The Relationship Between Television Viewing And Academic Achievement

MASTER'S PROJECT

Submitted to the School of Education
University of Dayton, in Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

by

Paula. L. DiCillo
School of Education
University of Dayton
Dayton, Ohio

November 1991

Approved by:

Official Advisor

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

In 1946 television was virtually nonexistent, but by 1973 99% of all home owners had at least one television set in the house. As a result of the increased availability of T.V., children began watching overwhelming amounts of television. In 1955 the average person watched 5 hours of television per day. In 1965 the average time in front of the T.V. went to 6 hours and 29 minutes per day. By 1975 it was 6 hours and it has been estimated that today young children spend close to 7 hours watching T.V. daily (Hepburn, 1990). The average child spends 25 to 54 hours a week sitting idly in front of a television set. Studies have also indicated that first-graders, on the average, watch 3 hour of television per day (as cited by Honig, 1983). Table 1 illustrates T.V. viewing time based on the data from the Neilson Demographic Report.

Table 1.1

Who Are the Viewers?
Average Hours of TV Viewing per Week by Age Groups

	Age	Hours		Age	Hours
Children	2-5	25.4	Men	12-17	22.4
	6-11	23.2		18-34	25.4
				35-54	27.1
				55+	37.3
Women	12-17	21.2			
	18-34	28.5			
	35-54	32.3			
	55+	41.0			

(Hepburn, 1990)

The amount of time spent viewing the mass media has had negative effects on children. The time spent in front of the television reduces the amount of time children spend socializing with peers or family members. It also takes away from the time spent playing physical or mental games and it takes away from the amount of time children spend doing school work. Hornik regarded the substitution of physical or mental activities for T.V. watching as the "displacement theory." Hornik (1981) categorized five other theories connected with T.V. viewing and student achievement. The second theory deals with the level of intolerance towards school. This theory is based on the fact that children watching T.V. are constantly being entertained. The children develop an expectation that all of life should be entertaining; therefore, they have difficulty maintaining their attention span if the subject matter fails to entertain them. The third hypothesis states that children become interested in school topics, if they have connected the topics with what they have seen on television. This theory supports a positive relationship between T.V. and achievement. Another hypothesis suggests that topics exposed on television overlap topics covered in class. This theory is known as the school-equivalent content hypothesis. The fifth hypothesis is called learning of new cognitive skills. This argues that exposure to the media may increase students cognitive processing skills because television teaches them to process information more quickly and efficiently. Finally, the learning of instructional information hypothesis argues that students learn behavioral expectations as

well as educational expectations from the television programs they view.

It is no wonder that student achievement has declined over the years. Research has supported implications that time spent viewing television decreases the academic achievement levels of elementary school children (Scott, 1956; La Blonde, 1966; Potter, 1987). In contrast, researchers have also found that television viewing does not significantly affect school achievement levels (Ridder, 1963; Hornik, 1978). Due to conflicting data, further research is needed in order to substantiate the findings that the amount of television viewing negatively influences academic achievement.

CHAPTER II

REVIEW OF LITERATURE

Television has become an irreplacable commodity in our lives. For children T.V. acts as a companion; it is always available to entertain and to keep them company. McQuail (as cited in Rubin, 1983) states that there are six motivational aspects related to the viewing habits of children and adolescents: learning, passing time, habit, companionship, escape, arousal and relaxation. The first viewer type uses T.V. out of habit. They watch television when they feel that there is nothing better to do. The second kind of viewer uses the media as a means to gain information and education. The person who watches T.V. for companionship does so because of a lack of social interaction with peers or family members. The escapist viewer uses television in order to become isolated from his/her problems. Arousal viewers gain an internal thrill from programs viewed and the last group of viewers uses the media as a means of unwinding and resting. Table 2 summarizes the data gathered by Rubin on a sample of 626 subjects. The participants were asked to respond to 30 statements which dealt with reasons for watching television (Rubin, 1983).

