	37	100	100	100	100	65	100	76	100	86	22.7	22.1
Balloon Bit D	70	100	100	100	90	100	100	93	100	95	10.0	14.0
Wanda the Witch (1)	59	94	100	100	100	93	97	100	94	93	13.1	75.1
Gordon W Tag	84	100	100	100	100	43	100	100	100	92	19.1	13.7
Muppets and Llama (1)	36	79	100	100	79	97	98	100	70	84	21.5	90.2
Jazz 3 (1)	72	100	100	100	100	100	100	100	100	97	9.3	46.5
Muppets and Drawing	61	100	100	100	100	100	100	82	69	90	15.6	20.7
Jazz 3 (2)	83	100	100	100	97	100	100	91	83	95	7.3	47.0
Muppets Drawing	75	84	100	100	100	100	100	76	100	93	9.6	24.5
Cards on Stoop	71	83	100	97	93	75	95	89	98	89	8.4	111.9
Everybody Dance (1)	77	100	100	100	94	77	99	83	100	92	8.8	41.2
Countdown (1)	100	100	100	100	100	100	100	100	100	100	0.0	13.8
Everybody Dance	91	100	100	100	100	100	100	76	100	96	5.7	27.9
Countdown (2)	80	100	82	100	100	100	100	76	100	93	9.1	16.3
Everybody Dance	100	100	99	100	100	100	100	100	100	100	0.3	27.5

TABLE 2, Continued

Bit	Subjects									Mean	Standard Deviation	Length/Bit
	1	2	3	4	5	6	7	8	9			
Countdown (3)	94	100	100	100	100	100	100	100	100	99	2.0	17.4
Everybody Dance	88	100	100	100	100	100	100	47	100	93	17.6	9.9
R Commercial	99	95	100	100	100	76	100	100	100	96	7.9	36.5
Magician R	76	100	100	94	100	100	94	100	33	89	22.2	57.7
Wanda the Witch (2)	77	97	100	99	100	98	100	70	77	91	12.4	75.3
Bubbles	62	85	100	82	100	99	99	76	87	88	13.2	132.3
Round	75	92	97	81	96	97	99	87	97	91	8.4	168.6
Kermit and Monster W	65	99	100	85	100	99	99	93	96	93	11.6	95.7
R Commercial (2)	57	80	100	100	100	100	100	100	100	93	15.0	37.1
R Things	17	73	100	89	99	98	100	98	89	85	26.9	76.8
Greeblies	95	100	100	97	100	99	100	100	100	99	1.8	62.3
Kermit and W (Wiggle)	92	93	100	94	100	100	95	100	87	96	4.7	97.7
Susan Sings Alphabet	96	93	88	100	100	100	99	89	100	96	4.9	85.7
James Earl Jones	86	87	100	100	89	99	98	99	92	93	8.2	95.2
Follow the Leader	78	97	100	86	100	98	98	94	90	93	7.5	127.5
Over, Under and Around	84	88	100	88	100	97	100	100	97	95	6.4	261.6
Gordon Reads-Bear Feet	75	71	100	60	84	96	80	58	84	79	14.4	208.5
Bear Cub (Studio)	10	82	98	74	84	100	97	79	100	80	28.2	131.7



TABLE 2, Continued

Bit	Subjects									Mean	Standard Deviation	Length/Bit
	1	2	3	4	5	6	7	8	9			
Henson 2	50	94	100	97	100	99	98	100	100	93	16.3	73.8
Muppets, Three	64	93	100	57	66	100	100	92	100	86	18.0	87.7
Man from Alphabet	40	73	98	42	65	95	90	84	90	75	22.0	423.2
Dance Contest	68	98	100	63	100	100	100	100	98	92	15.0	98.8
Gibbon	96	93	99	90	88	100	100	100	100	96	4.8	56.4
Ending	96	99	91	67	79	100	100	100	100	92	11.8	15.9

TABLE 3

ANALYSIS OF VARIANCE OF SUBJECTS' ATTENTION  
SCORES TO SESAME STREET TEST SHOW 4 BITS

SV	df	MS	EMS	F
S	8	.2302	$\sigma_e^2 + 41\sigma^2$	16.10*
B	40	.0275	$\sigma_e^2 + 9\theta_B^2$	1.92**
SB	320	.0143	$\sigma_e^2$	

\* $p < .001$

\*\* $p < .01$

throwing them away. Given a program with a high mean attention level, it can be asked (and used as a criterion for discarding bits) if any of the bits differed significantly from the grand mean. Thus, one could set up a confidence interval about the grand mean.

$$\text{Confidence Interval (CI)} = \bar{X} \pm t_{(\alpha/2, \nu)} (\text{est. } \sigma_m)$$

Thus,

$$\begin{aligned} \text{CI} &= .88 \pm t_{(.025, 320)} \left( \frac{\sqrt{.0143}}{\sqrt{9}} \right) \\ &= .88 \pm (1.96) (.04) \\ &= .88 \pm .08 \end{aligned}$$

Four bits had mean attention scores significantly greater than the grand mean, (Jazz 3, Countdown, Everybody Dance, and Greeblies) and one bit was significantly lower than the grand mean (Man from Alphabet).

### Bit Independence

Were the bits independent? That is, did a viewer's level of attention to a particular bit in any way influence his attention to a succeeding bit? A practical application

of the answer to this question would arise in the construction procedure for the final television program. Did it make any difference in what order the bits were arranged in the program? The answer was apparently no. The Pearson correlation of attention to bit a and attention to bit a + 1 was .21 and was nonsignificant.

### Subject Agreement

Was there agreement between subjects in rank ordering the bits? The range of correlations in Table 4 is -.37 to .63 and the median is .10. One can conclude that there did not appear to be much agreement among subjects as to their rank ordering of bits.

### Analysis of Variance

How much of the variability of attention of the subjects was accounted for by the bits? Returning to Table 3, the proportion of variance accounted for by the bits treatment,  $\omega_B^2$ , can be calculated.<sup>1</sup>

$$\omega_B^2 = \frac{\delta_B^2}{\sigma_e^2 + \delta_B^2 + \sigma_s^2}$$

---

<sup>1</sup>In order to calculate the proportion of variance accounted for, the assumption of an additive model has to be made. This model assumes that a given attention score contains no subject x bit interaction. The model equation is  $Y_{ij} = \mu + \eta_i + \alpha_j + \epsilon_{ij}$  where  $Y_{ij}$  is the score of the  $i^{\text{th}}$  subject in the  $j^{\text{th}}$  bit,  $\eta_i$  is a measure of individual differences;  $\alpha_j$  is the bit effect; and  $\epsilon_{ij}$  is the error term.





where

$$\delta_B^2 = \theta_B^2 \left( \frac{n-1}{n} \right)$$

$$\sigma_e^2 = .0143$$

$$9\sigma_B^2 = .0275 - .0143 = .0132$$

$$\theta_B^2 = .0132/9 = .0015$$

$$\delta_B^2 = (.0015)(33/34) = .0014$$

$$34\sigma_s^2 = .2302 - .0143 = .2259$$

$$\sigma_s^2 = .2259/41 = .0055$$

$$\omega_B^2 = \frac{.0014}{.0143 + .0014 + .0055} = \frac{.0014}{.0212} = .07$$

Since the proportion of variance accounted for by the bits is small ( $\omega_B^2 = .07$ ) analysis of the program by bits is a weak procedure. An alternative analysis of the program by attributes was therefore undertaken.

## THE ATTRIBUTE ANALYSIS

### Method

#### Apparatus and Procedure

A list of visual and auditory attributes was generated which could define any particular scene appearing in any television program on the basis of its stimulus properties. The attributes were defined in as precise a manner as possible to reduce any ambiguity in recognizing that attribute in the television program. The attributes and their definitions appear in Appendix A.

Sesame Street Test Show 4, the same show used in the Bit Analysis section of the study, was viewed by 2 observers on a Sony Videomonitor, Model CVE-110VA. The tapes were played on a Sony Videocorder, Model AV-3600. Two keyboards, each consisting of four push-buttons and corresponding microswitches, were connected to a Hewlett Packard 2100A computer programmed to store on a computer disc on a running time basis, the time at which the switches were closed and opened. When the particular attribute(s) an observer was rating appeared on the monitor, the corresponding key on the keyboard was depressed for the length of time the attributes occurred. The number of attributes an observer rated simultaneously depended in part on the observer's experience in rating and in part by

his perceived difficulty of rating that attribute. In no case did an observer rate more than 4 attributes simultaneously. When visual attributes were being rated the auditory portion of the television program was turned off and vice versa. To reduce the possibility of interobserver bias, the 2 observers rated different attributes in a particular session. However, over the course of the experiment each attribute was rated at least 2 times by different observers.

The attribute on and off times stored on the disc were then converted to 10 second intervals across the 57 minute television program. Thus, for any given 10 second interval in the program it could be determined which attributes were on the program and for how long. Several attributes reflected changes in stimuli, and data for these attributes took the form of the number of times they occurred in each 10 second interval, rather than the total time of occurrence, e.g., cuts, change to a novel scene, auditory change. An inter-observer reliability score was computed for each attribute using the 10 second interval data. If the reliability score was below .85, the attribute was discussed, redefined, and rated again by the 2 observers. This procedure was repeated until the attribute reached the reliability criterion of .85. Appendix B lists the attributes, the reliability scores, the number of ratings it took to reach criterion, the mean time in seconds the attribute occurred during a 10 second interval,



and the standard deviation. The 10 second interval data for each attribute was averaged across observers. Since it was not clear that dividing the program into 10 second intervals for the multiple regression analysis would yield the best results both in terms of percent of variance in attention accounted for and intersubject correlations of attention, the program was also divided into 30, 60, 90, and 114 second intervals.

#### The Subject Data

The subject data were the same as discussed previously in the bit analysis section of the study. In addition to 10 second intervals, the subject data were also put into 30, 60, 90, and 114 second interval form.

#### The SPSS Multiple Regression Program

The data for the SPSS Multiple Regression Program (Nie, Bent, and Hull, 1970) was in the form of equations for each 10 second interval. Since the television program was 57 minutes long, each subject was represented by 342 equations consisting of the dependent variable, visual fixation, and the independent variables, stimulus attributes and sex of the subject. There were 9 subjects or a total of 3,078 equations in the 10 second multiple regression analysis. Equations were of the form

$$Y_{ij} = \beta_0 + \beta_1 X_{ij2} + \beta_2 X_{ij2} + \beta_3 X_{ij3} + \dots + \beta_k X_{ijk}$$

where

$i$  denotes the subject and  $i = 1, 2, 3, \dots, 9$

$j$  denotes the interval and  $j = 1, 2, 3, \dots, 342$

$k$  denotes the attribute and  $k = 1, 2, 3, \dots, 48$

$Y_{ij}$  is the visual fixation score for the  $i^{\text{th}}$  subject in the  $j^{\text{th}}$  interval

$X_{ijk}$  is the measured score for the  $k^{\text{th}}$  attribute in the  $j^{\text{th}}$  interval for the  $i^{\text{th}}$  subject.

$\beta_k$  is the attribute weight.

For example, the first interval for the first subject had an equation of the form

$$8 = \beta_0 + \beta_1(5) + \beta_2(10) + \beta_3(12) + \dots + \beta_k(X_{11k})$$

The first subject was fixated for a total of 8 seconds to the television in the first interval, attribute 1 (e.g., presence of animals) occurred for 5 seconds in that interval, attribute 2 (e.g., adult male talking) occurred for 10 seconds, attribute 3 (e.g., cuts) occurred 12 times, etc.

In all, 15 regression analyses were computed--the 5 interval sizes for the entire group of 9 subjects, for males, and for females.

## Results and Discussion

### The Subjects

In order to determine whether subjects were viewing the program at the same time, an intersubject correlation matrix was computed for each interval size. This matrix appears in Table 5. The mean intersubject correlation at each interval was computed for all subjects--males, females, and males-females, and is shown in Table 6. The correlations range from .0513 to .1826 with a median correlation of .1258. In addition, subject fixation data was computed. As can be seen in Table 7, Subject 3 took her eyes off the screen infrequently (27 fixations) and watched uninterrupted for long periods ( $\bar{X} = 125.2$  seconds) while at the other extreme, Subject 1 turned her head away from the set frequently (195 fixations) and watched uninterrupted for only short lengths of time ( $\bar{X} = 11.9$  seconds).

Although overall attention is high, there is relatively little agreement between the children as to when not to look at the program. The mean correlations appear to increase slightly as the time interval of analysis increases, but their values remain consistently low. Further support for diverse styles of viewing is seen in the fixation data. Mean subject fixations ranged from 11.9 to 125.2 seconds. Even where these categories are relatively homogeneous--for example,





TABLE 6  
 MEAN SUBJECT-SUBJECT CORRELATIONS  
 OF ATTENTION BY INTERVALS

Interval Size (sec.)	All Subjects	Males	Females	Male-Female
10	.0666	.1128	.0513	.0650
30	.1029	.1801	.0876	.0867
60	.1306	.1720	.1034	.1641
90	.1451	.1310	.1197	.1758
114	.1543	.1733	.1210	.1826

TABLE 7

SUBJECTS' FIXATIONS TO SESAME STREET  
TEST SHOW 4

Subject	Sex	Number of Fixations	Mean Length/Fixation (seconds)	Standard Deviation	Percent Attention to Program
1	F	195	11.9	18.2	67.7
2	F	151	19.2	32.7	85.4
3	F	27	125.2	228.8	99.1
4	F	97	28.9	54.5	82.4
5	M	60	51.9	109.9	91.4
6	M	54	55.7	76.8	95.2
7	M	43	70.5	90.9	96.1
8	M	60	46.1	65.0	89.4
9	F	61	49.5	73.3	91.1
Mean		83.4	51.0		88.6

between males--the male-male attention correlation is still on the order of .17.

### Attribute Correlation

An attribute correlation matrix was computed to determine if any of the attributes were redundant and could be combined. This matrix appears in Appendix C. Although certain attributes might occur together often enough to give a high correlation; e.g., presence of adult male on the screen (visual) and adult male talking (auditory), this appears not to have been the case. Those attributes that did correlate highly may have done so only as a function of this particular television program. For example, Negro boy, Negro girl, Caucasian boy, Caucasian girl, and Oriental girl all correlated moderately highly with each other because all street scenes contained the same group of children. This is not to say that in all television fare these attributes would receive the same correlations (although in Sesame Street programs they might).

### Multiple Regression Analysis

The results of the multiple regression analyses appear in Appendix D. Table 8 summarizes the mean intersubject correlation and percent of variance accounted for in each analysis. It is easily seen that without much agreement between subjects very little of the variance is accounted for.

TABLE 8

## SUMMARY OF MULTIPLE REGRESSION ANALYSIS

Interval Size	Group	No. of Equations	Mean Intersubject Correlation	$R^2$	$\hat{R}^2$	$R^2$ (chance)	Percent of Possible Variance Accounted for	
							Between	Within
10	All	3078	.067	.091	.076	.01	19.59	7.70
10	Male	1368	.113	.087	.058	.03	-	8.90
10	Female	1710	.051	.098	.075	.02	-	11.66
30	All	1026	.103	.136	.095	.04	17.40	12.74
30	Male	456	.180	.143	.047	.10	-	14.84
30	Female	570	.088	.146	.071	.08	-	18.66
60	All	513	.131	.197	.118	.09	17.13	20.48
60	Male	228	.172	.262	.075	.21	-	27.85
60	Female	285	.103	.216	.065	.17	-	29.65
90	All	342	.145	.234	.115	.14	17.22	26.25
90	Male	152	.131	.309	.006	.32	-	33.31
90	Female	190	.120	.231	.000	.25	-	35.79
114	All	270	.154	.238	.081	.18	26.16	23.13
114	Male	120	.173	.313	.000	.40	-	34.23
114	Female	150	.121	.227	.000	.32	-	27.00



However, as the interval size increases,  $R^2$ , the percent of variance accounted for increases. Accompanying this increase in  $R^2$  is a corresponding decrease in power due to the decrease in the number of equations in the multiple regression analysis. This problem can be handled by computing two statistics.

1. When there are relatively few equations  $R$  may be biased upward since there are more chances for scatter about the mean. McNemar (1962) provides an equation to compute the percent of variance accounted for when  $R$  is due to chance only.

$$R^2 = \frac{k - 1}{N - 1}$$

where

$R^2$  = best estimate of percent of variance accounted for when none of the independent variables correlate at all with the dependent variable

$k$  = number of predictor variables

$N$  = number of equations.

2. Nunnally (1967) describes a correction for shrinkage to be applied to a computed  $R^2$  which will compensate for a small number of subjects (equations). The resulting statistic is a value which reflects what  $R^2$  would have been if there were many more subjects.

$$\hat{R}^2 = 1 - (1 - R^2) \left( \frac{N - 1}{N - k} \right)$$

where

$\hat{R}$  = unbiased estimate of the population multiple correlation

R = multiple correlation found in sample of size N

k = number of independent variables

These statistics were applied to the results of the multiple regression analyses and appear in Table 9.

In choosing one interval size over another as reflecting the true state of affairs in this situation, one is presented with a problem. This optimal interval size should reflect the largest agreement between subjects, but also provide the most equations (power) for the analysis. Increasing the interval size in this situation will increase the inter-subject correlation but will also lose power. The final decision as to which interval to choose is thus somewhat arbitrary. With these points in mind, the 60 second interval was chosen for the following reasons:

1. It appears to be the point at which further increases in the interval size result in diminishing returns in inter-subject correlation.

