THE IMPACT OF TELEVISION ON MOTHER-CHILD INTERACTION AND PLAY

by

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A dissertation submitted in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY in Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

1978
ACKNOWLEDGMENTS

There are many people to be thanked for their support and help in the completion of this dissertation. First, for their input, ideas, suggestions, and support throughout the various stages of this project, I would like to thank the members of my committee: Dr. Glendon Casto, Psychology Department, my chairman; Dr. Frank Ascione, Psychology Department; Dr. Keith Checketts, Psychology Department; Dr. J. Craig Peery, College of Family Life; and Dr. Jay Schvaneveldt, College of Family Life. Thanks must also go to Dr. Phyllis Snow, Dean of the College of Family Life; Dr. Patricia A. Tripple, former Dean of the School of Home Economics at the University of Nevada, Reno; and Dr. Marilyn J. Horn, Director of Graduate Studies, School of Home Economics at the University of Nevada, Reno, for facilitating the Inter-Institutional Doctoral Program on which this doctorate was completed.

I would also like to thank my colleagues and good friends Hazel Hardy and Sally Kees Martin, of the School of Home Economics at the University of Nevada, Reno, for their many hours of listening, discussing, and generally supporting this study. Thanks must also go to Linda Lane, Cecilia McCulloch, and Barbara Rugg, my capable observers, and to Diane Peck, School of Home Economics secretary, who so ably handled arriving subjects.
Also of great assistance were Daniel Tone and William Rett of the Education Support and Media Center of the University of Nevada's School of Medicine, for their cooperation and technical help with the videotaping. I particularly want to thank Dr. Lyle Warner, chairman of the Department of Sociology at the University of Nevada, for his invaluable advice on the statistical analyses of this research, and Dr. Young Koh, statistical consultant of the University of Nevada's Computing Center, for his help in setting up the computer data.

Last and certainly not least, thanks go to my family. My children, Fiona and Eugene, must be given responsibility for first interesting me in the study of children, which has led ultimately to the pursuit of a doctorate in Child Psychology. They have been very patient and tolerant of their mother's diminished time over the past three years. And very special thanks go to my husband, Ahmed, without whose encouragement, advice, and patience, this doctorate would not have been possible.

Eva L. Essa
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Abstract

The Impact of Television on Mother-Child Interaction and Play

by

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Television is a pervasive influence in today's family life. The number of hours family members, particularly young children, spend watching TV must replace some other functions in the viewer's lives. Since one of the primary tasks of families with young children is the socialization of their youngsters, one might assume that TV interferes to some extent with this process. Among aspects of the socialization process are the need for the child to observe and interact frequently with role models, to obtain ample feedback on the appropriateness of his behavior, and to have many opportunities to test out what he has observed through role playing so he can incorporate and adopt relevant behaviors and values. These all take much time since socialization is a long-term, subtle process.

It was the basic premise of this research that television can be a disruptive force in the socialization process because it limits children's opportunities for interaction with parents and for play. To test this, 39 mothers and their preschool-aged children were observed under two
conditions, when a television was on and when it was off. On both occasions, observers rated each dyad on interactive measures such as eye contact, physical touch, proximity, and verbalization, and on interaction with alternate activities. Attention to the television was also measured.

Analysis of the data showed that the presence of television significantly decreased eye contact, verbalization, and interaction with alternate activities. Furthermore, interactions were less extensive and Ss tended not to respond to each other’s comments or questions when the TV was on. Children also tended to shift attention more frequently if they watch considerable amounts of TV at home, while children of mothers who watch little TV at home tended to be considerably more attentive to the TV in the experimental condition.

It was concluded that TV does interfere with some aspects of the socialization process by decreasing interaction and play-related activities. A question was raised, however, whether children who watch substantial amounts of TV might not attend less to the set, thus offsetting some of the negative effects related to decreased interaction with parents and toys.
Introduction

Origin and Nature of the Problem

In most homes, television is not a mere appliance or a piece of furniture, but a very significant "member of the family" (Singer & Singer, 1975). It may provide friendship, escape, entertainment, emotional involvement, information, shared experience, child care, and a number of other functions. It has been with modern families, especially in the United States, for almost three decades now. A second generation of children is presently growing up with TV as a normal, integral part of family life.

The incorporation of television into every-day life has been rather insidious; now, three decades after its commercial introduction in the United States, it has reached a nearly universal acceptance—98.6 per cent of homes have at least one set—according to one survey (LoSciuto, 1971). This burgeoning popularity and acceptance certainly has not gone unnoticed, and researchers have, for about as many years as television has been around, studied this medium's effect. But in some ways this attempt to understand just what TV is doing to individuals (particularly children) and families has been limited. Whereas such effort has gone into studying television content and its effects on children, little attention has been focused on the process of television watching.
Concern about the effects of television on children has been centered almost exclusively upon content of the programs children watch. Social scientists and researchers devise experiments Byzantine in complexity and ingenuity to determine whether watching violent programs makes children behave more aggressively, or conversely, whether watching exemplary programs encourages "prosocial" behavior in children . . . . The very nature of the television experience, as opposed to the contents of the programs, is rarely considered . . . . It is easy to overlook a deceptively simple fact: One is always watching television when one is watching television rather than having any other experience. (Winn, 1977, p. 1)

This act of "watching television" is a very time-consuming one in America today. Preschool children, who spend a greater proportion of their waking hours than any other age group in front of the TV, average over 30 hours viewing time per week (LoSciuto, 1971; Stein et al., 1971). Adults average over 23 hours per week (LoSciuto, 1971). The allocation of so many hours to an activity that was non-existent 30 years ago must certainly have some impact on viewers. What, for instance, is displaced by the hours of TV viewing? Dr. David Pearl of the National Institute of Mental Health, quoted in a recent popular article (Waters, 1977) suspects that television "has displaced many of the normal interactional processes between parents and children" (p. 65).