Table 2.1

Initial Viewing Motivation Categories and Statements ("I Watch TV . . .")	$\bar{x}$	s.d.
RELAXATION		
1. Because it relaxes me	3.25	1.07
2. Because it allows me to unwind	2.89	1.17
3. Because it's a pleasant rest	2.90	1.04
COMPANIONSHIP		
1. So I won't have to be alone	1.97	1.17
2. When there's no one else to talk to or be with	2.45	1.25
3. Because it makes me feel less lonely	1.88	1.06
HABIT		
1. Just because it's there	2.38	1.25
2. Because I just like to watch	2.68	1.16
3. Because it's a habit, just something I do	2.33	1.27
PASS TIME		
1. When I have nothing better to do	2.89	1.30
2. Because it passes the time away, particularly when I'm bored	2.72	1.30
3. Because it gives me something to do to occupy my time	2.38	1.21
ENTERTAINMENT		
1. Because it entertains me	3.71	0.96
2. Because it's enjoyable	3.26	0.91
3. Because it amuses me	3.02	0.99
SOCIAL INTERACTION		
1. Because it's something to do when friends come over	1.59	0.87
2. So I can talk with other people about what's on	2.06	1.07
3. So I can be with other members of the family or friends who are watching	2.39	1.14
INFORMATION		
1. Because it helps me learn things about myself and others	2.71	1.16
2. So I can learn how to do things which I haven't done before	2.09	1.08
3. So I could learn about what could happen to me	2.10	1.06
AROUSAL		
1. Because it's thrilling	2.09	0.94
2. Because it's exciting	2.29	1.00
3. Because it peps me up	1.89	0.96
ESCAPE		
1. So I can forget about school or other things	2.41	1.27
2. So I can get away from the rest of the family or others	1.64	0.92
3. So I can get away from what I'm doing	2.22	1.20

T.V. has become such an important part of the lives of young children, that it has caused great concern among parents, psychologist and researchers. Some experts have stated that the act of watching T.V. can become addictive which could result in physical problems or cognitive deficiencies. Others have stated that T.V. viewing affects children's behaviors and may results in violent actions. Many researchers have debated the effects of T.V. viewing on academic achievement.

Researchers supporting the School-Equivalent Content Hypothesis believe that television increases school achievement because it teaches the basics which children will also cover in their early school years. The most well known and most viewed of the educational shows is Sesame Street. The show was developed with the goal of providing information and cognitive skills for young children. The program focuses on concepts such as numbers, letters, letter sounds, shapes, time, body parts, sorting and ordering.

Springle (as cited in Honig, 1983) studied the effectiveness of the Sesame Street program by exposing 24 low income kindergarteners to the program on a daily basis. The teachers involved in the study presented follow-up activities which reinforced the concepts covered in the show. A matched control group was also used in order to make a comparison between those who watched Sesame Street and those who did not. The results indicated that there were no differences in achievement between the two groups of kindergarteners.

In contrast to Springle's study, Ball and Bogat (1972)

conducted a similar study in which they evaluated the performance of preschool children. Their results were significant and revealed a positive effect of Sesame Street. Viewers of the program were better at identifying numbers and letters then those preschoolers who did not watch the program. However, the future educational success of the participants was not evaluated.

James Potter is among the group of researchers who believe that T.V. viewing positively affects student achievement. The purpose of Potter's study (1987) was to: 1) look at the relationship between T.V. viewing and achievement when controls were used; 2) examine the relationship between T.V. viewing of specific types of achievement; 3) look at the relationship between types of programs viewed and achievement; 4) look at the relationship of the amount of television viewing and achievement; 5) examine the relationship between the time of day T.V. is viewed and achievement; and, 6) examine the relationship between the personality of the viewer and achievement.

Potter used 543 children to conduct his study. For each participant the researcher gathered data on T.V. exposure, achievement, I.Q., demographic location, internal locus of control and evaluation of television programs. Potter believes that the weakness of many research projects on the effects of T.V. viewing is that the studies neglected to evaluate all variables involved with television viewing habits and achievement. Potter hypothesized that academic preformance is influenced by exposure time, I.Q., demographics, locus of

control and type of programming. The results indicated a negative correlation between viewing and achievement. However, the results did indicate that I.Q. in relation to viewing time had a significantly negative effect on achievement. Other variables such as the socioeconomic level of parents and parent occupation did affect student achievement. Children who came from families where parents had more professional jobs and earned a higher income performed better in school. The age of the child did not influence school ability. Potter's study showed that the type of program viewed can influence academics. Those children who watched educational shows and the nightly news did better in school. These findings would further support the findings of Springle and Ball.