2. It is relatively powerful with more than 10 times the number of equations as predictor variables.

3. It most closely represents the mean subject fixation length.

TABLE 9

MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 60 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	BETA	B
SEX	0.20067	0.04027	0.04027	0.20067	0.21067	-4.73404
CAUCMAN	0.28190	0.07947	0.03920	0.19798	-0.05592	-0.03475
STILDRAW	0.32283	0.11613	0.02957	0.13443	0.02552	0.01797
TIME	0.34729	0.12061	0.01248	0.15868	-0.27264	-0.19426
STILSHOT	0.36269	0.13154	0.01093	0.03056	0.30649	0.26944
INANORJT	0.37392	0.13982	0.00828	0.03510	0.07717	0.07660
AUDCHANGE	0.38186	0.14582	0.00600	0.11214	0.14016	0.07492
ANIMALS	0.38512	0.14909	0.00327	0.05440	0.09520	0.01859
SINGGRP	0.39901	0.15211	0.00302	0.09330	0.13517	0.16558
INSTRMUS	0.39371	0.15500	0.00269	0.10932	0.13517	0.18428
FASTMCT	0.39713	0.15771	0.00271	0.02650	0.04636	0.20333
NEGROGIRL	0.40029	0.16023	0.00252	0.08483	-0.21517	-0.23648
NEGROPY	0.40412	0.16331	0.00308	0.06915	0.23573	0.24808
INACSTAT	0.40719	0.16580	0.00249	0.11549	-0.34268	-0.21618
FYFCOMT	0.40999	0.16809	0.00229	0.10598	0.16755	0.14759
PEGULVOI	0.41249	0.17015	0.00205	0.04534	0.04191	0.02896
PUPPETS	0.41712	0.17399	0.00394	0.06094	-0.06524	-0.00421
PAN	0.42018	0.17555	0.00256	0.04391	0.07503	0.09656
CAUWOMAN	0.42280	0.17876	0.00221	0.02737	-0.02702	-0.07337
RHREPALT	0.42407	0.17984	0.00107	0.18544	0.34298	0.25559
CAUGGIRL	0.42560	0.18143	0.00130	0.14948	0.02722	0.35632
COSTCHAP	0.42585	0.18221	0.00108	0.10170	-0.04570	-0.37852
CHILDVOC	0.42726	0.18307	0.00086	0.05321	0.17461	0.14324
LIVEYMUS	0.42883	0.18389	0.00023	0.10285	-0.08648	-0.04975
APPLAUSE	0.42980	0.18473	0.00084	0.04941	0.13243	1.63319
CUT	0.43184	0.18548	0.00176	0.00845	0.00743	0.59376
PIXILLIAT	0.43290	0.18740	0.00092	0.07057	-0.04234	-0.28035
ANIMATN	0.43403	0.18838	0.00058	0.10917	-0.04234	-0.06524
ADFERVOC	0.43491	0.18914	0.00076	0.05066	-0.17329	-0.20219
SLOWMUS	0.43614	0.19022	0.00108	0.02625	0.29355	0.20553
BLANKSCR	0.43786	0.19172	0.00150	0.06655	0.00269	1.23923
ZOOM	0.43875	0.19250	0.00079	0.03294	0.32034	0.47739
LEFTSCRPT	0.43908	0.19279	0.00029	0.05545	-0.00046	-0.01430
MOTION	0.43951	0.19317	0.00038	0.12452	0.05752	0.32841
CAUCBOY	0.44002	0.19362	0.00045	0.13337	0.00035	0.04223
OPIEGIRL	0.44062	0.19414	0.00052	0.09656	0.17507	0.21159
NEGHOYAN	0.44164	0.19505	0.00050	0.05709	-0.15441	-0.23564
NEGROMAN	0.44206	0.19542	0.00037	0.03231	0.00775	0.06482
NOVEL	0.44275	0.19603	0.00062	0.03553	-0.17319	-0.24437
FAMILIAR	0.44299	0.19624	0.00021	0.06371	-0.03759	-0.05069
ADMALVOC	0.44325	0.19647	0.00022	0.16899	0.05217	0.33318
SINGIND	0.44337	0.19658	0.00011	0.05355	0.02067	0.02135
BODYPART	0.44358	0.19676	0.00016	0.00689	0.03337	0.07275

TABLE 9, Continued

	CENTRAL ACTIVITY STATIONARY BUT ACTIVE	0.44366	0.19684	0.00008	0.02159	-0.09845
ACTSTAT						
DANCING	PRESENCE OF DANCING ON SCREEN	0.44369	0.19686	0.00002	0.08158	-0.02326
(CONSTANT)						49.91844

FINAL ANALYSIS OF VARIANCE

DF	SUM OF SQUARES	MEAN SQUARE	F
45	13877.66457	308.39255	2.54376
467	56618.02382	121.23774	

STANDARD DEVIATION OF RESIDUALS 11.01080



Table 9 presents the multiple regression analysis using 60 second intervals. The variables are listed in the order of importance (the order in which they were entered in the equation in the stepwise regression procedure). The Multiple R column represents the cumulative multiple correlation coefficient at each step of the analysis. The R Square column represents a measure of the percent total variance accounted for by the variables entered up to that point. RSQ Change represents the percent of variance added by the inclusion of that particular variable in the equation. Simple R, are the corresponding simple correlations of the variable with visual fixation, the dependent variable. The B Column represents the raw score weights for each variable while the BETA ( $\beta$ ) column represents the weights for each variable when normalized scores are used. The  $\beta$  weights are related to the partial correlations of the variables.

In all, how well do the attributes account for the variability in attention? All attributes taken together account for 19.7% of the total variance. The total variance, however, consists of within subject variance (variability in attention across the television program for each subject) and between subject variance (variability in overall attention to the program between subjects). It can be determined how much of the within subject variance can be accounted for by

the within subject attributes and how much of the between subject variance can be accounted for by the between subject attributes. Sex is the only between subject attribute and it accounts for 18.65% of the between subject variance while the remaining attributes account for 20% of the within subject variance. Table 8 lists the breakdown of variance accounted for in all the regression analyses. The small percent of variance accounted for, may be due to several factors.

1. The attention of four-year-olds is not determined by stimulus attributes of the program. It may be that their attention is controlled by things like thematic content of the program. This is counterintuitive, however, and would not explain why young children (and adult males) would watch things like commercials for Tampax, for example, whose thematic content is completely unrelated to their understanding.

2. There are powerful attributes as yet undefined which would contribute greatly in explaining the variability in attention to this program. Between subject attributes could include number of siblings, parents' attitude toward television, average number of hours the subject watches at home, etc. Also, one drawback to the multiple regression analysis is that it does not compute interaction effects unless they are specified beforehand. It is possible that interactions between some of the within subject attributes would be powerful while the attributes by themselves would not.

3. The nature of the experimental setting in which the data were collected resulted in a situation in which there was little variability to explain. The mean attention level to this program for these 9 subjects was 88%. Fluctuations in attention for a given subject may have been due to very subtle reasons which could not be picked up by this analysis.

4. The Sesame Street program is so constructed that the powerful attributes are already at their maximum effective values while the attributes that depress attention have been minimized. One possible consequence of this consideration is that some powerful attributes may have an inverted U shaped function with attention. Cuts, for example, may lead to increasing attention up to a certain point, but after that point, the cuts may come so rapidly as to "lose" the child's attention. The basic assumption underlying the present analysis is that there is a linear relationship between the dependent and independent variables. If a "normal" sample of television fare had been presented to the children, it is possible that because the density of cuts may not be as great, the linear relationship would obtain and cuts would therefore account for a greater proportion of the variance.

## GENERAL DISCUSSION

Several qualifications must be placed on the results of these multiple regression analyses and several cautions must be placed in generalizing the resulting equation to any television program. The correlations between many of the attributes are probably specific to this one Sesame Street program, and are more generalizable to other Sesame Street programs than to other television material. Even if the attributes correlate the same across all Sesame Street programs, the problem of power of the attributes arises. How can an attribute like costumed character, which occurred for a total of about 15 seconds in Test Show 4 be compared to adult caucasian male which occurred approximately 684 seconds? Clearly, adult caucasian male had more opportunity to account for variability than did costumed character. What is needed in addition to the simple  $r$  and the  $\beta$  weights in interpreting the results, is an index which would reflect how much control the attribute would have exerted had it appeared an amount of time equal to that of other attributes. Finally, it is again pointed out that this analysis yielded little in the way of accounting for variance in the program. This is probably due in part to the high attention level (and hence little variance) to the program. The high attention may have been an artifact of the experimental situation in which a four-year-old was



taken from his or her day care center, brought alone to a strange room with little in it but a television set, a rear projection screen and several chairs. The child was seated in front of the set alongside a strange adult observer. In this situation where the child had a choice of watching a television program or a still slide every 7.45 seconds it is little wonder that attention to this program was so high. Since the external environment fluctuated, variability in attention may have been due more to variation extrinsic to the television program than to variation intrinsic to the program.

#### Attributes and Bits

With these points in mind, one can ask how consistent the results of the attribute analysis are with the bit attention scores. An informal look at the highest scoring bits, the lowest scoring bits and their most striking attributes, reveals the regression results are roughly compatible with the bit results. The "countdown" bit (99% attention) is an animated segment during which an adult male voice (a peculiar voice) counts down from 10 to 0 against a background of lively instrumental music. Each of these attributes, with the exception of adult male voice, is positively correlated with attention, which is the direction one would expect to find. An interpretation of the value of the  $\beta$ 's for these attributes

is somewhat more ambiguous. Recall that the  $\beta$  is related to the partial correlation, a measure of the "pure" effects of the attribute with the effects of all other attributes removed. Although animation has a positive simple correlation, its  $\beta$  is negative. A look at the table of interattribute correlations reveals that animation is correlated with peculiar voice, rhyming, repetition and alliteration, Caucasian woman, and adult female vocalization, which, in turn, are positively correlated with attention. Once the effects of these attributes have been removed, animation appears to be left with a negative effect on attention. Similarly, although adult male vocalization has a negative simple correlation with visual fixation, it has a positive  $\beta$ . Adult male vocalization is most highly correlated with Caucasian man, still drawing, puppets, and situations where the principal action is stationary and inactive, i.e., talking. These attributes, with the exception of puppets, are negatively correlated with attention, which suggests an explanation for the negative relationship adult male vocalization has with visual fixation. It is important to point out that the only "natural" correlation one would expect would be between adult male vocalization and Caucasian male, the other correlations being a function of this particular television program, the large interval of analysis, and error. Instrumental and lively music are also attributes which have positive simple correlations, but negative  $\beta$ 's. These music attributes are

highly correlated with rhyming, repetition and alliteration, motion, and scene change attributes such as cut and change to a familiar stimulus, which in turn are positively correlated with attention. Again, once the effects of these attributes are removed, the music attributes may be left with a negative relationship with visual fixation.

The "Gibbon" segment (99% attention level) is a film in which a gibbon (animal) swings (motion, camera panning) on monkey bars to lively, instrumental music amidst thundering applause. With the exception of animal, the attributes were positively correlated with attention. The  $\beta$ 's for these attributes were also positive except for the music attributes which were discussed above. It is difficult to provide a reasonable explanation for the positive  $\beta$  for animals. Animals is not highly correlated with anything. The  $\beta$  result is probably due to partialling out many small overlaps so that the effect is somewhat subtle.

"Man from Alphabet" (75% attention) is the longest and lowest scoring bit in the program. While many attributes occur during this bit, the two most characteristic are presence of adult Caucasian male on the screen and adult male vocalization, both of which have relatively high negative correlations with attention. Adult Caucasian male has a high negative  $\beta$ , although as discussed previously, adult male vocalization has a low positive  $\beta$ .

While the integration of bits and attributes is informal and certainly not quantitative in any sense, several general observations can be made:

1. In any discussion of the relationship between the presence of an attribute and visual fixation, it is necessary to look at both the simple correlation and the partial correlation, or  $\beta$  weight.

2. The value of  $\beta$  is determined in part by the table of interattribute correlations as well as by the mean time and standard deviation of time the attribute occurred.

3. The simple correlation of an attribute with attention is also determined partly by those attributes which occur in proximity to it, and partly by how long and how often the attribute occurs. Since the absence of an attribute does not suppress attention, those attributes which occur longer and more often have a greater chance of establishing a high correlation of attention.

4. In addition to the  $r$  and  $\beta$ , an index should be developed which would express the power of an attribute relative to its "opportunity" to correlate with visual fixation.

5. The interattribute correlations are a function both of the size of the interval of analysis and the television program being analyzed. The results of this analysis are generalizable only if Sesame Street Test Show 4 is representative of all Sesame Street programs or all television material.



6. An analysis of bits in the present program must be entertained cautiously in any case, since no bits are significantly above or below the mean attention level, although the highest scoring bit is significantly above the lowest scoring bit.

### C.T.W. Conclusions

It is no simple process to determine the relationships between the attributes and attention to television. How justified, then, are the conclusions the C.T.W. research staff reached? The comments in the present study are based on one Sesame Street test show. It should be mentioned that the C.T.W. conclusions were reached on a broader range of children's programming (Reeves, 1970) although the basis for these conclusions is unknown. The following are several of their conclusions with discussion.

1. Dramatic changes in visual attention were observed from child to child, program to program, and moment to moment within a program. There was support for this conclusion. The 9 subjects who viewed Test Show 4 did not appear to be correlated highly on the basis of attention. There was a wide range of both mean fixation and number of fixations to the set. This support, however, is based on only 9 subjects whose mean attention level was .88. Fluctuations in attention may have been random or due to subtle and uncontrolled factors.

It is certainly possible that subgroups of children may be controlled by similar stimulus attributes. It must also be kept in mind that if the present analysis included a much wider variety of television programming, more intersubject agreement might have been obtained. The present analysis, of course, concerns variations of attention within one more or less homogeneous hour of television.

2. Attention is generally higher for animated segments.

Partial support is given to this conclusion in that animation does have a relatively high positive simple correlation with attention but also has a negative  $\beta$ . One could interpret this as saying that animation, per se, does not have a positive relationship with attention, but animation which contains peculiar voices and rhyiming, repetition and alliteration (including most of the animation in Sesame Street) does.

3. Segments which show adults talking are generally low.

The present results are ambiguous with respect to this conclusion. Adult male talking has a negative simple correlation with attention; but if the attributes inactive stationary action and still drawing, which are highly correlated with adult male talking but negatively correlated with attention, are partialled out the resulting relationship is positive. Adult female talking, on the other hand, has a positive  $r$ , but a large negative  $\beta$ . Partialling out the effects of ani-  
mation, and rhyiming, repetition and alliteration (which all

correlate highly with attention), adult female talking is left with a negative relationship with attention.

4. Pixillation is an effective attention sustaining technique. The present findings oppose this conclusion. Pixillation has both a negative simple  $r$  and a negative  $\beta$ . However, these relationships are based on only 25 seconds of pixillation which occurred during "Man from Alphabet," the bit scoring lowest on attention. Given the opportunity, pixillation may be effective in sustaining attention. Here, too, an index of the level of attention during the precise occurrence of the attribute would be more useful than the present 60 second interval regression analysis.

5. Rapidly paced programming is generally more appealing than slow paced segments. There is qualified support for this contention. Rapidly paced programming is characterized by many changes both visually and auditorily and is often accompanied by lively music. The change attributes cut and auditory change both have positive  $r$ 's and  $\beta$ 's. However, lively music has a positive  $r$  but a negative  $\beta$ . Change to a novel scene has both a negative  $r$  and  $\beta$ , while change to familiar scene has a positive  $r$  but a negative  $\beta$ . The ambiguity is further supported in that the fastest moving bit, "Round," which was characterized by lively music, rapid cuts, and change to a novel scene, ranked 18th out of the 34 bits surveyed in Table 3. Although support for this conclusion is

not clean, intuition suggests that it is most likely true.

6. Attention is high if the child on the set is the same sex as the viewer. In the 60 second multiple regression analysis for female subjects only, Caucasian boy, Negro boy, Caucasian girl and Oriental girl (Negro girl accounted for so little of the variance that it was not entered in the equation), all have positive simple correlations with attention. However, the  $\beta$  weights for the boys are positive, while those for the girls are negative. The girl attributes are most highly correlated with the boy attributes, and if the effects of the boys are removed the relationships are negative. This finding is opposite that concluded by C.T.W.

In the regression analysis for male subjects, the child attributes again all had positive simple correlations with attention. The  $\beta$  for Caucasian boy is negative while that for Negro boy is positive. The  $\beta$ 's for Caucasian girl and Negro girl are negative while Oriental girl has a positive  $\beta$ . It made no difference to the male subjects whether male or female children appeared on the screen. The female subjects found the male children more appealing, however. C.T.W.'s conclusion was not clearly substantiated.

7. Children are generally attentive to animals on television. There is only partial support for this conclusion. Animals had a negative simple correlation but a positive  $\beta$ . When the low correlations of animals with all the other



attributes are partialled out, animals is left with a negative relationship with attention. As was previously discussed, it is difficult to explain the change in sign and the best conclusion is that in the present program, animals were presented in such a way that they were associated with lowered attention.

8. Children enjoy seeing other children on television.

Although the children attributes all had positive simple correlations with attention, the  $\beta$ 's for Caucasian girl and Negro girl were negative. There is qualified support for their conclusion.

In addition to these rules, Lesser (1972) indicates that slow motion, fast motion, pixillation, and reverse motion are all highly appealing to children. The situation as assessed by this analysis is not that clean. Slow and reverse motion did not add enough to the explained variance to warrant their being brought into the equation. Pixillation and fast motion both had negative simple correlations with visual fixation although fast motion does have a positive  $\beta$ . Since the attributes occurred relatively infrequently, however, it would not be fruitful to generalize the present results.

Lesser further claims that children "particularly enjoy hearing other children's voices." In this analysis child vocalization had a positive simple  $r$  but a negative  $\beta$ . The positive simple  $r$  is probably due to the high correlations this attribute has with all the child-related visual attributes

and motion, all of which have positive correlations with attention.