If in fact television does reduce the quantity and perhaps even the quality of parent-child interaction, then this medium may well interfere with an important function of the family: socialization of the young. Research indicates that interpersonal family interaction is decreased by television's presence (e.g. Maccoby, 1951; Walters & Stone, 1971). A decrease in
quality of family interaction could be inferred from studies which indicate that TV seems to serve as an escape from family problems since watching TV can be taken as an alternative to working out difficulties (e.g., Rosenblatt & Cunningham, 1975; Schramm et al., 1961). Bronfenbrenner expresses a similar thought:

The primary danger of the television screen lies not so much in the behavior it produces—although there is danger there—as in the behavior it prevents: the talks, the games, the family festivities and arguments through which much of the child's learning takes place and through which his character is formed. Turning on the television set can turn off the process that transforms children into people. (Quoted in Winn, 1977, p. 107)

Theoretical Framework

This process of "transforming children into people" is, more traditionally, called socialization whereby children are helped to become responsible adults in their culture (Weiner & Elkind, 1972) and to feel and act like other members of their society (Liebert et al., 1974). Socialization begins very early in a child's life and is carried out through his childhood in many subtle as well as conscious ways.

During infancy a child's physiological needs dictate his behavior, but through nurturing experiences, social learning eventually becomes a prime instigator of behavior, according to theorist Robert Sears (Maier, 1969). This development takes place within the dyadic relationship of mother and child. During the first years, the child's dependency on the mother is central to this early stage. During his second year, however,
the child must begin to adopt more mature forms of behavior, gradually replacing dependency with a more socialized, self-controlled existence. Until the child begins school and his sphere of influential persons increases, the family, especially the mother, is his prime socializing agent. The child learns to identify with family members by interacting with them, observing them, imitating them, and adopting and incorporating aspects of their behavior into his own. This process takes place both through direct action on the part of the parents and through play in which the child has the chance to "explore, by trial and error, the make-up of his immediate universe" (Maier, 1969, p. 191).

Thus the process of socialization and the identification of the child with his parents require time—time to observe, time to interact, time to act out through play. Kagan (1974) expresses it similarly: "The primary task during the preschool years is to understand the self, and the child needs information that will help him solve the problem" (p. 94). Parents must provide frequent feedback to facilitate this self-understanding which is inherent in identification.

Relating the vast number of studies on socialization to television, one might postulate that television, because it does take over four hours out of the average preschooler's day (that's more than one-third of his waking hours) and over three hours out of the average adult's day, interferes with the normal process of socialization. If the child needs to observe role models (e.g., his parents), television may well provide conflicting models
during viewing time while decreasing the effectiveness of parents as role models (Bandura & Walters, 1963). If the child needs to interact, he not only has decreased time opportunity to do so, but he is generally placed in a position of passivity vis-a-vis the people he watches on TV. And finally, if the child needs play to discover and understand himself and his social environment, TV again not only affords less opportunity for play but seems to affect the very nature of play itself (Winn, 1977).

**Purpose of the Study**

The basic premise of this research, then, is that television does interfere with certain socialization processes, both by decreasing the opportunity for interaction with parents and by decreasing the opportunity for play. The problem is, little systematic research has been done to determine how television affects the process of parent-child interaction and play. This study was designed to approach this problem by answering the following general questions:

1. Does the presence of television shift the mode of interaction between parents and children; for instance, is verbal interaction replaced by touch?

2. What does television do to alternative activities like toys, books, and magazines? In other words, how does television affect interaction with play materials?
3. Do parents and children who interact frequently without television also interact more when TV is on than do parents and children who do not interact frequently without television?

4. Do parents and children, who are heavy TV viewers, attend to television with more concentration than parents and children who watch little TV at home?

5. Do heavy viewers engage in less interaction whether a TV set is on or not?

6. Do verbal interactions decrease in number, in duration, or both in the presence of TV?

7. Might TV so involve parents and/or children that they fail to respond to one another’s questions or comments?

8. Over a period of television time, does the TV lose some of its hold over viewers so that they will tend to attend less to later segments of a television program than to earlier ones?

Research Design

This study was designed to answer such questions. Dyads of mothers and their preschool children were observed both when a TV set was operating and when it was off to compare the effects of the presence and absence of this medium on the behavior and interaction of the subjects. In a laboratory setting, mother-child dyads were twice observed, once with and once without TV, and rated on several types of interaction: eye contact, proximity,
physical touch, and verbalization. In addition to these interactional measures, subjects' focus of attention on the TV set or alternate activities (e.g., toys or magazines) was measured. At the end of the data collection, mothers were asked to estimate how many hours they and their children watched TV each week. Since such self-report data is a rough estimate, at best, results were dichotomized and used simply to classify mothers and children as heavy or light viewers.