In contrast to Springle, Ball, Potter and Honig; Williams supports the displacement theory. He believed that time spent in front of the T.V. decreases a child's ability to perform well in school. Williams was one of the first researchers to examine the effects of television usage on achievement. Williams and his colleagues researched the viewing patterns of children living in three separate Canadian towns. The towns had different levels of availability to the mass media. The results of this study revealed a reduction in reading skills and verbal expression among children who watched television. The second aspect of the study examined the relationship between achievement and T.V. usage both before and after the introduction of television to the towns. Williams and his collegeus found that reading skills among students who recently started to watch T.V. declined to the reading level of students who had access to television prior

to the onset of the study (Williams & Corteen as cited in Peirce, 1983).

Clark was also one of the first researchers to study the effects of television on children; however, the findings from his study were inconclusive. Clark surveyed about a thousand children. He compared the relationship between mental age, achievement and T.V. viewing. Clark used two groups of subjects for his study. The first set of children were non-viewers. These children did not own television sets at the onset of the study. The second group of children were television viewers. The results from the Clark study showed that their was no difference between either group's school abilities (Clark, 1951).

Wiggins (1987) conducted a study on 490 students because he wished to examine a range of variables which might influence achievement. Data collection consisted of information regarding T.V. viewing time, earned grades, self-steem and internal locus of control. The participants were asked to complete a questionnaire which gathered information on age, sex, grade level and school. Subjects in the study received daily T.V. schedules in which they had to check specific shows that were watched during the week. A follow-up interview was conducted in order to determine the validity of the self-reported viewing time. After collecting the demographic data for each participant, the researchers distributed the self-esteem and locus of control inventory. The results of Wiggin's study indicated that viewing differences by age level and sex were significant. Boys in the fourth grade watched more television

than the girls. Both boys and girls in the sixth grade watched equal amounts of television and the girls in grades 8, 10, and 12 watch significantly more television than the boys. These findings had no significant effect on the earned grades of the students (Wiggins, 1987).

Like Wiggins, Ridley-Johnson conducted a study on 322 fifth through eighth grade students and found no evidence that television viewing affects academic performance. Participants filled out a viewing questionnaire which focused on the child's behaviors while watching T.V., the child's viewing schedule and the child's preference of T.V. programs. Student's grades in math and reading were used in order to measure achievement. I.Q. scores were used in order to provide a basis of comparison. The results from the study revealed that the mean number of programs viewed was 50.10 (SD=16.00) and the mean number of hours of T.V. watching was 34.17 (SD=10.45). The relationship bewtween T.V. viewing and school achievement was small and nonsignificant. Ridley-Johnson found no significant results between 'I.Q. and television viewing (Ridley-Johnson, 1982).

Historically, the emphasis on the research has been with T.V. viewing and academic achievement. However, the context for the present study is that reading behavior is associated with many variables. Neuman (1986) emphasized the relationship between the home environment and learning. The subjects for the study were 59 fifth grade students from nine different schools. Parents of the students recorded reading time and viewing time of their children. Students were then identified on the basis of the amount of time spent reading and the amount of time spent

watching T.V. Four groups were developed as a result of the initial data: 1) heavy T.V. viewers-heavy readers; 2) light T.V. viewers-heavy readers; 3) light T.V. viewers-light readers; and, 4) heavy T.V. viewers-light readers. A collection of descriptive data was gathered for each participant. In addition, a home environment questionnaire was designed to rate children in terms of work habits, parental academic guidance, leisure time activities, parental expectations, independence and responsibility, stimulation in the home, and T.V. viewing behaviors.

The results of the study indicated that parental involvement was low for all four groups. In regard to leisure time, children who were rated as heavy readers and light T.V. viewers tended to be more active outside of school than the children who belonged in other groups. Parents of light readers were found to have lower academic expectations for their children and were less educated themselves. The children who were heavy readers tended to come from homes where they experienced more avaliability to reading materials and parents were actively involved with their children's reading experience (Neuman, 1986). Bavolek also felt that parental involvement is a significant influence on childrens viewing habits. Bavolek assessed parental involvement by the Adult/Adolescent Parenting Inventory. His results support the findings of Neuman.

Hornik looked at the relationship between television viewing and academic achievement in various content areas. From 1969 to 1973 The Stanford Institute evaluated the educational reform

system in El Salvador. The Institute examined three groups of children. Group A included 902 students who entered 7th grade and were studied until they graduated from 9th grade in 1971. Group B consisted of 707 students who entered 7th grade in 1970 and were followed until they graduated. The last group was made up of 600 students who started the 7th grade and were observed for two years. Achievement in math, science and social studies was measured for each group every year. General ability and reading ability were also measured on a yearly basis. Finally T.V. ownership and viewing time was measured by the basis of a questionnaire. The summary of the results shows only limited evidence that subject achievement is related to television watching. However, there is a significant relationship between viewing and long term reading skills for all three groups of students. Students who owned and watched T.V. had reading scores that were 10% lower than the expected mean gains in reading achievement (Hornik, 1978).