Both Reeves (1970) and Lesser (1972) make the point that repetition increases the appeal of material. Three bits in Sesame Street Test Show 4, "Wanda the Witch," "Jazz 3," and "R Commercial," were repeated in the program. A fourth bit, "Countdown," was repeated twice. In all 4 bits attention decreased with repetition, although there was a significant increase in attention, in the second repetition of the Countdown bit,  $t(33) = 5.71, p < .001$ . The data from the Sesame Street program clearly do not support their contention.

Finally, both Lesser (1972) and Ward (1972) independently suggest that attention to a particular bit is closely tied to attention of the preceding bit. If this is true, it certainly has important implications for advertisers, network programming directors, and producers. However the bit x bit correlation analysis in this study failed to provide any support for this position. The correlation of mean attention level of each bit with its preceding bit was nonsignificant. The bit attention scores are independent.

#### Future Research

While no one can doubt the tremendous success Sesame Street has enjoyed, much of this success is probably related in no small part to the experience and intuition of the

production staff. Many of the findings of C.T.W.'s research staff are not supported by their own data. In fact, enough questions can be raised about their methodology and interpretations to suggest that generalizations such as those made by Lesser (1972) be viewed with extreme caution. Future research is clearly needed. The form that such work might take could be as follows:

1. A replication of the present analysis using a larger number of subjects at different ages and with a wider range of television programming.

2. The generation of new television attributes, including those of a thematic nature as well as more subject individual difference attributes.

3. A subject analysis to determine whether there are identifiable groups of children with similar viewing styles.

4. The development of new measures of attention. While the present analysis uses "eyes-on--eyes-off" as the dependent variable, it is clear that children could be attending to the television without actually visually focusing on the set.

5. The development of an index which would compensate for the fact that certain attributes occur more frequently than others and hence have more opportunity to fluctuate with attention. This index would be used in conjunction with the simple  $r$ 's and the  $\beta$ 's in interpreting the results of a multiple regression analysis.

## CONCLUSIONS

The present study was an attempt to improve upon the methods used by the Children's Television Workshop to evaluate attention data. While the results of this study were based on questionable data the multivariate technique appears to be applicable to this situation. The most modest conclusions one can make from the results are as follows:

1. Attention scores to the bits in a Sesame Street program appear to be independent. While there indeed must be some carryover in attention it must be small since attention to a bit cannot be sustained solely on the basis of attractiveness of the previous bit.

2. It is clearly necessary to apply statistical techniques to the data and not base conclusions on "eyeballing." Many generalizations being put forth by C.T.W. were not supported by their data from this program. Further, their data were complicated somewhat by the conditions under which they were collected. Since there was little variability to explain in the data, any explanations became somewhat tenuous. In this situation the attributes accounted for only a small percentage of the variance, whereas if the attention data had more variability the attributes might have fared better.

3. Contrary to the beliefs of the commercial television industry, advertisers, and television rating services, there



appears to be no "universal" audience of children. Most children's programming on the commercial networks is directed toward all persons below the age of 12. In the present study, 9 children of the same age and SES exhibited diverse styles of viewing one particular program. In the extremes, one child watched in many short bursts while another viewed with a few sustained fixations. One child attended to only 68% of the program while another attended to over 99% of the program. It is sheer folly to believe a two-year-old has similar viewing styles or television interests as those of a twelve-year-old. Television is a "mass media" in only the most gross sense of the word.

## APPENDIX

- A: ATTRIBUTE LIST
- B: ATTRIBUTE STATISTICS
- C: ATTRIBUTE CORRELATION MATRIX
- D: MULTIPLE REGRESSION RESULTS

APPENDIX A  
ATTRIBUTE LIST

It was extremely difficult to define criteria as guidelines for rating the presence or absence of many of the attributes in the list, e.g., slow vs. lively music. Presence or absence was therefore left to the individual rater's judgment. Interobserver reliability and number of ratings to reach a reliability of .85 are measures of an attribute's discriminability.

I. Visual Attributes

A. Principal Characters

1. Negro man
2. Negro woman
3. Negro boy
4. Negro girl
5. Caucasian man
6. Caucasian woman
7. Caucasian boy
8. Caucasian girl
9. Oriental girl
10. Animals--the presence of a live animal(s) on the screen.
11. Inanimate objects--those scenes in which there is no human, animal, puppet, or animated character.

12. Letters or script--the appearance of (a) letter(s) anywhere on the screen, e.g., credits, station logos, signs, etc.
13. Animation--animated cartoons.
14. Puppets--any hand puppet or marionette.
15. Costumed character--dress which would probably not be encountered in a child's non-media experience.
16. Body parts--scenes in which only part of a person is visible and in which the person is unidentifiable.
17. Blank screen--transitions between scenes during which the TV screen appears white or gray.

#### B. Principal Action

1. Motion--scences in which the principal character is moving through space.
2. Inactive stationary--scences during which the principal character is in the same spot and produces no gross body movements, e.g., talking.
3. Active stationary--scences during which the principal character is in the same spot and produces gross body movements, e.g., dancing, jumping.
4. Eye contact--action in which the principal character appears to be attending to the TV viewer, e.g., newscast.
5. Dancing

#### C. Camera Work

1. Still shot--televised scene during which the camera is stationary.
2. Pan--televised scene during which the camera is rotated through a wide angle.
3. Zoom--televised scene during which the magnification of the image is changed while maintaining the subject in focus.



4. Cut--the termination of a scene by stopping the action of the camera.
5. Change to a familiar scene--any scene change to segments or characters which were presented previously.
6. Change to a novel scene--any scene change to a segment or character which had not appeared previously in the program.
7. Pixillation--a special effect in which the movement of a person or object appears to be animated.
8. Slow motion
9. Fast motion
10. Reverse motion

## II. Auditory Attributes

### A. Music

1. Instrumental music
2. Singing--individual
3. Singing--group
4. Slow music (singing)
5. Lively music (singing)

### B. Vocalization

1. Adult male talking--includes all vocalization except singing
2. Adult female talking--includes all vocalization except singing.
3. Child talking--includes all vocalization except singing.
4. Peculiar voice--the presence of a voice which would probably not be encountered in a child's non-media experience.

5. Rhyming, repetition, and alliteration--e.g.,  
"1, 2, erase my shoe, . . .;" "Wanda the Witch  
went west of Washington . . . ."

6. Applause

C. Other

1. Sound effects--any sound other than music or  
speech.

2. Auditory change--the introduction of a sound  
which differs from the prevailing sound, e.g.,  
onset of music while characters are talking;  
abrupt sound effects.

3. Sex of the subject

4. Time--a dummy variable obtained by numbering  
each interval in the analysis sequentially to  
estimate the impact the length of time that  
has passed in the television program has on  
attention.

## APPENDIX B

## SUMMARY OF ATTRIBUTE RATINGS

Attribute	Mean (sec.)/10 sec. Interval	Standard Deviation	Reliability	Number of Ratings to Reach Criterion
Negro man	2.10	3.8	.991	1
Caucasian man	2.00	3.6	.986	1
Negro woman	0.50	1.7	.958	1
Caucasian woman	0.01	0.15	1.000	1
Negro boy	1.20	2.5	.906	1
Caucasian boy	1.20	2.7	.919	1
Negro girl	0.98	2.5	.989	1
Caucasian girl	0.67	2.1	.992	1
Oriental girl	0.82	2.4	.964	1
Still drawing	0.67	2.3	.912	1
Animals	0.42	1.9	.998	1
Inanimate objects	1.20	2.5	.949	2
Letters or script	3.00	3.7	.936	1
Animation	1.40	3.2	.956	1
Puppets	1.10	2.9	.915	1
Costumed characters	0.05	0.59	.994	1
Body parts	0.27	1.2	.962	1
Motion	1.40	2.7	.881	3

APPENDIX B, Continued

Attribute	Mean (sec.)/10 sec. Interval	Standard Deviation	Reliability	Number of Ratings to Reach Criterion
Inactive stationary	6.30	4.0	.900	4
Active stationary	2.10	3.2	.903	4
Auditory change	0.40	0.70	.920	4
Eye contact	1.20	2.80	.984	1
Dancing	0.39	1.70	.952	1
Still shot (twice)	7.60	3.10	.921	4
Cut	1.50	1.70	.932	2
Pan	0.94	2.10	.877	2
Zoom	1.20	2.20	.914	2
Change familiar	1.70	1.90	.916	5
Pixillation	0.07	0.73	.999	1
Change novel	0.74	1.50	.937	5
Slow motion	0.14	1.10	.999	1
Reverse motion	0.09	0.80	.963	2
Fast motion	0.11	0.91	.904	2
Blank screen	0.07	0.30	.928	1
Instrumental music	4.60	4.60	.993	3
Singing individual	0.85	2.50	.950	4
Singing group	0.60	2.00	.906	1



APPENDIX B, Continued

Attribute	Mean (sec.)/10 sec. Interval	Standard Deviation	Reliability	Number of Ratings to Reach Criterion
Slow music	1.47	3.30	.942	2
Lively music	3.15	4.30	.954	2
Adult male talking	4.78	4.20	.948	3
Adult female talking	0.63	2.20	.970	2
Child talking	0.88	2.20	.910	2
Peculiar voice	1.90	3.60	.991	4
Rhyming, Repetition and Alliteration	2.20	3.40	.861	4
Applause	0.02	0.31	.992	1
Sound effects	1.21	2.60	.893	4

APPENDIX C

ATTRIBUTE CORRELATION MATRIX BASED ON 60 SECOND INTERVALS

A VALUE OF 99.0000 IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

VISFIX	SEX	NEGROMAN	CAUCMAN	NEGWOMAN	CAUWOMAN	NEGROY	CAUCROY	NEGRGIRL	CAUGGIRL
VISFIX	1.00000	0.03231	-0.19798	0.05708	0.02737	0.06915	0.13337	0.08283	0.14948
SEX	0.20067	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NEGROMAN	0.03231	1.00000	0.19587	0.08435	-0.09582	0.08030	0.15710	0.25206	0.07986
CAUCMAN	0.19798	0.19587	1.00000	0.10241	-0.08677	0.04795	0.23601	0.25480	0.26363
NEGWOMAN	0.05708	0.08436	0.10241	1.00000	-0.05661	0.03970	0.11807	0.01515	0.31678
CAUWOMAN	0.02737	0.09582	0.08677	0.05661	1.00000	0.09350	0.09076	0.07352	0.06873
NEGROY	0.06915	0.08030	0.04795	0.03970	0.08350	1.00000	0.44693	0.37102	0.75783
CAUCROY	0.13337	0.15710	0.23601	0.11807	0.09076	0.44693	1.00000	0.79108	0.54692
NEGRGIRL	0.08283	0.25206	0.25480	0.01515	0.07352	0.37102	0.79108	1.00000	0.45153
CAUGGIRL	0.14948	0.07986	0.26363	0.31678	-0.06873	0.75783	0.54692	0.45153	1.00000
ORIEGIRL	0.09856	0.36411	0.25807	0.50473	-0.06938	0.17706	0.54444	0.53769	0.48626
STILDRAW	0.13443	0.18507	0.16452	0.08442	-0.04031	0.16664	0.17831	0.16595	0.15514
ANIMALS	0.05440	0.10229	0.12592	0.05406	-0.03487	0.15126	0.16691	0.14354	0.13421
INANOBJT	0.03810	0.12040	0.28259	0.22234	0.12433	0.11236	0.01780	0.08657	0.07492
LETSCRIPT	0.05546	0.08074	0.08461	0.06700	0.02103	0.24700	0.38009	0.31631	0.23382
ANIMATN	0.10917	0.18297	0.20912	0.03535	0.42054	0.27169	0.25296	0.22640	0.20103
PUPPETS	0.06094	0.27690	0.20612	0.10804	-0.05857	0.21921	0.20774	0.21280	0.17932
COSTCHAR	0.10170	0.09645	0.15025	0.05698	-0.01797	0.29139	0.09071	0.07400	0.06918
RODYPART	0.00689	0.04476	0.02725	0.06576	-0.03147	0.05592	0.08167	0.04727	0.00298
MOTION	0.12452	0.09519	0.23462	0.12739	0.00125	0.51538	0.29802	0.48805	0.48849
INACSTAT	0.11549	0.06097	0.15829	0.08682	-0.01584	0.28919	0.31825	0.34326	0.30870
ACTSTAT	0.02159	0.01283	0.03274	0.24834	-0.00084	0.09842	0.03592	0.10298	0.05860
TIME	0.15868	0.19324	0.11457	0.05514	-0.08935	0.25406	0.16547	0.16017	0.10364
AUDCHNGE	0.11214	0.09039	0.00494	0.03177	0.08137	0.04261	0.04264	0.02043	0.05418
FYFCONT	0.10598	0.24230	0.19920	0.30523	-0.07193	0.13187	0.05521	0.03838	0.02686
DANCING	0.08156	0.03795	0.00592	0.04892	0.03622	0.17301	0.40142	0.02112	0.20626
STILSHOT	0.03056	0.09818	0.26803	0.04892	0.02832	0.08035	0.16401	0.11555	0.17468
CUT	0.00845	0.32478	0.13456	0.18857	0.14715	0.20864	0.05487	0.08440	0.01713
PAN	0.04391	0.08437	0.29744	0.13838	0.02454	0.06456	0.02989	0.10118	0.14676
ZOOM	0.03294	0.15952	0.20898	0.28123	-0.04436	0.05884	0.12703	0.11650	0.07457
FAMILIAR	0.06371	0.26804	0.08310	0.06513	0.20573	0.31296	0.15403	0.09035	0.17852
PIXILLAT	0.07057	0.09153	0.31298	0.03530	-0.02913	0.02096	0.13002	0.11994	0.11212
NOVEL	0.03553	0.20908	0.21286	0.14692	-0.07910	0.25196	0.11485	0.02839	0.23012
SLOWMOT	0.00991	0.02933	0.09589	0.06126	0.01974	0.09070	0.05875	0.14654	0.07425
REVERMOT	0.03317	0.05963	0.11689	0.07626	0.02406	0.21332	0.11096	0.25044	0.26066
FASFMCT	0.02850	0.11234	0.17826	0.06786	-0.03389	0.16705	0.02392	0.07709	0.12413
BLANKSCR	0.08655	0.03432	0.06985	0.16146	0.23626	0.05865	0.03645	0.09573	0.20725
INSTRMUS	0.10052	0.19930	0.11817	0.24204	0.11805	0.28214	0.32278	0.17821	0.17832
SINGIND	0.05355	0.00916	0.03802	0.37208	-0.05974	0.01838	0.44078	0.27002	0.08526



APPENDIX C, Continued

	VISFIX	SEX	NEGROMAN	CAUCMAN	NEGWOMAN	CAUWOMAN	NEGBOY	CAUCROY	NEGRGIRL	CAUCGIRL
SINGGRP	0.09030	0.00000	0.00445	0.01710	0.47241	0.05267	0.05645	0.22349	0.13488	0.25629
SLOWMUS	0.02625	0.00000	0.11564	0.02447	0.43376	0.04378	0.04986	0.06686	0.01913	0.02158
LIVEYMUS	0.10286	0.00000	0.36910	0.17182	0.16796	0.09306	0.22959	0.30232	0.19169	0.07160
ADMALVOC	0.16899	0.00000	0.04869	0.25846	0.14354	0.18616	0.40615	0.45032	0.31516	0.37367
ADFEMVOC	0.05046	0.00000	0.08984	0.15438	0.15756	0.63814	0.19809	0.21812	0.10766	0.12114
CHILDVOC	0.05521	0.00000	0.03838	0.11863	0.15951	0.06363	0.84691	0.35586	0.46808	0.69992
PECULVOI	0.04534	0.00000	0.34171	0.17948	0.16275	0.28690	0.29846	0.31066	0.31875	0.24301
RHREPALT	0.18844	0.00000	0.15768	0.19528	0.32024	0.35912	0.05599	0.21636	0.00924	0.23636
APPLAUSEF	0.04941	0.00000	0.03762	0.08677	0.05661	0.01786	0.08350	0.09076	0.07352	0.06873
SCUNDEFF	0.06009	0.00000	0.12850	0.16431	0.19296	0.04494	0.00047	0.09015	0.10983	0.10906