Although such observations and information yield only a selective amount of information about mother-child interaction and the effect of television, there is much to be learned from such research. This study primarily examined the effect of television on the process rather than on the content of interaction. It was hoped that the data from this research will make it possible to draw some more accurate conclusions about the effect of television on mother-child interaction, and that as a result of this work we will possess more information about influences on the socialization of today's young children.

Research Questions

Earlier, some general questions were posed in relation to television and children and parents. From these and from literature which will be reviewed in the next chapter, some specific research questions were asked, drawing from the observational and self-report data described above:
1. Does the presence of television shift the mode of interaction between parents and children; for instance, is verbal interaction replaced by touch?

*H₁* There are a greater number of intervals of eye contact with the other person in the no-TV, condition than in the TV condition.

*H₂* There is a difference in number of intervals of proximity between the TV condition and the no-TV condition.

*H₃* There is a difference in number of intervals of physical touch with the other person between the TV condition and the no-TV condition.

*H₄* There are a greater number of intervals of verbalization in the no-TV condition than in the TV condition.

2. What does television do to alternative activities like toys, books, and magazines? In other words, how does television affect interaction with play materials?

*H₅* There are a greater number of intervals of focus of attention on the alternate activities during the no-TV condition than in the TV condition.

3. Do parents and children who interact frequently without television also interact more when TV is on than do parents and children who do not interact frequently without television?

*H₆* Dyads who fall above the median on a combined number of verbal interactions, physical contacts, and eye contacts with each other
during the no-TV condition have higher combined scores during the TV condition than those dyads who fall below the median.

4. Do parents and children, who are heavy TV viewers, attend to television with more concentration than parents and children who watch little TV at home?

\(H_7\) Mothers who are heavy TV viewers at home have a greater number of intervals of attending to the TV than do mothers who are light TV viewers.

\(H_8\) Children who are heavy TV viewers at home have a greater number of intervals of attending to the TV than do children who are light TV viewers.

5. Do heavy viewers engage in less interaction whether a TV set is on or not?

\(H_9\) Mothers who are heavy TV viewers at home have fewer verbal interactions in the combined TV and no-TV conditions than do mothers who are light viewers.

\(H_{10}\) Children who are heavy TV viewers at home have fewer verbal interactions in the combined TV and no-TV conditions than children who are light TV viewers.

6. Do verbal interactions decrease in number, in duration, or both in the presence of TV?

\(H_{11}\) There are a greater number of interaction segments in the no-TV condition than in the TV condition.
$H_{13}$ While controlling for mean duration so that this value is constant, the number of interaction segments in the no-TV condition will be greater than the number of interaction segments in the TV condition.

7. Might TV so involve parents and/or children that they fail to respond to one another's questions or comments?

$H_{14}$ There is a greater number of non-responses in the TV condition than in the no-TV condition.

8. Over a period of television time, does the TV lose some of its hold over viewers so that they will tend to attend less to later segments of a television program than to earlier ones?

$H_{15}$ There is a decrease in attention to the TV across sequential segments of the TV program by mothers.

$H_{16}$ There is a decrease in attention to the TV across sequential segments of the TV program by children.
Review of Literature

An abundance of research has been conducted over the past three decades on the effects of television on children and to some extent on its effects on families. The first part of this literature review concerns itself primarily with studies that deal with television and the family; some of these address this topic directly while others are more oblique, and information about television and the family has to be extracted from data collected for other purposes.

The second major portion of this literature review will deal with socialization and mother-child interaction. Since the premise of this study is that television has an impact on socialization through its effect on family interaction, this portion of the review will set a framework within which television's effect might be studied.

Television and the Family

Much of the research on television's effects has been carried out through information from self-report instruments like diaries and questionnaires. Since there are methodological problems inherent in such an approach, the first section presents a discussion about data collection and validity of such data. The second section reviews literature relating to television as a shared family experience. While some writers have claimed that this medium has brought the family together, others have considered this togetherness
little more than being in the same room with little interaction. Family communication is the focus of the third section, which considers some of the data regarding TV's role in limiting, as well as TV's role as an object of conversation. Television has also been blamed for bringing about stress in the family or pointed out as an indicator of family stress. This topic is explored in the fourth section. Conflicts caused by TV often result in rules and controls related to the use of the medium, as discussed in the fifth part. In the sixth section, parents' attitudes about television as reflected in the literature are discussed. Although parents have an overall positive reaction to TV, they also express ambivalence towards it. The final section deals with television's role as a socializing agent in the lives of children, an area where little research has been done. This review should provide some picture of the breadth of and gaps in the study of television and the family.

Methodology. The majority of research on television which elicits information about viewing habits and attitudes toward the medium relies on self-report questionnaires or interviews. This method has yielded a substantial base for many studies on this topic. But the question which always arises is whether self-report inventories are valid. Do they reflect reality? Will and can respondents report how much, what, and why they view certain programs? A further question relates to the reliability of parents who are often asked for information about their children's viewing habits. In this situation, the added problem as to whether the parent is sufficiently aware
of the child's television viewing behavior to answer questions accurately arises. Some studies have addressed themselves to these methodological problems.