In Peirce's 1983 study, she also compared achievement in content area and viewing time. Peirce used 102 fifth, seventh, eighth and ninth graders. All of the subjects completed a questionnaire. The questions pertained to hours spent viewing T.V., favorite programs, types of programs and activities engaged in while watching television. Students were then requested to complete a written assignment. Parents of the children were asked to fill out a similar questionnaire in order to substantiate the responses of the children. Validity between the parent responses and the children's responses was significant ($p<.0001$). Based upon the data collected, the

participants were catagorized into three groups: light viewers, moderate viewers, and heavy viewers. The student's written assignment was coded by researchers. The stories were coded on a four-point scale based on guide lines provided by the National Assessment of Education. The data indicated that there was a negative correlation between the amount of viewing time and writing ability ($p<.001$).

Fetler (1984) assessed the results taken from the California Assessment Program which was conducted in 1981. The purpose of the study was to investigate variables which affect student achievement. The survey of Basic Skills was administered to 250,000 sixth grade students. Student viewing habits were recorded by personal judgements of the amount of time spent watching television. T.V. viewing time was also determined by asking students to estimate the frequency with which they watched each of 27 shows which were broadcast before or after school. The results of this study indicated that math and reading scores improved for students who watched one to two hours of T.V. per day ($p< .0001$ for math; $p<.0001$ for reading). In contrast heavy television viewers scored below average in achievement ($p<.001$). One explanation for the results may be that moderate or light T.V. viewers tend to watch shows which are more educational in nature. Children who watch large amounts of T.V. tend to watch programs which promote entertainment (Fetler, 1984).

David England criticized the 1981 findings. He stated that the relationship between T.V. and low achievement was weak,

rather than strong as stated by Fetler. England indicated that students from low socioeconomic levels increased academically when they viewed 3 to 4 hours of T.V. per day. England comments that the study may have faults due to the self-reporting mechanism of the study (Briller and Miller, 1984).

A study conducted by Alexander, Wartella and Brown (1981) focused on the reliability of different methods of assessing television usage. The study examined three types of measures. The first measure was a diary in which children recorded their own viewing. The second method was a general estimate by the students of their viewing time and the third method of measuring viewing time was parent's weekly estimates of children's T.V. viewing time. The study was aimed at finding out the consistency of each of the measurements.

An analysis of the data indicated that age is not a factor of self-reporting. Young children as well as older children were able to record or estimate their viewing time equally well. However, discrepancies between parent reports and children's reports did exist. Children at each of the grade levels reported less time spent watching T.V. than mothers reported for their child. One explanation for the discrepancies is that children tend to perform a variety of activities in front of the television; therefore, parents may view their child's behavior as watching television. The child may see his behavior as being all together different; he may preceive his behavior as playing with a toy instead of watching television. Therefore, a clearer definition of television watching is needed in order to eliminate some of the discrepancies found in time assessment.

Anderson et al (1985) were also interested in testing the reliability and the validity of television viewing measurements. Anderson conducted his study on mainly white, middle class families in which both parents were present. Families involved were asked to attend two laboratory sessions. During the assigned session, both children and parents were asked to complete a questionnaire. The questionnaire was designed to obtain information about family members' age, sex, home activities and television usage. Questions were also aimed at parental employment and educational backround. Participant's television viewing behaviors were also observed during the laboratory session.

At home each family was to keep a detailed diary of programs watched. Parents were to indicate times the T.V. was on, the channel the set was turned to, the program name and which family members were watching. The diary was kept for a period of ten days. Once the daily diary was completed, home observations began. Each family was monitored by a time-lapse video camera. Both the families behaviors and the program viewed were recorded by the equipment installed in the homes.