	ANIMALS	INANORJT	LETSRPT	ANIMATN	PUPPETS	COSTCHAR	BODYPART	MCTION	INACSTAT	ACTSTAT
VISFIX	0.05440	0.03810	0.05546	0.10917	0.96094	0.10170	0.00689	0.12452	0.11549	0.02159
SEX	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NEGROMAN	0.10229	0.12040	0.08074	0.18297	0.27690	0.09645	0.04476	0.09519	0.06097	0.01283
CAUCMAN	0.12592	0.28259	0.08461	0.20912	0.20612	0.15025	0.02725	0.23462	0.15829	0.03274
NEGWOMAN	0.05406	0.22234	0.06700	0.03535	0.10804	0.05698	0.06576	0.12739	0.08682	0.24834
CAUWOMAN	0.03487	0.12433	0.02103	0.42054	0.05857	0.01797	0.03147	0.00125	0.01584	0.00084
NEGBOY	0.15126	0.11236	0.24700	0.27169	0.21921	0.29139	0.05592	0.51538	0.28019	0.09842
CAUCBOY	0.16691	0.01780	0.38009	0.25296	0.20774	0.09071	0.08167	0.29802	0.31825	0.03592
NEGRGIRL	0.14356	0.08657	0.31631	0.22640	0.21280	0.07400	0.04727	0.48805	0.34326	0.10298
CAUCGIRL	0.13421	0.07492	0.23182	0.20103	0.17932	0.06918	0.00298	0.48849	0.30870	0.05860
ORIEGIRL	0.11491	0.05315	0.13500	0.14960	0.14080	0.06983	0.14759	0.02648	0.01084	0.00156
STILDRAW	0.05079	0.09712	0.10831	0.13428	0.06069	0.02160	0.08294	0.17114	0.31412	0.20824
ANIMALS	1.00000	0.12304	0.02167	0.09681	0.00486	0.03510	0.07518	0.09620	0.24707	0.43440
INANORJT	0.12304	1.00000	0.07675	0.22429	0.12599	0.07346	0.12014	0.00557	0.10722	0.16583
LETSRPT	0.02167	0.07675	1.00000	0.36984	0.44230	0.01382	0.15043	0.36007	0.43219	0.21660
ANIMATN	0.09681	0.22429	0.36984	1.00000	0.02649	0.07505	0.15610	0.10508	0.11278	0.04888
PUPPETS	0.00486	0.12599	0.44230	0.02649	1.00000	0.05895	0.01073	0.22322	0.27081	0.14297
COSTCHAR	0.00486	0.07346	0.01382	0.07505	0.05895	1.00000	0.03831	0.08742	0.16007	0.11241
BODYPART	0.03510	0.15043	0.15610	0.10730	0.02649	0.03831	1.00000	0.12010	0.15575	0.07449
MCTION	0.07505	0.01073	0.08742	0.03831	0.02649	0.08742	0.12010	1.00000	0.61170	0.14824
INACSTAT	0.24707	0.10722	0.43219	0.10728	0.27981	0.16007	0.15575	0.61170	1.00000	0.66692
ACTSTAT	0.43440	0.10583	0.21660	0.04888	0.14297	0.11241	0.07449	0.14824	0.09891	0.00000
TIME	0.17679	0.24730	0.15607	0.41595	0.03933	0.18652	0.16966	0.16655	0.09891	0.05153
AUDCHAGEF	0.16845	0.08483	0.08880	0.31432	0.05061	0.11889	0.05208	0.01695	0.00793	0.03698
EYECORT	0.03808	0.12921	0.47818	0.01517	0.36438	0.07541	0.03122	0.14544	0.16048	0.08437
DANCING	0.07073	0.15242	0.11911	0.00381	0.11879	0.03646	0.10880	0.15589	0.25095	0.48496
STILSHOT	0.09395	0.11616	0.36903	0.16733	0.31761	0.11808	0.10136	0.31586	0.20763	0.01195
CUT	0.06651	0.55271	0.36857	0.00028	0.20168	0.15855	0.07468	0.29464	0.26943	0.01548
PAN	0.05653	0.10052	0.19815	0.05512	0.22019	0.108712	0.14633	0.52883	0.19895	0.22173

APPENDIX C, Continued

	ANIMALS	INANOBJT	LETSCRPT	ANIMATN	PUPPETS	COSTCHAR	BCDYPART	MCTION	INACSTAT	ACTSTAT
ZOOM	0.05703	0.02493	-0.18206	-0.12845	0.13084	-0.09613	0.01762	0.27089	0.13164	0.11179
FAMILIAR	0.09059	0.31370	-0.31195	0.07798	0.14959	0.12540	0.04293	0.38632	0.43616	0.13973
PIXILLAT	0.05688	0.11819	0.06758	-0.12163	0.02765	-0.02032	0.04041	0.08765	-0.03207	0.09075
NOVEL	0.19068	0.55678	-0.01363	0.19844	0.12085	-0.07903	0.14619	0.08796	0.06650	0.04090
SLOWMOT	0.03854	0.42451	-0.15789	-0.08241	0.06473	-0.01987	0.02225	0.09505	0.03433	0.14032
REVERMOT	0.04698	0.08414	-0.19125	-0.10045	0.07890	0.02378	0.04579	0.41809	0.23731	0.01142
FASTMOT	0.06618	0.13936	-0.04173	-0.14151	0.02021	-0.03411	0.05814	0.25279	0.17182	0.01607
BLANKSCR	0.14086	0.05123	0.16910	0.24475	0.05422	-0.07195	0.11907	0.07178	0.12121	0.12014
INSTRMUS	0.12918	0.11152	-0.17530	0.16238	0.27442	0.03381	0.20035	0.36417	0.42871	0.14033
SINGIND	0.05550	0.02483	0.13956	0.01199	0.03212	-0.06013	0.11775	0.00595	0.18832	0.12098
SINGGRP	0.03793	0.21752	-0.05812	0.04209	0.07692	-0.05155	0.11356	0.12697	0.04011	0.09360
SLOWMUS	0.13261	0.23451	0.33691	0.10921	0.06036	0.27060	0.42679	0.17551	0.20249	0.09850
LIVEYMUS	0.14909	0.16081	-0.31939	0.06009	0.11159	-0.08167	0.06482	0.52003	0.38127	0.03359
ADMALVOC	0.05015	-0.25227	0.24148	-0.11960	0.34784	-0.04757	0.01459	0.44733	0.40619	-0.03686
ADFEMVOC	0.10964	0.14384	0.10865	0.64686	0.12545	-0.04985	0.10023	-0.04707	0.04013	0.08055
CHILDVOC	0.10649	0.01618	-0.22449	-0.25720	0.19937	0.34527	0.04451	0.63086	0.28666	0.21902
PECULVOT	0.04710	0.08448	0.50146	0.40299	0.76376	-0.08575	0.06720	0.25809	0.31638	-0.16298
RHREPALT	0.00054	-0.05093	0.21123	0.62524	0.00814	-0.12702	0.15021	0.00147	0.20762	0.20906
APPLAUSEF	-0.03487	-0.07935	-0.14286	-0.07456	0.05857	0.01797	0.03850	0.39067	0.16570	0.11322
SOUNDEFF	0.24250	0.08407	0.10069	0.06440	0.00022	-0.05109	0.10574	0.11318	0.28819	0.26730

	EYECONT	DANCING	STILSHOT	CUT	PAN	ZOOM	FAMILIAR	PIXILLAT	NOVEL	SLOWMCT
VISFIX	0.10598	0.08158	-0.03056	0.00845	0.04391	-0.03294	0.06371	-0.07057	0.35553	0.00991
SEX	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000
NEGROMAN	0.24230	0.03795	0.09818	-0.32478	0.08437	-0.15952	0.26804	-0.09153	0.20908	0.02933
CAUCMAN	0.19920	0.00592	0.26803	-0.13456	0.29744	-0.20898	0.08310	0.31298	0.21286	0.09589
NEGWOMAN	0.14153	0.30523	-0.04892	-0.18857	0.13838	0.28123	0.06513	-0.03530	0.14692	0.06126
CAUKWOMAN	0.07193	-0.03622	0.02832	0.14715	0.02454	-0.04436	0.20573	0.02913	0.07910	0.01974
NEGROY	0.13187	0.17301	-0.08035	0.20864	0.06456	-0.05884	0.31296	-0.02096	0.25196	0.09070
CAUCBOY	0.05521	0.40142	-0.16401	0.05487	0.02989	0.12703	0.15403	-0.13002	0.11485	0.05875
NEGREGIRL	0.03838	0.02112	0.11555	0.08440	0.10118	-0.11690	0.09035	-0.11994	0.02830	0.14656
CAUCGIRL	0.02686	0.20626	-0.37468	0.01713	0.14676	0.07457	0.17852	-0.11212	0.23012	0.07425
ORIEGIRL	0.19366	0.24677	-0.09466	-0.20380	0.05143	0.15069	0.13437	-0.11318	-0.12097	0.11372
STILDPAW	0.12025	0.08175	-0.05950	0.00271	0.41056	0.69553	0.27141	-0.06575	0.32963	0.04455
ANIMALS	0.03808	0.07073	0.09395	-0.06651	0.05653	-0.05703	0.09059	-0.05688	0.19068	0.03854
INANOBJT	0.12921	0.15242	-0.11616	0.55271	0.10052	0.02493	0.31370	-0.11819	0.55678	0.42451
LETSCRPT	0.47818	0.11911	0.36903	-0.36857	0.19815	-0.18206	0.31195	0.06758	0.19844	0.15789
ANIMATN	0.01517	0.00381	0.16733	0.00028	0.05512	-0.12845	0.07798	0.12163	0.19844	0.08241
PUPPETS	0.36438	0.11879	0.31761	-0.20168	0.22019	-0.13084	0.14959	0.02765	0.12085	0.06473
COSTCHAR	0.07541	0.03646	0.11808	0.15855	0.08712	-0.09613	0.12540	0.02932	0.07903	0.01967
BODYPART	0.03122	0.10880	0.10136	-0.07468	0.14633	-0.01762	0.04293	0.04041	0.14619	0.26730



APPENDIX C, Continued

	EYECONT	DANCING	STILSHOT	CUT	PAN	ZOOM	FAMILIAR	PIXILLAT	NOVEL	SLOWMOT
MOTION	-0.14544	0.15589	-0.31586	0.29464	0.52883	-0.27089	0.38632	0.08765	-0.08796	-0.09505
INACSTAT	0.16948	-0.25995	0.20763	-0.26943	-0.19895	0.13164	0.43616	-0.03207	0.06650	-0.03433
ACTSTAT	0.08437	0.48496	0.01195	0.01548	0.22173	0.11179	0.13973	0.09075	0.04090	0.14032
TIME	0.00257	0.04629	-0.13186	-0.01943	0.23072	0.06650	0.00553	0.29419	-0.12258	-0.08101
AUDCHNGF	0.00855	0.13439	0.14053	-0.09100	0.15240	-0.11296	0.01444	0.10405	0.02709	-0.11704
EYFCONT	1.00000	0.01621	0.09870	-0.37412	0.04280	-0.03321	0.27431	-0.11430	-0.18237	-0.08000
DANCING	0.01621	1.00000	-0.14685	-0.16513	0.15777	0.36747	0.01882	-0.03917	-0.14725	-0.04003
STILSHOT	0.09870	-0.14685	1.00000	-0.23242	-0.79456	-0.69528	0.07069	0.18213	-0.31667	0.15725
CUT	0.03741	-0.23242	-0.23242	1.00000	0.12796	0.03663	0.73951	0.05166	0.52530	-0.08455
PAN	0.04280	0.15777	-0.79456	0.12796	1.00000	0.24703	0.06279	-0.13696	0.16640	-0.09737
ZOOM	-0.03321	0.36747	-0.69528	0.03663	0.24703	1.00000	0.20347	-0.13008	0.35574	-0.12823
FAMILIAR	0.02743	-0.01882	0.07069	0.73951	0.06279	-0.20347	1.00000	0.03170	-0.03453	-0.03515
PIXILLAT	0.08455	-0.03515	0.03170	0.03170	0.13008	0.03170	0.03170	1.00000	-0.02893	-0.03219
NOVEL	0.18237	-0.12823	0.31667	0.52530	0.16640	0.35574	0.03453	0.02893	1.00000	-0.09628
SLOWMOT	0.08000	-0.04003	0.15725	-0.08455	-0.09737	-0.12823	0.03515	0.03219	0.09628	1.00000
REVERMOT	0.10076	0.04880	0.00335	0.10126	0.00854	-0.15081	0.23684	-0.03924	0.11344	0.31272
FASTMOT	0.13693	-0.05547	0.11583	0.11005	0.09813	-0.17673	0.16956	0.72934	0.08342	-0.03588
BLANKSCR	0.11702	0.12717	0.01041	-0.07735	0.04059	0.05528	0.07722	0.33908	-0.13176	-0.07794
INSTRMUS	-0.24383	0.27799	-0.11980	0.41145	0.00456	-0.02493	0.48229	0.05197	0.13064	-0.18682
SINGIND	0.05273	0.25130	0.05540	-0.01327	-0.16333	0.13635	0.01315	0.09745	0.06618	-0.06602
SINGGFP	0.00715	0.52122	-0.03018	-0.18775	0.08817	0.16403	0.07218	0.08592	0.18046	-0.05821
SLOWMUS	0.09242	0.01313	0.16687	-0.19456	-0.16610	-0.08795	0.12358	-0.07861	-0.11982	-0.07416
LIVEYMUS	0.27794	0.18037	0.30474	0.50133	0.27548	0.00304	0.48540	0.12404	0.14255	0.12645
ADMALVOC	0.13484	-0.18235	0.09250	-0.50175	0.05387	0.10665	0.51623	0.08050	0.12744	0.14851
ADFEVOC	0.09872	-0.10046	0.08594	0.06662	0.01245	-0.08331	0.09689	-0.07761	0.03286	0.05474
CHILDVOC	0.06993	-0.09012	-0.11112	0.20918	0.26964	-0.19779	0.28238	-0.06667	-0.21026	-0.06265
PECULVOC	0.23430	-0.06929	0.37994	-0.20923	-0.22672	-0.19404	0.13221	-0.02255	0.13186	-0.09416
RHREPALT	0.01836	0.40631	0.11978	-0.11282	0.15401	0.00828	0.10313	0.09681	0.04216	-0.13905
APPLAUSEF	-0.03176	-0.03622	-0.29715	-0.12534	0.60292	-0.09594	0.11787	-0.02913	0.08918	-0.01974
SOUNDEFF	0.32861	-0.10216	-0.03892	-0.24429	0.14116	-0.08166	0.13794	-0.05390	0.12104	-0.09316

	BLANKSCR	INSTRMUS	SINGIND	SINGGRP	SLOWMUS	LIVEYMUS	ADMALVOC	ADFEVOC	CHILDVOC	PECULVOC
VISFIX	0.08655	0.10052	0.05355	0.09030	0.02625	0.10286	0.16899	0.05046	0.05521	0.04534
SFX	0.00000	-0.00000	-0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
NEGROMAN	-0.03432	-0.19930	-0.00916	-0.00445	0.11564	-0.36010	0.04869	-0.08984	0.03838	-0.34171
CAUCHMAN	0.06985	-0.11817	-0.03802	0.01710	-0.02447	-0.17182	0.25846	0.15438	0.11863	-0.17948
NEGROMAN	0.16146	0.24204	0.37208	0.47241	0.43376	-0.16796	0.14354	0.15756	-0.15951	-0.16275
CAUCHMAN	0.23626	0.11805	-0.05974	-0.05267	0.04378	0.09306	0.18616	0.63814	0.06363	0.28690
NEGROY	0.05865	0.28214	-0.01838	0.05645	0.04986	0.22959	0.40615	-0.15809	0.04491	-0.29846
CAUC80Y	0.03645	0.32278	0.44078	0.22348	0.06686	0.30232	1.45032	-0.21812	0.35586	-0.31066
NFRGRIRI	0.09573	0.17821	0.27002	-0.13488	0.01913	0.19169	0.31516	-0.10766	0.46308	-0.31875

APPENDIX C, Continued

	BLANKSCR	INSTRMUS	SINGIND	SINGGRP	SLOWMUS	LIVEYMUS	ADMALVOC	ADFEVOC	CHILDVOC	PECULVOC
CAUCGIRL	0.20725	0.17832	0.08526	0.25629	0.02158	0.07160	0.37367	0.12114	0.69992	0.24301
ORIEGIRL	0.20692	0.02400	0.16105	0.23187	0.18604	-0.18976	0.19060	0.02288	0.19194	0.22929
STILDRAW	0.12713	0.33767	0.10822	-0.11357	0.14335	0.05816	0.38195	0.10064	0.13123	0.08453
ANIMALS	0.14086	0.12918	0.05550	0.03793	0.13261	0.14909	0.05015	0.10964	0.10649	0.04710
INANOBJT	0.05123	0.11152	0.02483	-0.21752	0.023451	0.16081	0.25227	0.14384	0.01618	0.08448
LFTSCRPT	0.16910	0.17530	0.13956	-0.05812	0.33691	0.31039	0.24148	0.10865	0.22449	0.50146
ANIMATN	0.24475	0.16238	0.01199	-0.04209	0.10921	0.06009	0.11960	0.64686	0.25720	0.40299
PUPPETS	0.05422	0.27442	0.03212	-0.07692	0.06036	0.11159	0.34784	0.12545	0.19937	0.76376
CCSTCHAR	0.07195	0.03381	0.06013	-0.05155	0.27060	0.08167	0.04757	0.04985	0.34527	0.08575
BODYPART	0.11907	0.20035	0.11775	-0.11356	0.42679	0.06482	0.01459	0.10023	0.04451	0.06720
MOTION	0.07178	0.36417	0.00595	-0.12697	0.17551	0.52003	0.44733	0.04707	0.63086	0.25809
INACSTAT	0.12121	0.42871	0.18832	0.04911	0.20249	0.38127	0.40619	0.04013	0.28666	0.31638
ACTSTAT	0.12014	0.14033	0.12098	0.09360	0.09850	0.03359	0.03686	0.08055	0.21902	0.16298
TIME	0.00875	0.10088	0.21271	0.13630	0.07516	0.06828	0.07387	0.20559	0.24699	0.21339
AUDCHNGF	0.21496	0.12719	0.00017	0.11280	0.11180	0.10377	0.25604	0.18057	0.02757	0.18245
FYFCOMY	0.11702	0.24383	0.05273	0.00715	0.09242	0.27794	0.13484	0.09872	0.06993	0.23430
DANCING	0.12717	0.27799	0.25130	0.52122	0.01313	0.18037	0.18235	0.10046	0.09012	0.06929
STILSHOT	0.01041	0.11980	0.05540	-0.03018	0.16687	0.30474	0.09250	0.08594	0.11112	0.37994
CUT	0.07735	0.41145	0.01327	-0.18775	0.19456	0.50133	0.50175	0.06662	0.20918	0.20923
PAN	0.04059	0.00456	0.16333	-0.08817	0.16610	0.27548	0.05387	0.01245	0.26964	0.22672
ZOOM	0.05528	0.02493	0.13635	0.16403	0.08795	0.00304	0.10665	0.08331	0.19779	0.19404
FAMILIAR	0.07722	0.48229	0.01315	-0.07218	0.12358	0.48540	0.51623	0.09689	0.28238	0.13221
PIXILIAT	0.33908	0.05197	0.09745	-0.08592	0.07861	0.12404	0.08050	0.07761	0.06667	0.22555
NOVEL	0.13176	0.13064	0.06618	-0.18046	0.11982	0.14255	0.12744	0.03286	0.21026	0.13186
SLOWMOT	0.07794	0.18682	0.06602	-0.05821	0.07416	0.12645	0.14851	0.05474	0.06265	0.09416
REVERPOT	0.09035	0.11657	0.08048	-0.07096	0.09249	0.16341	0.09040	0.06672	0.18598	0.11477
FASTMOT	0.20477	0.15379	0.11338	-0.09996	0.10445	0.04327	0.15110	0.09165	0.10387	0.07433
BLANKSCR	1.00000	0.05602	0.02357	-0.08818	0.02889	0.18515	0.16124	0.32727	0.04176	0.16072
INSTRMUS	0.05602	1.00000	0.43378	0.11287	0.35472	0.48360	0.72001	0.12104	0.09694	0.23626
SINGIND	0.02357	0.43378	1.00000	0.24559	0.13310	0.20624	0.32933	0.02394	0.19956	0.16477
SINGGRP	0.02357	0.43378	0.24559	1.00000	0.18364	0.13279	0.15145	0.06081	0.17413	0.05499
SLOWMUS	0.08118	0.11287	0.18364	0.18364	1.00000	0.29159	0.04783	0.14598	0.00786	0.09651
LIVEYMUS	0.02889	0.35472	0.13310	0.13279	0.29159	1.00000	0.51998	0.02385	0.11836	0.08184
ADMALVOC	0.18515	0.48360	0.20624	0.15145	0.04783	0.51998	1.00000	0.20638	0.29015	0.26922
ADFEVOC	0.18124	0.72001	0.32933	-0.15145	0.04783	0.51998	0.20638	1.00000	0.17160	0.29364
ADCHVOC	0.32727	0.12104	0.02394	0.06081	0.14598	0.02385	0.17160	0.00000	1.00000	0.26759
CHILDVOC	0.04176	0.09694	0.19956	-0.17413	0.00786	0.11836	0.28922	0.25364	0.28759	1.00000
PECULVOC	0.16072	0.23626	0.16477	-0.05499	0.09651	0.08184	0.41223	0.53187	0.10031	0.23744
RHREPALT	0.42940	0.40504	0.34572	0.31531	0.16517	0.14711	0.41223	0.53187	0.10031	0.23744
APPLAUSE	0.07214	0.11310	0.05974	0.06257	0.06865	0.29245	0.12179	0.04953	0.01918	0.08519
SOUNDEFF	0.10777	0.20710	0.14329	-0.13135	0.06419	0.26475	0.26348	0.08909	0.15745	0.01611