Bechtel et al. (1971) specifically set out to study the validity of the questionnaire and diary methods by comparing these reports with the analysis of five days of filming of the television viewing behavior of 20 families. In comparing the observed viewing time with self-reports of the families involved, the authors found a substantial over-reporting of television viewing. In the diaries which the subjects filled in on a day-to-day basis, there was a 25% overestimate of viewing time, while in the questionnaires, based on verbal interview data, there was a 40 to 50% over-report.

A few studies have compared responses of parents and of children to assess the degree of agreement between the two sets of information. In one study (Albert & Meline, 1958), inconsistencies in the two estimates were evident. For instance, children reported that their parents used TV as a reward more than as a punishment, while parents perceived the exact opposite. From the data presented in this study, it is not clear whether the discrepancy is due to different perceptions of parents and children or to inaccurate information of one or both. The parents' and children's estimates of hours of television viewing were also disparate. Parents from the upper socio-economic group all overestimated the time, while parents from the lower class group both over- and under-estimated. Whatever the cause of these discrepancies, it does point out that data based on information from
one group about another may contain the same inaccuracies that Bechtel et al. (1971) found in self-report data.

More recently, another study (Greenberg et al., 1971) attempted to get an agreement between parent and child answers to questions about children's television watching behavior. Working on the general premise that there should be less disagreement between parent and child estimates if there is extensive family interaction, 85 mothers and their ten-year-olds were interviewed separately. The hypothesis was not, however, supported, and there was no systematic relationship revealed among the discrepancies. As reported by Albert and Meline (1958), parent and child estimates of amount as well as of type of television viewing by children differed. Mothers may not be aware of what and how much their children see if youngsters watch a lot of TV alone, and this could be one source of discrepancy.

As in any questionnaire-based information, the questions on which statistical analysis is based must be carefully examined. For instance, Greenberg et al. (1971) may not have gotten significant correlations between amount of family interaction and disagreement between parent and child answers because of the questions about interaction. The three questions on which this measure was based were (1) how often parents and children talked about things that happened at school, (2) if children participated in family decision-making, and (3) if parents and children "just talked about things." Undoubtedly, answers to these questions are subject to many interpretations and may not accurately reflect interaction for many families.
Finally, a semantic problem of much of the TV research must be pointed out. Many studies claim to elicit the views of "parents," as their titles imply, but in actuality it is the mothers who are the main source of information about children's television viewing. In some cases, mothers are the only source of information (Barcus, 1969; Hess & Goldman, 1962), in others, the mothers are asked to give information about the fathers' roles (Maccoby, 1954), while in a few, both mothers and fathers are questioned (Martin & Benson, 1970; Steiner, 1963).

Thus, studies based on the reports of parents (or, more often, mothers) about the TV viewing behavior of their children should be evaluated with the possibility of error in mind. "Certainly prior research data based on parental reports of the child's behaviors and attitudes are unlikely to be self-cancelling" (Greenberg et al., 1971, p. 405). Before considering the validity of any television study about self- or other-reported viewing behavior or opinions, the reader must keep in mind how the data were gathered. With this caution in mind, more specific areas of television and the family can be examined.

**Viewing together: A shared experience.** One of the earliest praises sung of television was that it would bring the family back together. Coffin (1955) stated that television draws family members back to the home, offering them common experience and shared interests. In an extensive survey of three major British cities, Belson (1960) concluded that families tended to spend somewhat more time at home together after 3:00 p.m. (the time
broadcasting began), but spent somewhat less time together before this hour. Himmelweit et al. (1962) concluded from their data that 80% of children viewed television with their families in the evenings, and that almost 50% watched with family members in the afternoon. LoSciuto (1971) stated that 43% of programs were watched in the company of one other person, and 25% with two or more others.

But being together is not necessarily indicative of a shared experience, "It appears that the increased family contact brought about by television is not social except in the most limited sense: that of being in the same room with other people" (p. 427), states Maccoby (1951). She describes social life during programming as "parallel" rather than interactive.

In the earlier-mentioned study by Bechtel et al. (1971) where 20 families were filmed at home while watching television, viewing was found to be more than a simple behavior. The authors, in coding the films of family viewing behavior, categorized subjects by the degree of involvement in television viewing. Six ways of watching, from active participation to non-attention away from the television set, were used. From these, five "viewing types" were identified through cluster analysis. Another finding was that often television viewing was not an isolated activity, but was done simultaneously with one or two other activities. Bechtel et al. identified a wide range of simultaneous activities, of which talking and eating are the most frequent.
In a recent national survey of viewing behavior, LoSciuto (1971) found that respondents reported being engaged in other activities simultaneously with watching TV during 34% of programs. The most frequent of these were reported as work and housework, eating, talking, reading, and child care, in that order of frequency. On the other hand, Bechtel et al. (1971) in their film analysis noted above, found talking and eating the most frequent simultaneous activities. An average of 40% of respondents reported talking about the programs being watched.