The findings from the study suggest that reports given by the Nielson Rating Service may be slightly exaggerated. The children in Anderson's study spent 13.4 hours per week watching television. The Neilsen reports state that the average child watches 27.8 hours of television per week. Parents also tended to overestimate the amount of time their children spent with T.V. This was largely because parents neglected to observe the

child's actions while in front of the television. Many children sit in front of the T.V., but are actively engaged in a variety of behaviors. One child in the study was estimated as watching 39.8 hours of T.V. per week, but his actual focus time on the television screen was only 3.4 hours per week. The most substantial findings of the study was that children's self-recorded viewing diaries accurately projected the amount of time they spent watching television. Vooijs (1990) performed a similar study to establish the validity of direct viewing estimates and diary estimates. Vooijs concluded that diaries were an adequate and stable means of determining time spent viewing television based on his data collected through home video equipment.

Research in the field of television viewing time and school achievement is very inconsistent. Ball, Bogatz and Potter indicate that time spent watching television actually increases student's ability in school. In contrast, researchers have also found that television viewing does not significantly affect school achievement levels (Clark, 1951; Hornik, 1978). Due to conflicting data, further research is needed in order to substantiate the findings that the amount of television viewing negatively influences academic achievement.

CHAPTER III

Methodology

The subjects used for this study were second grade students enrolled in a racially, religiously and economically diversified elementary school. Participants were asked to complete television viewing journals for a three week period. The journals described names of programs viewed and time spent viewing each program. Students made nightly entries into their journals and prior to the start of each school day, participants were asked to turn in their journals to the researcher. The data were recorded and the researcher determined the type of programs viewed and the average time spent viewing T.V. for each participant. The researcher also recorded the nature of the program as being: comic, educational or adventurous. Programs were then put into a sub-category of violent or nonviolent. Demographic data were also collected for each participant. The data included subject's age, sex, race, I.Q. and parental occupation.

Analysis of the data was performed in order to determine if television viewing influenced I.Q. or student grades in math and reading. Data were also analyzed in order to determine if demographic variables influence T.V. viewing.

CHAPTER IV

Results

It was hypothesized that the amount of television viewing negatively influences academic achievement. It was also, predicted that there would be a difference in academic achievement based upon parental occupation and type of programming viewed. The means, standard deviations, ranges and frequencies of programs viewed were examined in order to locate significant patterns among students. The students' total viewing time, as well as, the results of the IOWA scores and the students' math and reading grades are presented in Table 4.1. Table 4.2 summarizes the frequency and types of programs viewed.

In order to test the primary hypothesis, a t-test was conducted. The means for time spent viewing and the interaction with the IOWA reading and math scores are presented in Table 4.3. The analysis revealed that the interaction between time spent viewing T.V. ($\underline{F}(1.30) < 1.00$,N.S.) and the IOWA reading scores was not significant. There was also no signifent difference between the independent variable and the IOWA math score ($\underline{F}(1.05) < 1.00$,N.S.). However, inspection of the means indicates a slight relationship between the IOWA score in reading ($X=54.8$) for the high viewing group and the IOWA score in reading ($X=28.4$) for the low reading group. While the interaction was not significant, the means reveal a trend in the opposite direction as the predicted hypothesis. An analysis of varience on the above data was also conducted and the results

were not significant.

Additional t-tests were conducted to determine if the sex of the subject influenced T.V. viewing of if the primary care-givers' occupation influenced time spent viewing T.V. Both findings were insignificant. Give data

Since the predicted interaction was not significant, further analyses were performed to examine the relationship between IOWA test scores and academic grades. The analysis revealed that there was no significant correlation between the amount of time spent viewing T.V. and the IOWA scores or school grades. However, the findings showed that high reading scores were related to high reading grades (r +.65 $p<.001$). High math scores were related to high reading grades (r +.51 $p<.01$) and to high math grades (r +.61 $p<.01$). These results were expected.

Table 4.1

Total Viewing Minutes, IOWA Scores and Reading/Math Grades

	Mean	S.D.	Range
Total Viewing Minutes	243.0	153.7	0-587.0
IOWA Reading Score	41.6	33.4	1.0-99.0
IOWA Math Score	49.5	28.4	10.0-92.0
Reading Grade	3.8	1.5	1.0-5.0
Math Grade	3.8	1.2	1.0-5.0

Table 4.2

Frequency and Types of Programs Viewed

Type of Program	No. of Students	Frequency*
Sports	16	.00
	3	1.00
	1	2.00
Comedy	2	.00
	1	2.00
	3	3.00
	3	4.00
	1	5.00
	4	6.00
	2	7.00
	1	8.00
	2	9.00
	1	16.00
Drama	12	.00
	3	1.00
	2	2.00
	2	3.00
	1	4.00
Cartoon	1	.00
	2	1.00
	1	2.00
	2	3.00
	4	4.00
	2	5.00
	1	6.00
	2	7.00
	1	9.00
	1	13.00
	1	19.00
	1	24.00
Adventure	17	.00
	3	1.00
Educational	13	.00
	5	1.00
	2	2.00