APPENDIX C, Continued

	ORIEGIRL	STILDRAW	TIME	AUDCHANGE	RFVERMOT	FASIMOT	RHREPALT	APPLAISE
VISFLX	0.09856	-0.13443	-0.15868	0.11214	0.03317	-0.02850	0.18844	0.04941
SEX	0.00000	-0.00000	0.00000	0.00000	-0.00000	0.00000	-0.00000	0.00000
NEGRO MAN	0.36411	-0.18507	-0.19324	-0.09000	-0.05963	-0.11274	-0.15768	-0.03742
CAUCASIAN	-0.25807	-0.16452	0.11457	0.00404	-0.11689	0.17226	-0.19528	-0.08677
NEGRO WOMAN	0.50473	-0.08442	0.05514	0.03177	-0.07626	-0.06786	0.32024	-0.05661
CAUCASIAN WOMAN	-0.06938	-0.04071	-0.08935	0.08177	-0.02406	-0.03389	0.35912	-0.01786
NEGRO BOY	0.17706	-0.16664	0.25406	0.04241	0.21332	0.16705	0.05599	-0.08350
CAUCASIAN GIRL	0.54444	-0.17871	-0.16547	0.04264	0.11096	-0.02302	0.21636	-0.09076
NEGRO GIRL	0.53769	-0.16505	-0.16017	-0.02043	0.25944	0.07709	0.00024	-0.07352
CAUCASIAN GIRL	0.48626	-0.15574	0.10364	0.05478	0.26066	0.12473	0.23636	-0.06873
NEGRO GIRL	1.00000	-0.15402	-0.04065	0.06864	-0.05159	-0.13168	0.12602	0.03257
STILDRAW	0.15402	1.00000	0.13491	-0.21063	-0.05430	-0.07650	-0.26586	-0.04071
ANIMALS	0.11491	-0.05079	0.17679	0.16845	-0.04698	-0.06618	0.00054	-0.03487
UNIFORMS	0.05315	-0.09772	0.24730	-0.08483	0.08414	-0.13936	-0.05093	-0.07975
LETSCRIPT	0.13500	-0.10831	0.15607	0.08880	-0.19125	-0.04173	0.21123	-0.14286
ANY MATN	-0.14960	-0.13428	-0.41595	0.31472	-0.10045	-0.14151	0.62524	-0.07456
PIPPETS	-0.14080	-0.06069	-0.03933	0.05061	-0.07890	-0.02021	-0.00814	-0.05857
COSMETICAR	-0.06983	-0.02140	0.18652	-0.11889	-0.02378	-0.03411	-0.12702	-0.01707
RHYTHMART	0.14759	-0.08204	-0.16966	-0.05208	-0.04579	-0.05834	-0.15021	-0.03850
MOTION	0.02648	-0.17174	0.16655	0.01605	0.41809	0.25279	-0.00147	0.39067
INACTIV	0.01984	0.31472	-0.09891	0.00703	-0.23731	-0.17182	-0.20762	-0.16570
ACTIV	0.00156	-0.20824	0.05153	-0.03688	-0.01142	0.01607	0.20906	-0.11322
TIME	-0.04065	0.13401	1.00000	0.01004	0.04949	0.27461	-0.21297	0.22743
APPROX	0.06864	-0.21063	0.01094	1.00000	-0.08818	0.04473	0.40202	-0.11811
EVAPOR	0.19366	-0.12025	-0.00257	0.00855	-0.10076	-0.13693	0.01836	-0.03176
DANCING	0.24577	-0.08175	0.04629	0.13479	-0.04880	-0.05547	0.40631	-0.03622
STIFFSOT	-0.09466	-0.05995	-0.13186	0.14053	0.00335	0.11583	0.11978	-0.02975
CIT	-0.20380	0.00271	-0.01943	-0.09100	0.10126	0.11005	-0.11282	-0.12574
PAN	0.05143	0.41056	0.23072	-0.15240	-0.00854	-0.09813	-0.15401	0.60202
ZOOM	0.15069	0.69553	0.06650	-0.11206	-0.15081	-0.17673	0.00828	-0.09504
FAMILIAR	-0.13437	-0.27141	0.00553	-0.01444	0.23684	0.16956	0.10313	-0.11787
PIVILLIAT	-0.11318	-0.06575	0.29419	0.10405	-0.03924	0.72974	0.09681	-0.02913
NOVEL	-0.12097	0.32963	-0.12258	0.02709	0.11344	-0.08342	-0.04216	-0.08918
SURMOT	0.11372	-0.04455	-0.08101	-0.11704	0.31272	-0.03588	-0.13905	-0.01074
REVERMOT	-0.05159	-0.05470	0.04949	-0.08818	1.00000	0.61408	-0.01208	-0.02406
FASIMOT	-0.13168	-0.07650	0.27461	0.04473	0.61408	1.00000	0.09663	-0.03389
RANKSCOR	0.20692	-0.12713	-0.00875	0.21406	-0.09035	0.20477	0.42940	-0.07214
INSTRUMUS	0.02400	-0.33767	-0.10088	0.12719	0.11657	0.15379	0.40504	0.11310
STINGRID	0.16105	-0.10822	0.21271	0.00000	-0.08048	-0.11378	0.34572	-0.05974

APPENDIX C, Continued

	ORIEGIRL	STILDRAW	TIME	AUDCHNGE	REVERMOT	FASIMOT	RHREPALT	APPLAISE
SINGGRP	0.23187	-0.11357	0.13630	0.11280	-0.07096	-0.09906	0.31531	0.06257
SOUNDIS	0.18604	-0.14325	-0.07516	-0.11180	-0.09249	-0.10445	0.16517	-0.06845
LIVEYHUC	-0.18976	-0.05816	-0.06828	0.10377	0.16341	0.04327	0.14711	0.29245
ADNALVOC	-0.19060	0.38195	0.07387	-0.25604	-0.09040	-0.15110	-0.41223	-0.12179
ADPEMVOC	-0.02288	-0.10064	-0.20559	0.18057	-0.06672	-0.09165	0.53187	-0.04953
CHILDVOC	0.19194	-0.13123	0.24699	-0.02757	0.18598	0.10387	-0.10031	0.01918
PECVLVOI	-0.22929	-0.08453	-0.21339	0.18245	-0.11477	-0.07473	0.23744	-0.08519
RHREPALT	0.12602	-0.26586	-0.21297	0.40202	-0.01208	0.09663	1.00000	-0.12619
APPLAISE	0.03257	-0.04031	0.22743	-0.11811	-0.02406	-0.03389	-0.12619	1.00000
SOUNDEFF	0.16368	-0.14320	0.16339	0.10513	-0.08733	-0.08304	0.00992	0.00047



APPENDIX D

MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 10 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	beta	B
SEX	0.15131	0.02289	0.02289	0.12131	-0.12131	-0.72953
RHREPALT	0.20040	0.04016	0.01727	0.13141	0.10430	0.07848
TIME	0.22506	0.05065	0.01049	0.12026	0.11352	-0.00298
CAUCMAN	0.24302	0.05906	0.00841	0.11709	-0.06755	-0.04872
STILDRAW	0.25995	0.06757	0.00851	0.10511	-0.04661	-0.05391
ANIMALS	0.25616	0.07084	0.00327	0.07716	-0.04673	-0.06361
ADFEHVOC	0.27090	0.07333	0.00249	0.01620	-0.05812	-0.04582
SINGIND	0.27508	0.07567	0.00233	0.01083	-0.08234	-0.10597
IJACSTAT	0.27847	0.07754	0.00188	0.00208	-0.00993	-0.00649
EYECCNT	0.28148	0.07923	0.00169	0.00580	0.05279	0.03320
NEGRBOY	0.28491	0.08117	0.00194	0.04247	0.02598	0.02660
ADNALVOC	0.28650	0.08208	0.00091	0.11276	-0.04444	-0.02738
SLOWMUS	0.28766	0.08275	0.00067	0.01152	-0.13381	-0.10539
SINGGRP	0.28876	0.08338	0.00063	0.03229	0.01946	0.02476
CHILDVOC	0.28957	0.08385	0.00047	0.02551	-0.05955	-0.04708
SLOWHOT	0.29036	0.08431	0.00046	0.01006	-0.00762	-0.01837
PECULVOC	0.29146	0.08495	0.00064	0.01950	0.10777	-0.07709
PUPPETS	0.29458	0.08678	0.00183	0.02862	0.10954	0.09785
PIXILLAT	0.29541	0.08727	0.00049	0.01781	-0.02652	-0.10107
ADJCHANGE	0.29611	0.08768	0.00041	0.04153	0.02110	0.07803
CAUCGIRL	0.29658	0.08796	0.00028	0.00518	0.05160	0.03916
ZOOM	0.29703	0.08823	0.00027	0.03655	-0.04757	-0.05506
STILSHOT	0.29776	0.08866	0.00044	0.00521	-0.04148	-0.03502
CAUCWOMAN	0.29818	0.08891	0.00025	0.00150	-0.01645	-0.26200
INSTRMUS	0.29846	0.08908	0.00017	0.04415	0.12463	0.08747
LIVEYMUS	0.29923	0.08954	0.00046	0.02883	-0.12746	-0.07864
NEGWOMAN	0.29955	0.08973	0.00019	0.05041	0.02103	-0.03232
SOUNDEFF	0.29991	0.08994	0.00021	0.02978	0.02660	0.02868
DANCING	0.30030	0.09018	0.00024	0.06145	0.02560	0.03574
COSTCHAR	0.30051	0.09037	0.00019	0.03315	-0.01656	-0.07169
FASTHOT	0.30072	0.09043	0.00006	0.00052	0.00470	0.01342
FAMILIAR	0.30082	0.09049	0.00006	0.05344	-0.03055	-0.04144
ANIMATN	0.30092	0.09055	0.00006	0.02244	0.05152	0.02506
NOVEL	0.30108	0.09065	0.00009	0.00460	-0.02550	-0.04505
CJT	0.30141	0.09085	0.00020	0.01970	0.03477	0.05219
CAUCBOY	0.30155	0.09093	0.00009	0.06222	0.01670	0.01614
MOTION	0.30162	0.09098	0.00004	0.00927	0.02854	0.02755
ORIEGIRL	0.30170	0.09102	0.00005	0.05553	0.01607	0.01725
APPLAUSE	0.30176	0.09106	0.00003	0.00865	-0.00591	-0.05046
BLANKSCR	0.30181	0.09109	0.00003	0.00869	0.00602	0.06891
PAN	0.30184	0.09111	0.00002	0.00638	-0.01121	-0.01389
LETSCRPT	0.30188	0.09113	0.00002	0.04707	0.00961	0.00682
NEGRGIRL	0.30190	0.09115	0.00002	0.05081	-0.00900	-0.00952

MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 10 SECOND INTERVALS

INAJC3JT	PRESENCE OF NONLIVING OBJJS ON SCREEN	0,30193	0,09116	0,00002	0,009960	0,000793
BDYPART	SCENES THAT EMPHASIZE PARTS OF THE BODY	0,30195	0,09118	0,00001	0,000820	-0,000893
REVERNOT	ACTION MOVES BACKWARDS	0,30197	0,09118	0,00001	0,002016	0,001755
ACTSTAT	CENTRAL ACTIVITY STATIONARY BUT ACTIVE	0,30198	0,09119	0,00001	0,002744	0,000955
NEGROMAN		0,30199	0,09120	0,00000	0,000221	0,000186
(CONSTANT)						11,000481

FINAL ANALYSIS OF VARIANCE

DJE TO	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	48	1805,08583	39,27262	6,32817
RESIDUAL	3027	16782,57429	6,20660	

STANDARD DEVIATION OF RESIDUALS 2,49119



MULTIPLE REGRESSION ANALYSIS OF MALE SUBJECTS USING 10 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSD CHANGE	SIMPL R	BETA	B
STILDRAW	0.15672	0.02456	0.02456	0.15672	-0.06578	-0.05481
CAUCHAN	0.19217	0.03693	0.01237	0.08514	-0.05427	-0.03208
ZOOM	0.20548	0.04222	0.00529	0.12786	-0.04445	-0.04059
DANCING	0.21377	0.04570	0.00347	0.04355	0.07472	0.08826
TIME	0.22225	0.04939	0.00370	0.08951	-0.10825	-0.00225
SINGIND	0.23312	0.05435	0.00495	0.03129	-0.07849	-0.07986
BODYPART	0.24196	0.05854	0.00420	0.04250	-0.06628	-0.11031
CAUWOMAN	0.24781	0.06141	0.00287	0.04495	-0.05862	-0.079433
MOTION	0.25242	0.06372	0.00231	0.07413	0.06208	0.04771
EYFCONT	0.25644	0.06576	0.00204	0.08311	0.03855	0.02828
CCSTCHAR	0.26012	0.06766	0.00190	0.06045	-0.05494	-0.19038
PIXILIAT	0.26401	0.06970	0.00204	0.06668	-0.08781	-0.024597
NEGROY	0.26656	0.07105	0.00135	0.04857	0.06331	0.05124
LFTSCRPT	0.26974	0.07276	0.00170	0.05355	0.04084	0.02737
PECULVCI	0.27247	0.07424	0.00148	0.03043	-0.13079	-0.07403
PUPPETS	0.27458	0.07539	0.00115	0.03767	0.09429	0.06813
RHREPALT	0.27747	0.07699	0.00160	0.07393	0.02021	0.01738
BLANKSCR	0.27914	0.07792	0.00093	0.02787	0.03060	0.026892
INANOBJT	0.28068	0.07878	0.00086	0.06141	0.02140	0.01726
SCUNDEFF	0.28194	0.07949	0.00071	0.06135	0.05570	0.04406
SINGGRP	0.28332	0.08027	0.00078	0.03906	0.04249	0.04276
STILSHOT	0.28416	0.08075	0.00047	0.08197	0.11684	0.07797
PAN	0.28574	0.08165	0.00090	0.01478	0.07121	0.06972
NEGROGIRL	0.28692	0.08232	0.00067	0.01822	-0.05275	-0.04411
NEGROMAN	0.28777	0.08281	0.00049	0.01670	-0.02699	-0.03279
NEGROMAN	0.28830	0.08312	0.00030	0.03028	0.03817	0.02086
LIVEYMUS	0.28900	0.08352	0.00040	0.05471	0.05410	0.02598
ADMALVOC	0.29050	0.08439	0.00087	0.05846	0.06215	0.03028
SLOWMOT	0.29116	0.08477	0.00028	0.03493	0.03363	0.06411
ADFERVOC	0.29166	0.08506	0.00029	0.02779	0.02059	0.02809
CAUGGIRL	0.29216	0.08536	0.00029	0.06660	0.03277	0.03231
CUT	0.29251	0.08556	0.00021	0.00222	0.02054	0.03504
CHILDVOC	0.29285	0.08576	0.00020	0.04067	-0.02481	-0.02334
NOVEL	0.29329	0.08602	0.00026	0.02854	-0.02388	-0.03328
CAUCBOY	0.29352	0.08616	0.00014	0.01443	0.01026	0.01471
SFX	0.29376	0.08629	0.00014	0.00923	0.01366	0.03546
APPLAUSE	0.29392	0.08639	0.00009	0.00710	-0.01174	-0.07868
INSTRMUS	0.29408	0.08648	0.00009	0.04315	0.03892	0.01741
REVERMOT	0.29421	0.08656	0.00008	0.02165	-0.02515	-0.06413
FASTMOT	0.29443	0.08669	0.00013	0.04159	0.03171	0.07159
INACSTAT	0.29447	0.08671	0.00002	0.08942	0.00264	0.00395
SLOWMUS	0.29450	0.08673	0.00002	0.01039	-0.01575	-0.00981
(CONSTANT)						7.50926