Another source of speculation about family TV viewing behavior is whether children learn viewing behavior from parental example. Himmelweit et al. (1962) and Schramm et al. (1961), in their respective extensive surveys, both found a consistent positive correlation between what children watched on television and what their parents watched. Both studies strongly support the notion that the child learned patterns of viewing from his or her parents, both in relation to amount of viewing and content. Chaffee and McLeod (1971) found some relation between what parents and their adolescents viewed, but argue against a modeling hypothesis. Alternative reasons for the correlation between viewing by two or more members of a family, they feel, can be explained not only by the child's imitation of the parent, but also by the parent's imitation of the child, or by mere opportunity—-that is, unavoidable exposure to the program someone else is watching. In their argument against modeling, Chaffee and McLeod (1971) state:
To begin with, it should be noted that "parental example" can be either positive or negative. It seems more likely that parents, who watch violent programs far less than their adolescent children, would set a "negative example" by not watching . . . . This negative-effect inference is strengthened by the finding that the mother's viewing correlates more strongly with the child's than does the father's. If "modeling" were truly operating with any frequency, we should expect a teenage son to emulate his father. (p. 168)

Thus, modeling may not be the mode of learning of how much or what kind of television programs to watch (violent or otherwise) for teen-agers. The role of modeling with younger children, however, has not been explored, and a relation may exist which dwindles as the child grows older.

A final insight into the role of television as a shared family experience might be gained from what happens when the TV is not in the home due to a breakdown. For many, such an occurrence underlines the important role that television plays in family life. "The degree of dependence on TV sealing wax in some homes is difficult to overstate . . . . Desperation is . . . . reflected in the urgency with which most families cope with the emergency" (Steiner, 1963, p. 99). Almost half of Steiner's respondents reported that they fixed or replaced the set within a day, and about two-thirds within three days. Some of the comments quoted show this "desperation":

"We didn't know what to do. There was so much missing, we just went to bed."
"Screamed constantly. Children bothered me and my nerves were on edge. Tried to interest them in games, but impossible. TV is part of them." (p. 99)
Walters and Stone (1971) also studied the effect on family communication when the TV set was missing from the home because of a breakdown. Of the 38 families interviewed, 27 had more than one set in the home and thus moved one of the auxiliary sets into the position of prominence in the home; four obtained replacements; and only seven had no set at all. Thus, the data reflect decreased, not lack of, availability of television. About one-third of the respondents said they noted an increase in the opportunity for conversation; only four, however, said their families talked more and these were among the "no-set" group; no change was reported by 22; four reported more reading (two from the "no-set" group); and three from multi-set families said that the biggest changes was that everyone was watching TV together.

Family communication. Television may be a shared experience in the family, but its effect on communication—whether it facilitates or hinders it—must also be considered. The "parallel" rather than interactive nature of television viewing described by Maccoby (1951) has implications for family communications that a number of studies have addressed. In the Maccoby study, 58% of the 332 families interviewed reported no interpersonal communication during TV viewing; 20% stated that interpersonal communication occurred only during certain times such as commercials or specified programs; 11% engaged in some communication; and 11% reported quite a bit of interpersonal communication during viewing. Coffin (1955) noted that TV
has been blamed for decrease in family conversation and face-to-face interaction. Another early study (McDonagh, 1950) directly asked the question: "Since purchasing your television set have you done more, less, or the same amount of conversing with family members?" Responses were as follows: 8.4% of the respondents answered more, 62.1% answered less, and 29.5% answered the same. Although this type of comparative question is no longer valid in a society where almost every family owns a set, the information bears relevance to how television has affected family life. Today, a decreased amount of family interaction may well be a part of family life compared to that of a quarter century ago.

If TV may decrease family interaction, other authors have noted that it may also give the family something common to talk about. Furthermore, parents are often advised to discuss TV programs with their children (Leifer et al., 1974). This advice was given support by results of a study by Ball and Bogazt (1970) where children who often watched "Sesame Street" with their mothers and whose mothers talked about the program's content with them showed the greatest gains in the evaluation following the first year of the program. Laboratory support for this contention was also offered by Grusec (1973), who found that evaluation by an adult during the watching of a program affected the imitation by children later, when the children were alone. Children who heard the adult co-observer praise a model's deviant actions were more likely to imitate those actions than children who heard the adult make negative comments about the model's behavior. However, there
has been no direct research on the quality of parental discussion and evaluation of TV shows watched with their children.

Data on the quantitative aspects of the potential role of adult family members in interpreting or explaining television programming to younger children show that this method is not utilized as often as might be possible. Himmelweit et al. (1962) noted that mothers, in diaries kept for the study, reported little discussion or sharing during viewing. Martin and Benson (1970) found some discussion of TV content between parents and children, but more so in upper than in lower classes.

There may, however, be an age relation involved in the effectiveness of such discussions with children. In their study of adolescents, parents and television use, McCleod et al. (1971) found that parental attempts to emphasize non-aggression demonstrated little relation to either the viewing of violent programs or the aggressive behavior of their teenagers. More needs to be learned about the effect of parental discussion of television content with children of all ages. It seems plausible to assume that younger children would be more influenced by their parents' interpretation of TV programs, and that this influence declines as children grow older.