* Frequency = number of programs viewed per week

Table 4.3

t-test For IOWA Reading Scores

	Mean	S.D.
High	54.8	33.4
Low	28.4	29.3

$p<.077$

t-test For IOWA Math Scores

	Mean	S.D.
High	57.5	27.6
Low	41.6	28.3

$p<.220$

CHAPTER V

Discussion

Prior to the analysis of data, it was predicted that there would be a relationship between time spent viewing television and academic performance. The hypothesis was that high T.V. viewing would result in low academic performance. The results from the analysis provide no support for this hypothesis. The scores for subjects in the high viewing group were essentially identical to those found in the low viewing group. When analyzing the result from the t-test performed, T.V. viewing was found to be inversely proportionate to reading grades. These findings support James Potter's study (1987) which stated that T.V. viewing positively affects student achievement.

The major problem with the present study was the lack of subjects tested. Although many of the results analyzed were not significant, most reveal a trend in the opposite direction as the hypothesis. It may be assumed that an increase of subjects tested could alter the analysis producing more significant results.

REFERENCES

Alexander, A., Wartella, E. & Brown, D. (1981). Estimates of Children's Television Viewing by Mother and Child. Journal of Broadcasting, 25(3) 243-251.

Anderson, D.R., Collins, P.A., Lorch, E.P. & Nathan, J.G. (1985). Estimates of Young Children's Time with Television: A Methodological Comparison of Parent Reports with time-Lapse Video Home Observation. Child Development, 56, 1345-1357.

Ball, S. & Bogartz, G. (1972). A Summative Research of "Sesame Street": Implications for the study of Preschool Children

Minnesota Symposium on Child Development, 6.

Briller, B. & Miller, S. (1984). Assessing Academic Achievement. Society, 21(6) 6-9.

Childers, P.R. (1973). The Relationship between Viewing Television and Student Achievement. The Journal of Educational Research, 66(7) 317-319.

Gaddy, G. (1986). Television's Impact on High School Achievement. Public Opinion Quarterly, 50(3) 340-359.

Fetler, M. (1984). Television Viewing and School Achievement. Journal of Communication, 34(2) 104-118.

Hepburn, M.A. (1990). Americans Glued to the Tube: Mass Media, Information, and Social Studies. Social Education, 233-236.

Honig, A. (1983). Research in Review: Television and Young Children. Young Children, 38(4) 63-76.

Hornik, R.C. (1981). Out of School Television and Schooling: Hypothesis and Methods. Review of Educational Research, 51(2) 193-214.

Hornik R.C. (1987). Television Access and the Slowing of Cognitive Growth. American Educational Research Journal, 15(1) 1-15.

Keith, T. (1986). Parental Involvement, Homework, and TV Time: Direct and indirect Effects on High School Achievement. Journal of Educational Psychology, 78(5) 373-380.

Neuman, S.B. (1986). Television, Reading, and the Home Environment. Reading Research and Instruction, 25(3) 173-183.

Peirce, K. (1983). Relation between Time Spent Viewing Television and Children's Writing Skills. Journalism Quarterly, 60(3) 445-448.

Potter, W.J. (1987). Does Television Viewing Hinder Academic Achievement among Adolescents? Human Communication Research, 14(1) 27-46.

Ridley-Johnson, R., Cooper, H. & Chance, J. (1983). The Relation of children's Television Viewing to School Achievement and I.Q. Journal of Educational Research, 76(5) 295-297.

Rubin, A.M. (1983). Television Uses and Gratifications: The Interactions of Viewing Patterns and Motivations. Journal of Broadcasting, 27(1) 37-51.

Tangney, J.P. (1988). Aspects of the Family and Children's Television Viewing Content Preferences. Child Development, 59(4) 1070-1079.

Vandervoort, T. & Voojs, M.W. (1990). Validity of Children's Direct Estimates of Time Spent Viewing Television. Journal of Broadcasting and Electronic Media, 34(1) 93-99.

Wiggins, J.D. (1987). Self- Esteem, Earned Grades, and Television. Research Journal, 19(1) 19-50.