MULTIPLE REGRESSION ANALYSIS OF MALE SUBJECTS USING 10 SECOND INTERVALS

FINAL ANALYSIS OF VARIANCE

DF	SUM OF SQUARES	MEAN SQUARE	F
42	497.93605	11.85562	
1324	5243.41335	3.96028	2.99363

STANDARD DEVIATION OF RESIDUALS 1.99005



MULTIPLE REGRESSION ANALYSIS OF FEMALE SUBJECTS USING 10 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSD CHANGE	SIMPLE R	BETA	B
RHYMING, REPETITION, AND ALLITERATION	0.16914	0.02861	0.02861	0.16914	0.15095	0.12744
SEQUENCE OF THE INTERVAL IN THE PROGRAM	0.20705	0.04287	0.01426	0.14252	-0.12142	-0.00358
PRESSENCE OF CAUCASION MAN ON SCREEN	0.23354	0.05454	0.01167	0.13987	-0.07569	-0.06125
PRESSENCE OF ANIMALS ON SCREEN	0.24662	0.06082	0.00628	0.08685	0.07451	0.11377
PRESSENCE OF ADULT MALES VOICE	0.25646	0.06577	0.00455	0.14777	0.10905	0.07536
PRESSENCE OF ADULT FEMALES VOICE	0.25900	0.07183	0.00606	0.11732	0.07760	-0.10456
ONLY ONE PERSON SINGING	0.27448	0.07534	0.00352	0.03500	-0.09072	-0.13100
CHAR HAS EYE CONTACT WITH TV AUDIENCE	0.27964	0.07820	0.00285	0.05569	0.03585	0.03730
PRESSENCE OF ORIENTAL GIRL ON SCREEN	0.28263	0.07999	0.00180	0.08775	0.01809	0.02184
PRESSENCE OF PUPPETS ON SCREEN	0.28575	0.08165	0.00166	0.02498	0.12204	0.12212
CENTRAL ACTIVITY STATIONARY AND INACTIVE	0.28937	0.08374	0.00208	0.08126	0.03232	-0.02371
CAMERA REMAINS STATIONARY FOR SCENE	0.29177	0.08513	0.00139	0.03783	0.13305	-0.12602
PRESSENCE OF UNUSUAL VOICES IN NORMAL SIT	0.29362	0.08621	0.00108	0.1406	-0.09007	-0.07945
PRESSENCE OF NONLIVING OBJS ON SCREEN	0.29556	0.08735	0.00114	0.02990	0.02418	0.02768
PRESSENCE OF ANIMATION ON SCREEN	0.29769	0.08862	0.00126	0.10668	0.04976	0.04431
PRESSENCE OF DRAWINGS ON SCREEN	0.29941	0.08964	0.00103	0.08030	0.04326	-0.05361
MUSIC WITH SLOW TEMPO	0.30144	0.09087	0.00122	0.01231	-0.20698	-0.18466
CAMERA ZOOMS IN AND OUT ON SCENE	0.30221	0.09133	0.00047	0.00189	-0.05474	-0.07884
SCENES THAT EMPHASIZE PARTS OF THE BODY	0.30345	0.09208	0.00075	0.01342	-0.05329	-0.06648
ABRUPT SOUND CHANGE	0.30422	0.09255	0.00047	0.01280	0.03037	0.07174
BOY=1 GIRL=2	0.30472	0.09286	0.00031	0.05191	0.03369	0.03980
PRESSENCE OF CAUCASION GIPL ON SCREEN	0.30521	0.09316	0.00030	0.01239	-0.02164	-2.60272
PRESSENCE OF CHILDS VOICE	0.30569	0.09344	0.00029	0.09912	0.03488	0.04881
CHAR DRESS UNUSUAL IN NORMAL SITUATION	0.30634	0.09385	0.00040	0.01774	-0.05122	-0.06847
PRESSENCE OF CAUCASION BOY ON SCREEN	0.30683	0.09414	0.00030	0.01911	0.00268	0.02299
MOTION MOVES AT UNUSUALLY SLOW PACE	0.30730	0.09443	0.00029	0.09167	0.01519	0.01448
SCENE CONTAINS ESSENTIALLY FAM ELEMENTS	0.30777	0.09472	0.00029	0.03583	0.03063	0.05287
ACTION MOVES BACKWARDS	0.30822	0.09500	0.00028	0.05835	0.04899	0.07457
ANY SCENE CHANGE	0.30867	0.09528	0.00028	0.02013	0.02074	0.07505
NEW ELEMENTS ENTER SCENE	0.30893	0.09544	0.00016	0.02699	0.03936	0.06626
NON-SPEECH OR MUSIC SOUNDS	0.30946	0.09577	0.00033	0.00641	-0.02766	-0.05470
MUSIC WITH FAST TEMPO	0.30973	0.09593	0.00016	0.01308	0.01513	0.01699
PRESSENCE OF INSTRUMENTAL MUSIC	0.30988	0.09603	0.00010	0.01369	-0.01224	-0.01416
PRESSENCE OF NEGRO WOMAN ON SCREEN	0.31005	0.09613	0.00010	0.011808	-0.24505	-0.16763
PRESSENCE OF NEGRO GIRL ON SCREEN	0.31262	0.09773	0.00161	0.11062	0.23193	0.14717
ACTION MOVES AT UNUSUALLY FAST PACE	0.31282	0.09786	0.00012	0.03937	-0.01895	-0.03267
NOTHING PRESENT ON SCREEN	0.31295	0.09794	0.00008	0.07123	0.02078	0.02466
PRESSENCE OF LETTERS ON SCREEN	0.31303	0.09799	0.00005	0.02260	-0.00459	-0.02113
PRESSENCE OF APPLAUSE	0.31309	0.09803	0.00004	0.01780	-0.00958	-0.02332
MORE THAN ONE PERSON SINGING	0.31316	0.09807	0.00004	0.04543	-0.01186	-0.00926
PRESSENCE OF CAUCASION WOMAN ON SCREEN	0.31323	0.09811	0.00004	0.01037	-0.00746	-0.07186
	0.31329	0.09815	0.00004	0.02989	0.00466	0.00950
	0.31334	0.09818	0.00003	0.02326	0.00429	0.01210

MULTIPLE REGRESSION ANALYSIS OF FEMALE SUBJECTS USING 10 SECOND INTERVALS

ACTSTAT	CENTRAL ACTIVITY STATIONARY PUT ACTIVE	0,31337	0,09820	0,00002	0,02157	0,00871	0,00782
NEGROY (CONSTANT)	PRESFNCE OF NEGRO ROY ON SCREEN	0,31339	0,09821	0,00001	0,04075	0,00568	0,00652
							16,07482

FINAL ANALYSIS OF VARIANCE

DF	SUM OF SQUARES	MEAN SQUARE	F
45	1419,77321	31,55052	
1663	13036,29686	7,83903	4,02480

STANDARD DEVIATION OF RESIDUALS 2,79983



MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 30 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	BETA
SEX	0.1723	0.03177	0.03177	0.17823	-0.17523
REPALIT	0.24079	0.05798	0.02622	0.16192	0.13675
CAUCMAN	0.27347	0.07479	0.01680	0.15864	-0.06702
STILDRAW	0.2904	0.08883	0.01404	0.12019	-0.04945
TIME	0.31190	0.09728	0.00846	0.14101	-0.13660
ADFMVOC	0.32157	0.10350	0.00631	0.01765	-0.07374
STILSHOT	0.32826	0.10776	0.00416	0.01527	-0.07309
EYFCOVT	0.33277	0.11074	0.00298	0.08342	0.05115
CAUGGIRL	0.33649	0.11323	0.00249	0.12284	0.11624
SINGIND	0.34030	0.11530	0.00257	0.05252	-0.06574
LIVEYVUS	0.34314	0.11774	0.00194	0.00820	0.00948
YMANOBT	0.34442	0.11853	0.00088	0.04350	-0.03334
BIANKSCP	0.34580	0.11958	0.00095	0.06123	0.03057
NEGROMAN	0.34664	0.12030	0.00072	0.01737	0.04717
PUPPETS	0.34815	0.12121	0.00091	0.04709	0.16724
PECULVOT	0.35149	0.12355	0.00234	0.03264	-0.13569
ANIMALS	0.35246	0.12423	0.00068	0.05956	-0.04109
AIRCHNGE	0.35395	0.12528	0.00105	0.07822	0.24030
NEGROGIRL	0.35513	0.12612	0.00083	0.06934	-0.02733
PXILLAT	0.35528	0.12665	0.00054	0.05487	-0.04469
NEGROMAN	0.35559	0.12715	0.00050	0.04390	-0.06340
SINGGRP	0.35757	0.12766	0.00070	0.06024	0.03434
INACTSTAT	0.35860	0.12852	0.00074	0.09521	0.19708
CHILDVOC	0.35935	0.12913	0.00054	0.03308	-0.13738
NEGROY	0.36014	0.12970	0.00057	0.04954	0.06694
DANCING	0.36140	0.13061	0.00091	0.07300	-0.00070
APPLAUSE	0.36250	0.13140	0.00079	0.01474	0.03703
SOUNDEFF	0.36289	0.13169	0.00029	0.04245	0.06107
ADNALVOC	0.36357	0.13218	0.00049	0.13740	-0.06815
MOTION	0.36429	0.13271	0.00053	0.08725	0.15034
ACTSTAT	0.36477	0.13306	0.00035	0.02590	0.11005
CHIT	0.36514	0.13333	0.00027	0.01282	0.14550
SLOWMOT	0.36578	0.13379	0.00047	0.00564	0.04413
REVERMOT	0.365919	0.13409	0.00030	0.03396	-0.01749
CAUHOVAN	0.36650	0.13432	0.00023	0.02139	0.01219
ANIMATEIN	0.36680	0.13454	0.00022	0.10570	0.06022
FAMILIAR	0.36713	0.13478	0.00024	0.05900	-0.09155
NOVEL	0.36810	0.13550	0.00071	0.01145	-0.00693
LETSCRIPT	0.36831	0.13565	0.00016	0.05323	0.01039
ZOOM	0.36846	0.13577	0.00011	0.02372	-0.02011
SLOWMUS	0.36851	0.13560	0.00003	0.01580	0.02224
INSTRMUS	0.36864	0.13589	0.00009	0.08964	-0.00210
COSTCHAR	0.36867	0.13592	0.00003	0.06193	-0.00051

MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 30 SECOND INTERVALS

PAN CAMERA SCANS SCENE 0,35559 0,13593 0,00001 0,00945 -0,01002 -0,01325  
 (CONSTANT) 30,65348

FINAL ANALYSIS OF VARIANCE

DF	SUM OF SQUARES	MEAN SQUARE	F
44	6073,75755	138,03994	3,50742
981	38608,78684	39,35656	

STANDARD DEVIATION OF RESIDUALS 6,27348



MULTIPLE REGRESSION ANALYSIS OF MALE SUBJECTS USING 30 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	BETA	B
STILDRAW	0.19310	0.03729	0.03729	-0.19310	-0.02920	-0.02128
CAUCHAN	0.24484	0.05995	0.02266	-0.11625	-0.09047	-0.04524
CCSTICAR	0.25713	0.06611	0.00617	-0.09543	-0.07864	-0.02700
PIXILIAT	0.27001	0.07290	0.00675	-0.09696	-0.09059	-0.03220
RQDYPART	0.28239	0.07975	0.00684	-0.06213	-0.05255	-0.01237
ZOOM	0.28332	0.08513	0.00333	-0.14099	-0.10017	-0.01046
BLANKSCP	0.29587	0.08754	0.00441	0.05072	0.13334	0.13894
CAUWOMAN	0.30315	0.09190	0.00436	-0.02654	-0.02960	-0.13543
NEGBOY	0.30936	0.09571	0.00381	0.06277	0.13548	0.14419
TIME	0.31617	0.09996	0.00426	-0.11026	-0.12490	-0.01568
NEGIRL	0.32261	0.10467	0.00411	0.04157	-0.07355	-0.05065
DANCING	0.32779	0.10744	0.00337	0.04121	0.07260	0.07541
NEGROMAN	0.33253	0.11058	0.00313	0.06351	0.19713	0.05332
PAN	0.33624	0.11305	0.00248	0.02059	0.09650	0.05066
ADMLVOC	0.34031	0.11581	0.00275	-0.08194	0.14950	0.06441
INSTRMUS	0.34302	0.11766	0.00185	0.04693	0.10087	0.04025
ISINGGRP	0.34596	0.11969	0.00203	0.07169	0.08818	0.08183
NEGROMAN	0.34878	0.12165	0.00196	0.00801	-0.13674	-0.17693
ACTSTAT	0.35127	0.12339	0.00174	0.05532	0.10046	0.05091
EYFCONT	0.35491	0.12596	0.00257	0.10620	0.07746	0.05585
CAUGGIRL	0.35761	0.12803	0.00206	0.10584	0.13645	0.13525
PECULVOI	0.35939	0.12952	0.00150	0.02928	-0.11745	-0.06017
PHILDVOC	0.36178	0.13089	0.00137	0.05214	-0.16433	-0.13835
CAUCEGY	0.36384	0.13238	0.00149	0.03107	-0.04739	-0.03475
CUT	0.36533	0.13347	0.00109	-0.02271	0.19241	0.22226
MOTION	0.36644	0.13428	0.00061	0.10314	0.17804	0.12114
ORIEGIRL	0.36768	0.13519	0.00091	0.04578	0.02715	0.02267
STILSHOT	0.36872	0.13595	0.00077	0.06026	0.11910	0.07720
AUDCHNGE	0.36985	0.13679	0.00084	0.05630	0.03319	0.10297
SLOWMOT	0.37079	0.13749	0.00069	0.05127	0.06559	0.11163
PEVERMOT	0.37187	0.13829	0.00021	0.04606	-0.04943	-0.11574
SOUNDEFF	0.37272	0.13892	0.00063	0.08068	0.05555	0.04725
PUPPETS	0.37425	0.14006	0.00114	0.03428	0.08345	0.05226
ADFERVOC	0.37483	0.14050	0.00044	0.02111	-0.00017	-0.00035
LEFTSCRIPT	0.37547	0.14098	0.00048	0.07056	0.03255	0.01722
LIVEYMUS	0.37596	0.14134	0.00036	0.05545	0.03635	0.01722
ANIMALS	0.37637	0.14165	0.00031	0.00369	0.03471	0.03233
IPACSTAT	0.37664	0.14186	0.00021	-0.12270	0.09056	0.04328
NOVEL	0.37690	0.14205	0.00019	-0.05264	-0.09228	-0.12356
FAMILIAR	0.37748	0.14219	0.00044	0.05256	-0.07702	-0.06227
ANIMATN	0.37793	0.14283	0.00034	0.10049	0.03652	0.03067
INANOBJT	0.37800	0.14289	0.00006	0.07694	0.02412	0.01528
SLOWMUS	0.37807	0.14294	0.00005	-0.00837	0.01940	0.01043

MULTIPLE REGRESSION ANALYSIS OF MALE SUBJECTS USING 30 SECOND INTERVALS

RHREPALT	RHYMING, PEPITON, AND ALLITERATION	0,37813	0,14298	0,00004	0,10632	0,01740	0,00996
APPLAUSE	PRESENCE OF APPLAUSE	0,37817	0,14301	0,00003	0,00655	0,00692	0,05257
(CONSTANT)							22,76525

FINAL ANALYSIS OF VARIANCE

TYPE TO	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	45	1414,06535	35,86812	1,52046
RESIDUAL	410	9472,00904	23,59027	

STANDARD DEVIATION OF RESIDUALS 4,85698





MULTIPLE REGRESSION ANALYSIS OF FEMALE SUBJECTS USING 30 SECOND INTERVALS

FINAL ANALYSIS OF VARIANCE			
DUE TO	DF	SUM OF SQUARES	MEAN SQUARE
REGRESSION	42	4671.73962	111.23190
RESIDUAL	527	27305.36133	51.81283
STANDARD DEVIATION OF RESIDUALS			7.19811
			F
			2.14680



MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 60 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSO CHANGE	SIMPLE R	BETA	B
SEX	0.20067	0.04027	0.04027	0.20067	0.21067	-4.73404
CAUCASIAN MAN ON SCREEN	0.28190	0.07947	0.03920	0.19798	-0.05502	0.03475
PRESSENCE OF DRAWINGS ON SCREEN	0.32283	0.10813	0.02897	0.13443	0.02252	0.01797
SEQUENCE OF THE INTERVAL IN THE PROGRAM	0.34729	0.12061	0.01248	0.15868	-0.02726	-0.19426
CAMERA REMAINS STATIONARY FOR SCENE	0.36269	0.13154	0.01093	0.03056	0.03064	0.26941
PRESSENCE OF MOVING OBJS ON SCREEN	0.37392	0.13982	0.00828	0.03310	0.07717	0.07660
ABRUPT SOUND CHANGE	0.38166	0.14582	0.00600	0.11214	0.14916	0.74092
PRESSENCE OF ANIMALS ON SCREEN	0.38612	0.14909	0.00327	0.05440	0.04220	0.01559
MORE THAN ONE PERSON SINGING	0.39901	0.15211	0.00302	0.09230	0.13217	0.16658
PRESSENCE OF INSTRUMENTAL MUSIC	0.39371	0.15500	0.00229	0.10022	0.03207	0.18428
ACTION MOVES AT UNUSUALLY FAST PACE	0.39713	0.15771	0.00271	0.02850	0.04636	0.20333
PRESSENCE OF NEGRO GIRL ON SCREEN	0.40029	0.16023	0.00252	0.08483	-0.02117	-0.23648
PRESSENCE OF NEGRO ROY ON SCREEN	0.40412	0.16331	0.00308	0.06915	0.02383	0.24808
CENTRAL ACTIVITY STATIONARY AND INACTIVE	0.40719	0.16580	0.00249	0.11549	-0.03436	-0.24618
CHAR HAS EYE CONTACT WITH TV AUDIENCE	0.40999	0.16809	0.00229	0.10598	0.16755	0.14759
PRESSENCE OF UNUSUAL VOICE IN NORMAL SIT	0.41249	0.17015	0.00205	0.05534	0.04291	0.02896
PRESSENCE OF PUPPETS ON SCREEN	0.41712	0.17399	0.00394	0.06094	-0.00224	-0.00421
CAMERA SCANS SCENE	0.42018	0.17555	0.00236	0.04391	0.07303	0.09656
PRESSENCE OF CAUCASIAN WOMAN ON SCREEN	0.42280	0.17876	0.00221	0.02737	-0.02702	-0.07357
RHYMING, REPETITION, AND ALLITERATION	0.42407	0.17984	0.00107	0.16844	0.31298	0.25950
PRESSENCE OF CAUCASIAN GIRL ON SCREEN	0.42560	0.18113	0.00130	0.14948	0.27782	0.25652
CHAR DRESS UNUSUAL IN NORMAL SITUATION	0.42686	0.18221	0.00108	0.10170	-0.04570	-0.37852
PRESSENCE OF CHILD'S VOICE	0.42786	0.18307	0.00026	0.05521	0.17261	0.14384
MUSIC WITH FAST TEMPO	0.42883	0.18369	0.00023	0.10286	-0.04648	-0.04975
PRESSENCE OF APOLOUSE	0.42980	0.18473	0.00094	0.04941	0.13263	0.09319
ANY SCENE CHANGE	0.43184	0.18648	0.00176	0.00945	0.00743	0.059376
JERKY STOP CAMERA ACTION ON SCREEN	0.43290	0.18749	0.00092	0.00092	0.00743	0.059376
PRESSENCE OF ANIMATION ON SCREEN	0.43403	0.18838	0.00098	0.00098	0.00743	0.059376
PRESSENCE OF ADULT FEMALES VOICE	0.43491	0.18914	0.00076	0.00076	0.00743	0.059376
MUSIC WITH SLOW TEMPO	0.43614	0.19022	0.00108	0.00066	0.00743	0.059376
NOTHING PRESENT ON SCREEN	0.43786	0.19172	0.00150	0.00066	0.00743	0.059376
CAMERA ZOOMS IN AND OUT ON SCENE	0.43875	0.19250	0.00076	0.00066	0.00743	0.059376
PRESSENCE OF LETTERS ON SCREEN	0.43908	0.19279	0.00029	0.00066	0.00743	0.059376
CENTRAL ACTIVITY MOVING THRU SPACE	0.43951	0.19317	0.00033	0.00066	0.00743	0.059376
PRESSENCE OF CAUCASIAN ROY ON SCREEN	0.44002	0.19362	0.00045	0.00066	0.00743	0.059376
PRESSENCE OF ORIENTAL GIRL ON SCREEN	0.44062	0.19414	0.00052	0.00066	0.00743	0.059376
PRESSENCE OF NEGRO WOMAN ON SCREEN	0.44164	0.19505	0.00090	0.00066	0.00743	0.059376
NEW ELEMENTS ENTER SCENE	0.44206	0.19542	0.00037	0.00066	0.00743	0.059376
SCENE CONTAINS ESSENTIALLY FAM ELEMENTS	0.44276	0.19603	0.00032	0.00066	0.00743	0.059376
PRESSENCE OF ADULT MALES VOICE	0.44299	0.19624	0.00021	0.00066	0.00743	0.059376
ONLY ONE PERSON SINGING	0.44325	0.19647	0.00022	0.00066	0.00743	0.059376
SCENES THAT EMPHASIZE PARTS OF THE BODY	0.44337	0.19656	0.00011	0.00066	0.00743	0.059376
	0.44356	0.19676	0.00016	0.00066	0.00743	0.059376

MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 60 SECOND INTERVALS

ACTSTAT	CENTRAL ACTIVITY STATIONARY BUT ACTIVE	0.44366	0.19684	0.00008	0.02159	0.09845
DANCING	PRESENCE OF DANCING ON SCREEN	0.44369	0.19686	0.00002	0.08158	0.02326
(CONSTANT)						49.91844

FINAL ANALYSIS OF VARIANCE

DF	SUM OF SQUARES	MEAN SQUARE	F
45	13877.66457	308.39255	2.54370
467	56618.02382	121.23774	

STANDARD DEVIATION OF RESIDUALS 11.01080



MULTIPLE REGRESSION ANALYSIS OF MALE SUBJECTS USING 60 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	BETA	B
SEX	0.20067	0.04027	0.04027	0.20067	-0.20067	-4.73404
CAUCASIAN	0.26190	0.07947	0.03920	0.19798	-0.05502	-0.03475
STILDRAW	0.32883	0.10813	0.02867	0.13443	0.02052	0.01797
TIME	0.34729	0.12061	0.01248	0.15868	-0.27264	-0.19426
STILSHOT	0.36269	0.13154	0.01093	0.13056	0.30949	0.26941
MANOBJT	0.37392	0.13982	0.00828	0.03810	0.07717	0.07660
AUDCHANGE	0.38186	0.14582	0.00600	0.11214	0.16936	0.74092
ANIMALS	0.38512	0.14909	0.00327	0.05440	0.01520	0.01859
SINGGRP	0.39001	0.15211	0.00302	0.09030	0.13017	0.16658
INSTRMUS	0.39371	0.15500	0.00289	0.10052	-0.33007	-0.18428
FASTMOT	0.39713	0.15771	0.00271	0.02850	0.04636	0.20353
NEGROGIRL	0.40029	0.16023	0.00252	0.08483	-0.21517	-0.23648
NEGROY	0.40412	0.16331	0.00308	0.06915	0.23583	0.24808
INACSTAT	0.40719	0.16580	0.00249	0.11549	0.34368	0.21618
FYFCONT	0.40999	0.16809	0.00229	0.10598	0.16755	0.14759
PECULVOI	0.41249	0.17015	0.00205	0.04534	0.04291	0.02896
PUPPETS	0.41712	0.17399	0.00384	0.06094	-0.00524	-0.00421
PAN	0.42018	0.17655	0.00256	0.04391	0.07003	0.09656
CAUWOMAN	0.42280	0.17876	0.00221	0.02737	0.02702	0.07337
RHREPALT	0.42407	0.17984	0.00107	0.18844	0.31098	0.25960
CAUGGIRL	0.42560	0.18113	0.00130	0.14948	-0.27382	-0.39652
COSTCHAR	0.42686	0.18221	0.00108	0.10170	-0.06570	-0.37852
CHILDOVC	0.42786	0.18307	0.00086	0.05521	0.13661	0.14384
LIVEYMUS	0.42883	0.18389	0.00063	0.10266	-0.08048	-0.04975
APPLAUSE	0.42980	0.18473	0.00084	0.04941	0.13843	1.69319
CUT	0.43184	0.18648	0.00176	0.00845	0.39743	0.59376
PIXILLIAT	0.43290	0.18740	0.00092	0.07057	-0.04831	-0.28035
ANIMATN	0.43403	0.18838	0.00098	0.10917	-0.08434	-0.06624
ADFEMVOC	0.43491	0.18914	0.00076	0.05046	-0.17829	-0.20219
SLOWMUS	0.43614	0.19022	0.00108	0.02625	0.29855	0.20593
BLANKSCR	0.43786	0.19172	0.00150	0.08655	0.08249	1.23983
ZOOM	0.43875	0.19250	0.00078	0.03294	0.34834	0.47759
LFTSCRPT	0.43908	0.19279	0.00029	0.05546	-0.02088	-0.01450
MOTION	0.43951	0.19317	0.00038	0.12452	0.35762	0.32841
CAUCBOY	0.44002	0.19362	0.00045	0.13337	0.03035	0.04223
ORIEGIRL	0.44062	0.19414	0.00052	0.09856	0.17067	0.21199
NEGWOMAN	0.44164	0.19505	0.00090	0.05708	-0.15641	-0.28564
NEGROMAN	0.44206	0.19542	0.00037	0.03231	0.09775	0.06482
NOVEL	0.44276	0.19603	0.00062	0.03553	-0.13809	-0.24437
FAMILIAR	0.44299	0.19624	0.00021	0.06371	-0.03750	-0.05069
ADNALVOC	0.44325	0.19647	0.00022	0.16899	0.05817	0.03316
SINGIND	0.44337	0.19658	0.00011	0.05355	0.02067	0.02135
BODYPART	0.44358	0.19676	0.00018	0.00689	0.03537	0.07275

MULTIPLE REGRESSION ANALYSIS OF MALE SUBJECTS USING 60 SECOND INTERVALS

LETSCRP	0.51057	0.26068	0.00049	0.09474	0.14515	0.07327
ADFFEMVOC	0.51090	0.26102	0.00034	0.02460	0.04011	0.04095
CUT	0.51121	0.26133	0.00031	-0.04373	0.23107	0.24952
NOVEL	0.51140	0.26157	0.00024	-0.09489	-0.09175	-0.11734
(CONSTANT)						56.41500

FINAL ANALYSIS OF VARIANCE

DUE TO	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	47	4281.33735	91.09230	1.35660
RESIDUAL	180	12085.57092	67.14762	

STANDARD DEVIATION OF RESIDUALS 8.19436



MULTIPLE REGRESSION ANALYSIS OF FEMALE SUBJECTS USING 60 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSD CHANGE	SIMPLE R	BETA	E
RHREPALT	0.24006	0.29763	0.05763	0.24906	0.35458	0.33672
CAUCHMAN	0.30432	0.09261	0.03458	-0.23030	-0.06227	-0.04645
ANIMALS	0.32915	0.10834	0.01573	-0.10725	-0.05290	-0.07627
TIME	0.34396	0.11831	0.00997	-0.18407	-0.30502	-0.25035
ANIMATN	0.35738	0.12772	0.00941	0.11784	0.00770	-0.06332
AUDCHNGF	0.37280	0.13890	0.01125	0.13603	0.20348	1.04876
APPLAUSE	0.38795	0.14050	0.01153	0.05824	0.20591	2.91521
INACSTAT	0.39459	0.15370	0.00520	-0.12116	0.27419	0.19521
EYECGHT	0.40014	0.16012	0.00441	0.09733	0.16145	0.19298
SINGIND	0.40527	0.16425	0.00413	0.07883	0.00712	0.06842
CUT	0.41004	0.16815	0.00391	0.03538	0.51516	0.88076
AFFEMVOC	0.41561	0.17273	0.00458	0.06594	-0.32221	-0.42927
NEGROWAN	0.41924	0.17576	0.00303	0.10522	0.09182	0.19189
INSTRMUS	0.42397	0.17975	0.00359	0.13412	-0.42488	-0.26426
SLOWMUS	0.43361	0.18602	0.00327	0.03570	0.32247	0.23770
CAUCHWOM	0.43562	0.19064	0.00262	0.16701	0.05070	1.83028
ZOOM	0.43860	0.19237	0.00173	0.02784	0.25138	0.44149
FASTNOT	0.44150	0.19492	0.00235	0.00339	0.24730	1.34297
NOVEL	0.44455	0.19763	0.00271	-0.00794	-0.17241	-0.34915
COSTCPAR	0.44731	0.20053	0.00291	-0.10781	-0.17748	-1.17124
FAMILIAR	0.45235	0.20462	0.00409	0.06877	-0.12235	-0.18927
STILDPAR	0.45348	0.20564	0.00102	-0.10515	-0.09113	-0.09134
MOTION	0.45453	0.20660	0.00096	0.12532	0.24004	0.25226
CAUCHGIRI	0.45560	0.20757	0.00097	0.17153	-0.24282	-0.40536
CHILDWOR	0.45592	0.20878	0.00121	0.04970	0.18258	0.22035
ACTSTAT	0.45780	0.20958	0.00081	0.02091	0.35352	0.32414
LFTSCRIPT	0.45857	0.21029	0.00071	0.03936	-0.11296	-0.09217
LIVEYFUR	0.45924	0.21090	0.00061	0.14090	-0.05466	-0.05466
STILSPOT	0.45967	0.21148	0.00058	-0.07236	0.26827	0.26827
ARMALVOC	0.46044	0.21203	0.00059	-0.22246	-0.13256	-0.06847
PECULVOT	0.46122	0.21273	0.00070	0.05506	0.04332	0.03555
PAN	0.46175	0.21321	0.00048	0.05130	0.27248	0.43937
CAUCBCY	0.46228	0.21370	0.00049	0.17331	0.12489	0.15286
OPIEGIRI	0.46323	0.21453	0.00058	0.13025	-0.10286	-0.15332
PIXILIAT	0.46376	0.21507	0.00049	-0.02241	-0.17236	-1.13265
PLANKSCD	0.46410	0.21547	0.00040	0.10747	0.02139	0.48235
SCUNDFEF	0.46429	0.21556	0.00000	0.04873	-0.00076	-0.00091
RCOYPART	0.46437	0.21564	0.00000	0.03316	0.00419	0.01458
NEGROWAN	0.46442	0.21569	0.00005	-0.00241	-0.03249	-0.12764
REVERNOT	0.46454	0.21580	0.00011	0.02397	-0.07002	-0.35764
NEGPROY	0.46455	0.21584	0.00004	0.06543	0.02144	0.02581
(CONSTANT)						25.83316

MULTIPLE REGRESSION ANALYSIS OF FEMALE SUBJECTS USING 60 SECOND INTERVALS

FINAL ANALYSIS OF VARIANCE

	DF	SUM OF SQUARES	MEAN SQUARE	F
DUE TO REGRESSION	41	11070.07727	270.00180	1.63133
RESIDUAL	243	60210.96665	165.51014	

MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 90 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	BETA	B
SEX	0.23060	0.05318	0.05318	0.23060	-0.23060	-7.10105
BOY=1 GIRL=2						
CAUCASIAN MAJ ON SCREEN	0.31648	0.10016	0.04698	0.21675	-1.20714	-0.62097
PRESENCE OF DRAWINGS ON SCREEN	0.37066	0.13739	0.03723	0.14997	-1.25366	-0.96998
SEQUENCE OF THE INTERVAL IN THE PROGRAM	0.39244	0.15401	0.01662	0.13204	-0.11229	-0.16507
PRESENCE OF NONLIVING OBJS ON SCREEN	0.40353	0.16698	0.01297	0.02871	-0.61175	-0.55991
CAMERA REMAINS STATIONARY FOR SCENE	0.42161	0.17944	0.01246	0.00543	-0.37663	-0.51679
PRESENCE OF PUPPETS ON SCREEN	0.42967	0.18462	0.00518	0.10139	-0.65348	-0.57681
PRESENCE OF CAUCASIAN GIRL ON SCREEN	0.43461	0.18889	0.00427	0.16111	0.65012	0.87256
PRESENCE OF NEGRO GIRL ON SCREEN	0.43943	0.19310	0.00421	0.07703	-0.74023	-0.70751
PRESENCE OF UNUSUALLY SLOW PACE	0.44659	0.19944	0.00635	0.01142	0.25542	0.71824
MOTION MOVES AT UNUSUALLY SLOW PACE	0.45272	0.20496	0.00551	0.11295	-0.14792	-0.17335
PRESENCE OF ORIENTAL GIRL ON SCREEN	0.45679	0.20866	0.00370	0.06758	0.23245	0.16616
ABRUPT SOUND CHANGE	0.45138	0.21287	0.00421	0.12067	0.33935	1.63060
ONLY ONE PERSON SINGING	0.45370	0.21502	0.00215	0.04644	0.59231	0.55670
PRESENCE OF LETTERS ON SCREEN	0.45590	0.21706	0.00204	0.07220	-0.21745	-0.15009
NEW ELEMENTS ENTER SCENE	0.45810	0.21911	0.00205	0.08562	0.25831	0.52715
CENTRAL ACTIVITY STATIONARY AND INACTIVE	0.45922	0.22017	0.00106	0.11513	0.45312	0.27457
MONSPEECH OR MUSIC SOUNDS	0.47146	0.22133	0.00116	0.02991	-0.50933	-0.53522
PRESENCE OF ADULT MALES VOICE	0.47182	0.22251	0.00129	0.17688	1.67658	0.94659
PRESENCE OF ANIMALS ON SCREEN	0.47359	0.22438	0.00177	0.07261	0.07150	0.07737
PRESENCE OF INSTRUMENTAL MUSIC	0.47501	0.22563	0.00125	0.10713	0.31420	0.16789
PRESENCE OF CAUCASIAN BOY ON SCREEN	0.47634	0.22690	0.00127	0.14525	0.13298	0.17513
PRESENCE OF UNUSUAL VOICE IN NORMA SIT	0.47736	0.22767	0.00097	0.08137	-0.01707	-0.01163
ACTION MOVES AT UNUSUALLY FAST PACE	0.47782	0.22831	0.00043	0.05963	-0.12336	-0.50675
MORE THAN ONE PERSON SINGING	0.47844	0.22891	0.00060	0.04852	-0.26355	-0.32857
SCENE CONTAINS ESSENTIALLY FAM ELEMENTS	0.47934	0.22977	0.00086	0.06288	0.78241	1.07740
PRESENCE OF CAUCASIAN WOMAN ON SCREEN	0.47997	0.23037	0.00060	0.01899	0.15161	0.20691
NOTHING PRESENT ON SCREEN	0.48057	0.23095	0.00058	0.10456	-0.06809	-1.42624
JERKY STOP CAMERA ACTION	0.48140	0.23175	0.00080	0.12817	0.40673	2.54601
MUSIC WITH SLOW TEMPO	0.48250	0.23280	0.00106	0.01480	-0.30926	-0.20916
CHAR HAS EYE CONTACT WITH TV AUDIENCE	0.48307	0.23335	0.00053	0.13487	0.08103	0.06839
ANY SCENE CHANGE	0.48380	0.23406	0.00071	0.02548	-0.15979	-0.22638
PRESENCE OF ANIMATION ON SCREEN	0.48410	0.23436	0.00029	0.10155	-0.11359	0.08552
RHYMING, REPETITION, AND ALLITERATION	0.48431	0.23455	0.00020	0.19235	0.12017	0.09749
PRESENCE OF ADULT FEMALES VOICE	0.48439	0.23463	0.00008	0.03276	-0.10502	-0.05376
(CONSTANT)						64.09856