Television may affect the communication pattern of families, but this is not a simple, straightforward relationship. A series of recent studies by Chaffee, McLeod, and associates has investigated existing family communication patterns and how television is utilized. They found that the family has a characteristic interaction style which is related to how and for what the
medium is used. Family communication patterns can be characterized by one of two dimensions (Chaffee et al., 1971a; Chaffee & McLeod, 1971b; Chaffee et al., 1970; Chaffee et al., 1971; McLeod, et al., 1971a; McLeod et al., 1971b): Socio-orientation and concept-orientation. In the former, "the parent urges the child to keep discussions pleasant, avoid controversy, defer to his elders, and generally maintain interpersonal harmony at the expense of his own ideas and opinions" (Chaffee & McLeod, 1971a, p. 22). The concept-oriented family is characterized by "encouraging the child to challenge parental beliefs, to reach his own conclusions and hold his personal views, plus intentional exposure of the child to contrasting views" (Chaffee & McLeod, 1971a, p. 22). A family may stress either, neither, or both orientations, resulting in one of four family types, as shown below:

**TOPOGRAPHY OF FAMILIES**

<table>
<thead>
<tr>
<th>Low Socio-Orientation</th>
<th>High Socio-Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Concept-Orientation</td>
<td>Laissez-faire</td>
</tr>
<tr>
<td>High Concept-Orientation</td>
<td>Pluralistic</td>
</tr>
</tbody>
</table>

The Laissez-faire family gives the child neither orientation, so children are not prohibited from challenging parents' views, nor exposed to independent ideas. In the pluralistic family there is an emphasis on
development of strong concept-relations in an environment comparatively free of social restraints. The protective family emphasizes harmonious relations but does not stress exposure to controversy or free expression of ideas. Finally, the consensual family exposes the child to controversy, but at the same time constrains him or her from developing independent concepts.

Various correlations between family environment and television viewing behavior of adolescents have been found. For instance (McLeod et al., 1971a), laissez-faire children tend to be low users of television and do not watch violent programming much. As would be expected, parents do not attempt to control viewing for children of such families. Pluralistic children are also low on all three variables. Children from protective homes are the heaviest users of television and are quite heavy on violence watching. There is also a fair amount of parental control over viewing behavior. Similarly, consensual children are above average in television viewing time, highest in viewing of violent programs, and highest in the amount of control exerted by the parents. These findings indicate that TV can be used quite differently, and in predictable ways, depending on the orientation and interpersonal atmosphere of the family.

The same authors also studied how the family communication pattern affects the use of news media and political participation (Chaffee et al., 1970; Chaffee et al., 1971). Though these variables are only peripherally relevant
to the topic of television and the family, they nonetheless reflect how television use is intricately related to family environment. Children from pluralistic families were found to be more politically active and to use media more for information. They reported more preference for public affairs programs on television and read newspapers more regularly. The parents in pluralistic families were also more active in and knowledgeable about politics. The other family type which stressed concept-orientation, the consensual family, also produced teenagers who were interested and active in political affairs, but they showed a deficiency in political knowledge, reflecting the contradictory messages their parents gave them. Children who were low in concept-orientation also rated low on political measures. Protective adolescents were at or below the mean on political attitudes and interest and on informational use of the media, and laissez-faire youngsters were consistently below the mean on these variables.

On all these measures, the data for parents and adolescents are similar in that they are in the same direction, though the correlations are weak. This indicates, according to the authors, that families with similar communication patterns share similar patterns in media use. In all these studies, however, family variables account for little of the variance between parent and child viewing behaviors. "If there is one conclusion to be reached . . . it would be that family context variables do not make as much difference in adolescent violence viewing as earlier writers have suggested" (Chaffee & McLeod, 1971, p. 70). Much needs to be learned yet about the interaction
Stress and television. The use of television has been studied as an indicator of family or personal stress as well as a source of conflict itself. Pearlin (1959) studied escape television viewing as an indicator of personal and social stress. "Just as no society can exist free of stress, it is also likely that there is no society which does not have accepted practices which can function as coping mechanisms for stress" (p. 255). Subjects were interviewed to determine whether they watched TV for escape—that is, enjoyment of programs that help one forget personal problems. About one-third of the 736 respondents answered "yes." Four measures of stress included emphasis on upward mobility, wariness of social relations, "blind faith in people," and feelings of depression or futility about the state of the world. The results showed a significant relation between escape viewing and each of the four stress questions.

Maccoby (1954) tested a related hypothesis with children. She speculated that children who are "highly frustrated" in real life spend more time watching television. Interviews of 379 mothers of five-year-olds elicited information about methods of training, punishment, permissiveness in aggression and dependency, restrictions imposed on the child, and the child's average hours of television viewing. For the upper-middle class sample she found that the more frustration the child experienced at home, the more he tended to watch TV. Out of nine measures, seven showed a positive relation
between parental severity and higher television viewing, and six of these were statistically significant.