FINAL ANALYSIS OF VARIANCE

DIFF TO REGRESSION	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	35	16768.61379	536.81768	21.68021
RESIDUAL	306	51289.45397	200.28907	

STANDARD DEVIATION OF RESIDUALS 14.15235



MULTIPLE REGRESSION ANALYSIS OF MALE SUBJECTS USING 90 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSD CHANGE	SIMPLE R	BETA
STILDRAW	0.24464	0.05985	0.05985	0.24464	0.29450
PIXILLAT	0.35094	0.12316	0.06331	0.23050	0.22259
COSTCHAR	0.38967	0.15184	0.02869	0.14852	0.05280
NEGROBY	0.40812	0.16657	0.01472	0.11170	0.22238
PUPPETS	0.42435	0.18007	0.01350	0.06200	0.1474
PAN	0.44120	0.19466	0.01459	0.04059	0.22259
NEGROMAN	0.45593	0.20788	0.01322	0.16899	0.22298
CAUCGIRL	0.47620	0.22677	0.01890	0.16907	0.42437
ANIMATN	0.48821	0.23835	0.01158	0.10602	0.01190
SINGGRP	0.49925	0.24925	0.01089	0.02349	0.05175
SLOWMUS	0.50523	0.25526	0.00601	0.03264	0.40153
LETSCRIPT	0.51090	0.26102	0.00576	0.09233	0.48179
CAUCHMAN	0.51437	0.26458	0.00356	0.16772	0.25455
STILSHOT	0.51873	0.26908	0.00450	0.06970	1.04008
EYECONT	0.52151	0.27197	0.00290	0.16053	0.22919
NEGROMAN	0.52509	0.27572	0.00375	0.00164	0.16734
BLANKSCR	0.52885	0.27968	0.00397	0.08807	0.03338
ACTION	0.53133	0.28231	0.00262	0.17391	0.2417
ZOOM	0.54004	0.29165	0.00934	0.19660	0.76585
ACTSTAT	0.54331	0.29273	0.00408	0.00412	0.95767
NEGRGIRL	0.54661	0.29678	0.00305	0.04947	0.29463
ANIMALS	0.54812	0.30044	0.00166	0.00346	0.0947
FAMILIAR	0.54915	0.30157	0.00113	0.08445	0.14501
BODYPART	0.55028	0.30281	0.00124	0.01159	0.18116
INANOBJT	0.55101	0.30361	0.00080	0.06587	0.14741
CHILDVOC	0.55164	0.30430	0.00069	0.10848	0.72415
SCUNDEFF	0.55233	0.30507	0.00077	0.10727	0.15391
PHREPALT	0.55285	0.30569	0.00058	0.12577	0.11115
CAUCWOMAN	0.55312	0.30594	0.00030	0.02040	0.00577
INACSTAT	0.55332	0.30617	0.00022	0.14536	1.00148
ADMALVOC	0.55408	0.30700	0.00065	0.14754	0.42233
AUDCHANGE	0.55493	0.30794	0.00094	0.09643	0.13283
TIME	0.55615	0.30930	0.00136	0.15720	0.10198
PECULVOI	0.55621	0.30937	0.00006	0.05050	0.04153
(CONSTANT)					44.97940

FINAL ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	34	5246.96776	154.32258	1.54148
RESIDUAL	117	11713.25553	100.11330	
STANDARD DEVIATION OF RESIDUALS		10.00566		



MULTIPLE REGRESSION ANALYSIS OF FEMALE SUBJECTS USING 90 SECOND INTERVALS

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	BET1	B
CAUCHAN	0,25867	0,06591	0,06691	0,25867	0,20759	-0,38152
TIME	0,31603	0,09887	0,03296	0,21065	0,56714	-0,41753
NOVEL	0,36294	0,13172	0,03185	0,07940	0,20225	-0,43798
DANCING	0,37967	0,14415	0,01242	0,13585	0,47332	0,46422
AUDCHANGE	0,39143	0,15321	0,00907	0,14254	0,29273	1,02259
CAUCGIRL	0,40348	0,16279	0,00958	0,20224	0,2941	0,45763
APPLAUSE	0,41660	0,17356	0,01076	0,06510	0,10711	1,61327
PUPPETS	0,42483	0,18048	0,00693	0,12690	0,04281	0,04580
ANIMALS	0,43013	0,18201	0,00453	0,11197	0,11225	0,12808
ACTSTAT	0,43778	0,19165	0,00664	0,00050	0,31198	-0,50722
PECULVOI	0,44307	0,19531	0,00465	0,10308	0,45424	-0,35627
RPREPALT	0,44582	0,19825	0,00334	0,24063	0,20211	0,16612
NEGROGIRL	0,45093	0,20334	0,00369	0,09679	0,34204	-0,37323
COSTCHAR	0,45384	0,20597	0,00263	0,19492	0,05290	-0,39658
SLOWHUS	0,45627	0,20618	0,00222	0,03683	0,14105	-0,12624
SINGILD	0,45840	0,21013	0,00195	0,06264	0,07723	0,09759
ANIMATN	0,46150	0,21298	0,00225	0,10601	0,06665	-0,05931
STILDRAW	0,46384	0,21215	0,00216	0,11722	0,63072	-0,56677
ZOOM	0,46635	0,21748	0,00234	0,01395	0,47455	0,70187
IVANCEUT	0,46947	0,22040	0,00252	0,01330	0,27237	-0,30778
BLANKSCR	0,47174	0,22254	0,00214	0,12134	0,05226	-1,01025
PIXILIAT	0,47283	0,22357	0,00102	0,08991	0,12131	0,22721
SINGGRP	0,47353	0,22427	0,00071	0,06465	0,26183	-0,36141
BODYPART	0,47451	0,22516	0,00068	0,05960	0,09745	-0,24882
CAUCWOMAN	0,47489	0,22552	0,00036	0,03952	0,17194	5,23976
EYECONT	0,47544	0,22505	0,00053	0,13398	0,17114	-0,10401
ADIALVOC	0,47634	0,22690	0,00025	0,20595	0,62729	0,40812
SCUNDEFF	0,47705	0,22758	0,00068	0,00068	0,04775	-0,10607
STILSHOT	0,47800	0,22848	0,00090	0,04197	0,20133	0,29158
LETSCRPT	0,47839	0,22885	0,00037	0,06865	0,01265	-0,01164
CHILDVOC	0,47860	0,22906	0,00021	0,03329	0,38593	-0,42664
CUT	0,47893	0,22937	0,00031	0,01621	0,24374	0,08606
NEGROMAN	0,47966	0,23007	0,00070	0,02452	0,24295	0,16006
MOTION	0,48025	0,23054	0,00057	0,12061	0,17330	0,16223
NEGBOY	0,48032	0,23071	0,00007	0,04582	0,05293	0,05728
(CONSTANT)						54,26159

FINAL ANALYSIS OF VARIANCE

DUE TO	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	35	13579,22220	387,97778	1,31955
RESIDUAL	154	45279,52078	294,02286	
STANDARD DEVIATION OF RESIDUALS				17,14709

MULTIPLE REGRESSION ANALYSIS OF ALL SUBJECTS USING 114 SECOND INTERVALS

DEPENDENT VARIABLE.. VISFIX PRESCHOOLERS ATTENTION TO SESAME STREET

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
RHREPALT	0.25049	0.06274	0.06274	0.25049	0.33254	0.35531
SEX	0.34811	0.12118	0.05844	-0.24174	-8.99467	-0.24174
CAUCMAN	0.39240	0.15398	0.03280	-0.23285	-0.11086	-0.19983
NEGROMAN	0.40955	0.16773	0.01375	0.05380	0.03927	0.06537
FAMILIAR	0.42274	0.17871	0.01097	0.04001	0.13398	0.09439
ADFEMVOC	0.43729	0.19122	0.01252	0.03770	-0.33480	-0.24171
TIME	0.44506	0.19807	0.00685	-0.19161	-0.64461	-0.30177
APPLAUSE	0.45423	0.20632	0.00825	0.08981	4.24664	0.30098
INSTRMUS	0.46395	0.21525	0.00893	0.11567	0.01774	0.03166
NOVEL	0.46733	0.21840	0.00315	-0.04852	-0.46175	-0.23464
NEGRGIRL	0.47057	0.22143	0.00304	0.08334	-0.00671	-0.00456
REVERNOT	0.47222	0.22299	0.00156	-0.05528	-0.65668	-0.14991
MOTION	0.47410	0.22486	0.00166	0.09541	0.04376	0.04031
ANIMATN	0.47575	0.22634	0.00148	0.11955	-0.11379	-0.13716
NEGRBOY	0.47725	0.22777	0.00143	0.06212	-0.03332	-0.03356
INANOPJT	0.47950	0.22992	0.00215	0.04847	0.12858	0.14699
SINGILD	0.48215	0.23247	0.00256	0.08296	-0.25646	-0.24808
STILDRAW	0.48422	0.23447	0.00199	-0.11164	0.07119	0.08584
DANCING	0.48574	0.23595	0.00148	0.11795	-0.38512	-0.25790
AUDCHGGE	0.48692	0.23709	0.00115	0.02590	0.37572	0.07231
PUPPETS	0.48729	0.23745	0.00036	0.08344	-0.04069	-0.05599
CAUCGIRI	0.48747	0.23763	0.00018	0.17214	0.26387	0.20191
ORIEGIRL	0.48784	0.23798	0.00036	0.14405	-0.10300	-0.08074
SINGGRP	0.48800	0.23814	0.00016	0.09907	-0.03797	-0.02715
CHILDVOF	0.48814	0.23828	0.00014	0.02787	-0.23249	-0.24028
FASTMOT	0.48825	0.23839	0.00011	-0.09293	0.15103	0.02065
(CONSTANT)					124.34557	

FINAL ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	26	22002.11378	846.23512	2.92539
RESIDUAL	243	70293.17065	289.27231	

STANDARD DEVIATION OF RESIDUALS 17.00801



MULTIPLE REGRESSION ANALYSIS OF MALE SUBJECTS USING 114 SECOND INTERVALS

DEPENDENT VARIABLE.. VISFIX PRESCHOOLERS ATTENTION TO SESAME STREET

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	ETA
RHREPALT	0,22679	0,05143	0,05143	0,22679	0,19795	0 31787
NEGROMAN	0,29069	0,08450	0,03307	0,15698	0,22061	0 52649
INAVO3JT	0,34004	0,12113	0,03663	0,10630	0,27154	0 44746
MOTION	0,39216	0,15379	0,03266	0,14467	0,55013	0 93163
NEFRGIRL	0,45551	0,21670	0,06291	0,02829	-0,44787	-0 65739
PUPPETS	0,49760	0,24761	0,03091	0,03544	0,08569	0 17721
ZOOM	0,50638	0,25643	0,00882	0,10530	0,22497	0 25360
LETSCRIPT	0,51939	0,26976	0,01334	0,12661	0,16853	0 38620
PAN	0,52744	0,27820	0,00843	0,09899	-0,07434	-0 07846
REVERMOT	0,53377	0,28491	0,00672	0,05451	-0,49423	-0 16164
SINGCORP	0,53749	0,28889	0,00398	0,03805	-0,11148	-0 11977
SLOWMOT	0,54219	0,29397	0,00508	0,01674	0,22282	0 14330
LIVEYMUS	0,54659	0,29876	0,00479	0,14311	0,15034	0 38771
SINGIND	0,54903	0,30144	0,00268	0,03710	0,00281	0 00409
CAUCHMAN	0,55211	0,30483	0,00339	0,19466	0,00500	0 01346
BODYPART	0,55333	0,30617	0,00134	0,10048	-0,04681	-0 03332
EYECONT	0,55472	0,30772	0,00154	0,19087	-0,01304	-0 01958
CAUWOMAN	0,55732	0,30858	0,00067	0,05957	5,02942	0 20246
CUT	0,55631	0,30948	0,00110	0,02293	-0,29332	-0 32543
APPLAUSE	0,55685	0,31008	0,00060	0,03384	-2,12213	-0 22604
ANIMATN	0,55752	0,31083	0,00075	0,16404	-0,14814	-0 26856
ADMALVOC	0,55933	0,31285	0,00202	0,18445	0,07580	0 19742
TIME	0,55954	0,31309	0,00023	0,16929	-0,10912	-0 07677
DANCING	0,55974	0,31351	0,00022	0,05155	0,05913	0 05921
BLANKSCR	0,55982	0,31340	0,00009	0,18407	0,20723	0 01926
(CONSTANT)					79,24926	

FINAL ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	25	5691,69131	227,66765	1,71623
RESIDUAL	94	12469,61546	132,65548	

STANDARD DEVIATION OF RESIDUALS 11,51762

MULTIPLE REGRESSION ANALYSIS OF FEMALE SUBJECTS USING 114 SECOND INTERVALS

DEPENDENT VARIABLE.. VISFIX PRESHOOLERS ATTENTION TO SESAME STREET

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	ETA
RHYMING, REPETITION, AND ALLITERATION	0.28514	0.08131	0.08131	0.28514	0.33498	0.30913
PRESENCE OF CAUCASIAN MAN ON SCREEN	0.35638	0.12701	0.04570	0.27250	-0.11511	0.17631
SEQUENCE OF THE INTERVAL IN THE PROGRAM	0.33028	0.14461	0.01760	0.22005	-0.73689	0.29794
PRESENCE OF ANIMATION ON SCREEN	0.40724	0.16584	0.02123	0.11053	-0.02161	0.22250
MORE THAN ONE PERSON SINGING	0.41725	0.17410	0.00826	0.15622	0.37886	0.25392
CENTRAL ACTIVITY STATIONARY AND INACTIVE	0.42321	0.17911	0.00501	0.11723	-0.27584	0.54966
PRESENCE OF PUPPETS ON SCREEN	0.42888	0.18394	0.00483	0.11342	0.03969	0.04717
PRESENCE OF CAUCASIAN GIRL ON SCREEN	0.43489	0.18913	0.00519	0.19292	0.26850	0.17920
ABRUPT SOUND CHANGE	0.44009	0.19367	0.00455	0.01308	0.43545	0.07238
PRESENCE OF UNUSUAL VOICE IN NORMAL SIT	0.44454	0.19762	0.00394	0.07899	-0.02282	0.05028
PRESENCE OF CAUCASIAN WOMAN ON SCREEN	0.45078	0.20320	0.00558	0.07218	1.37932	0.05238
PRESENCE OF NEGRO GIRL ON SCREEN	0.45488	0.20691	0.00371	0.11626	0.11847	0.09993
CAMERA REMAINS STATIONARY FOR SCENE	0.45823	0.20998	0.00306	0.07139	-0.12357	0.15005
PRESENCE OF DRAWINGS ON SCREEN	0.45858	0.21213	0.00216	0.09069	0.06808	0.07089
ONLY ONE PERSON SINGING	0.45880	0.21511	0.00298	0.11192	-0.22668	0.18957
NEW ELEMENTS ENTER SCENE	0.45888	0.21704	0.00193	0.05932	-0.43420	0.19057
PRESENCE OF NEGRO WOMAN ON SCREEN	0.45783	0.21887	0.00182	0.09374	-0.10811	0.04332
PRESENCE OF DANCING ON SCREEN	0.45927	0.22021	0.00135	0.12976	-0.86363	0.49949
SCENES THAT EMPHASIZE PARTS OF THE BODY	0.47134	0.22216	0.00195	0.06592	0.32631	0.13320
CENTRAL ACTIVITY MOVING THRU SPACE	0.47348	0.22418	0.00202	0.05181	-0.50899	0.49532
PRESENCE OF ANIMALS ON SCREEN	0.47427	0.22493	0.00075	0.06827	-0.10441	0.08824
ANY SCENE CHANGE	0.47534	0.22614	0.00121	0.02133	0.18150	0.11572
PRESENCE OF APPLAUSE	0.47565	0.22625	0.00011	0.09647	6.02408	0.36872
PRESENCE OF INSTRUMENTAL MUSIC	0.47579	0.22638	0.00013	0.12970	0.04854	0.07481
PRESENCE OF ORIENTAL GIRL ON SCREEN	0.47597	0.22655	0.00017	0.16546	-0.16172	0.12169
PRESENCE OF ADULT FEMALES VOICE	0.47616	0.22673	0.00018	0.05314	-0.22378	0.14066
(CONSTANT)					138.61663	

FINAL ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F
REGRESSION	26	15505.48494	596.36557	1.38710
RESIDUAL	123	53154.89089	432.15358	

STANDARD DEVIATION OF RESIDUALS 20.76830



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