A different pattern emerged for Maccoby's lower-class sample where only two significant relationships were found. In fact, there was a negative correlation in one of the measures—demand for neatness, quiet, regular bedtime, and table manners—which were opposite to the findings for the middle class. Maccoby theorized that this class difference may be a function of parents' television watching habits. She found that the lower-class adults watched more TV than middle-class adults. Thus, if parents' relations are not "warm" with the child, and the parents watch a great deal of TV, the child will avoid television. "But when they are not frustrated, they do what their parents do: namely, watch television..." Thus in lower-class groups, the amount of frustration does not differentiate the children who are greatly interested in television from those who are not" (p. 243).

One might speculate, however, whether Maccoby's index of frustration is a valid one. Parental expectations for a standard of behavior may not be the best indicator of frustration for the child or lack of warmth by the parent. Furthermore, mothers may have different definitions and/or perceptions of what the questions attempted to elicit. This may be one explanation for the class differences found. Furthermore, in light of the doubt cast on parent reports of child viewing and other behaviors, Maccoby's results need to be taken cautiously. Finally, Maccoby's findings were opposite to those of McLeod et al. (1971). The latter found a slight positive relation between
the parents' giving of affection and the child's amount of violence viewing.

Schramm et al. (1961) also found a positive correlation between amount of television viewing and family problems as did Rosenblatt and Cunningham (1975). The latter found a strong relation between hours the television set was on and scores on family tension in the 64 families questioned. This relation became even stronger in families with high population density.

The difference seems to suggest that a high level of television set operation is frustrating in families with a great deal of space to get away from one another, but in families with little space to get away from one another, operation of the television set is not very objectionable because it is an acceptable avoidance mechanism when interaction is likely to be unpleasant.

(p. 11)

As the above quotation indicates and as any family which owns a television set will attest, the TV itself can be a source of conflict in families. Questions eliciting information on this topic have been incorporated into many questionnaires. One problem may occur over which program to watch, as LoSciuto (1971) points out:

The presence of other people in the room obviously affects what programs are selected for viewing, and, excluding programs viewed alone, ... these were programs as likely to be chosen by other viewers as by the respondent himself.

(p. 58)

He noted that of programs selected when others were present, respondents reported choosing their own program 38% of the time, someone else choosing 33% of the time, and choice by mutual decision 29% of the time.
Siblings often experience conflicts over what to watch on television. Streicher and Bonney (1974) found that nearly two-thirds of the six- to twelve-year-olds they interviewed reported such conflicts with siblings. Most of these arguments were resolved through arbitration, reflecting four types of rules commonly used to resolve disputes: first-come-first-served, compromise, voting, and rules in favor of specific family members. Almost 30% of the disputes needed parental, usually mother's, intervention to settle.

A different type of conflict occurs over whether some programs adults want to watch are suitable for young children. Steiner (1963) concludes that "family viewing can result in objectionable exposure for children whenever parents choose shows with violence or other 'adult' ingredients and then let the children watch with them" (pp. 105-106). It is not realistic to send a child out of the room since such restrictions "preclude the very family satisfactions so often integral to viewing" (p. 106).

Another source of potential conflict caused by television viewing revolves around family routines. Himmelweit et al. (1962) report some effect of television on mealtime, adjusting dinner to finish before favorite television programs, or planning the evening meal during a program which young children want to watch. Maccoby (1951) found that about one-third of her sample families reported mealtime conflicts caused by TV. Both Himmelweith (1962) and Maccoby (1951) found some effect on bedtime, with children of television-owning homes getting to bed an average of 20 minutes later than
their counterparts in non-TV homes. Himmelweit also found that the television caused conflicts over homework completion in some families.

Advertisements on television may also pose problems since young children may frequently pressure their parents to purchase products. Ward and Wackman (1971) found that food products relevant to children such as cereals, snack foods, candy, etc. were frequently requested, though such requests decreased with age of child. The second most requested items were games and toys by younger children and games, records, and clothing by older ones. Mothers reported yielding most to food influence attempts, which were also the most requested items. Mothers of younger children also felt that commercials exerted far more influence over requests made by their children than those made by older children. Inter-correlation among requests made by children, yielding of parents to such requests, and perceived influence of television on requests indicates a positive significant relationship between requests and yielding and requests and influence. Of course, mothers may estimate influence of TV according to frequency of requests.

While perceived influence of commercials and yielding are significantly correlated ($r = .22$), the relationship does not hold when purchase influence attempts are controlled. Thus perceived commercial influence appears to be a function of the frequency of purchase influence attempts. (p. 520)

Ward and Wackman also found a significant positive relation between parent-child conflict and children's purchase influence attempts. The authors point out that this indicates that disagreements over purchases may be part of the general conflict of a family.
Rules and controls. If television itself causes conflicts, these often result in family rules that specify what or how or when family members can watch television. Children, of course, are the main target of such rules, which are concerned both with time parameters of viewing and with content restrictions. Other types of rules relate use of the television to other family responsibilities like chores. Leifer et al. (1974) point out that control of viewing is also related to cultivation of program preference. Writers offering advice to parents often stress the necessity for parental regulation, as illustrated by a recent publication of Action for Children's Television, The Family Guide to Children's Television:

Parents do indeed have the responsibility for controlling the television shows their children watch.... There are very few programs designed specifically for children. During the hours when children normally watch television, parents must decide what adult reruns or cartoon series they will allow their children to watch.... In all cases, it is virtually impossible for anyone to define "good" or "bad" programs for children. Each parent has to make his own decisions, based on knowledge of his child and individual tastes, values and standards. Try to watch some programs with your children, talk the problem over with them if you feel they are able to discuss it, and then make up your rules and stick to them. (Kay, 1974, pp. 55-56)

Parents often report imposing controls on their children's television use, but few studies have elicited reasons for these rules. Barcus (1969) found that the major reason mothers gave for censoring programs was fear that the child would be exposed to the adult world too early; belief that there were other, more important activities; and some fear that there would be imitation of violence. Children interviewed by Streicher and Bonney (1974)
indicated a different perception of why parents intervened in or controlled television viewing. They reported that parents rarely controlled viewing, but when they did it was primarily so that the children would perform household tasks. The least reported intervention was prevention of viewing undesirable programs.

The children interviewed by Streicher and Bonney also indicated that they were able to view pretty much what they wanted. This perception poses a severe discrepancy in studies which set out to investigate just who controls television viewing. Steiner (1963), in extensive interviews of television users, including many parents, reported that 27% of mothers and 33% of fathers indicated that there were no rules and children decided what and when to watch. This is contrasted to 44% of mothers and 38% of fathers who indicated that there were television rules in their homes. Hess and Goldman (1962) concluded that parental guidance of what children watch was not reported extensively, while Greenberg et al. (1971), in comparing parents' and children's responses, found a high level of agreement (100% of parents and 90% of children) about the existence of some form of rules to regulate TV watching. Certainly the above findings reflect inconsistencies which may, in part, be explained by the nature of the questions or by the overall study in the context of which the questions were elicited. Other factors may be involved in this discrepancy--for instance, age and sex. McLeod et al. (1971) found considerable change between junior and senior high school students. In measures of parental control over television viewing, junior high respondents
had standard scores above the mean of +46 and +54 for boys and girls, respectively, while senior high respondents' scores were -55 and -25 below the mean for boys and girls. The relations between age and TV rules need to be further explored, especially as they relate to younger children. Research is also needed to determine the relation between existence of rules, adherence to these rules, and other factors.

A related factor was considered by Barcus (1969). He investigated not only if controls were attempted but in what way parents exerted their influence. He found that in most cases parents reported using negative controls and that these were, more often than not, imposed after a program had already begun. In fact, very few mothers indicated censoring a program before it began, indicating general unawareness on the part of the mothers of television programming as well as spur-of-the-moment decisions about suitability of programs.

One way restrictions on television use are imposed is related to time. Most commonly, this restriction relates to a definite evening cut-off time, usually bedtime. Greenberg and Dominick (1969) found that 47% of their middle class, 36% of their black lower class, and 46% of their white lower class sample reported such rules. Steiner (1963) reported that 31% of the mothers and 29% of the fathers indicated rules about television hours, most of these restricting evening viewing. Only 2% of mothers and 1% of fathers reported limiting the number of hours their children could watch TV.

Another type of restriction is concerned with the type of program children may watch, though here again there is discrepancy among the findings of various studies. About two-thirds of both the parent and child
respondents in the Greenberg et al. (1971) study stated that there were some forbidden shows. On the other hand, Steiner (1963) indicated reports of program restriction by 28% of mothers and 20% of fathers. Of these, only 5% were specifically concerned about violence viewing, though violence on television was one of the concerns parents frequently voiced in another part of the interview. "On the whole, there is little, if any, relationship between the disadvantages the parents cite and the controls they mention" (p. 98).

Hess and Goldman (1962) found that 26% of parents reported suggesting programs to their children, 26% said they restricted particular programs, while 22% stated that they had general though not specific television restrictions. A related question asked in this study was whether mothers discussed programs for their children with their husbands: 22% reported that they did.

Finally, Greenberg and Dominick (1969) stated that program censorship was imposed by 30% of the black lower class, 18% of the white lower class, and 27% of the white middle class respondents. Again, these diverse findings indicate a need for further research with more precise questions and data gathering techniques to find more consistent and meaningful answers.

In some families, television is also used as an object of reward or punishment. About half the children interviewed by Himmelweit et al. (1962) said their parents sometimes let them stay up for late programs as a reward for good behavior. TV was also sometimes withheld as a punishment according to 18% of the older (14- and 15-year-old) and 32% of the younger (11- and 12-year-old) children. Greenberg et al. (1971) found that about one-third of
parents and children in the sample agreed that TV was sometimes used as a punishment. The two disagreed about its use as a reward, however, with one-third of the children and only one-fifth of the parents feeling it was used as such. Restriction of TV as a punishment was reported by 20% of the black lower class, 18% of the white lower class, and 29% of the middle class youngsters in the study by Greenberg and Dominick (1969), indicating no significant difference in the punitive use of TV.

Parents' attitudes about television. The significant existence of rules and regulations about television viewing indicates that parents have opinions about TV which do not wholly endorse it. For the most part, parents think TV is good for their children. This was the conclusion of an early study (Coffin, 1955) where 95% of parents interviewed said they would buy a set again if faced with that choice. All other studies have come out with an overall positive feeling about television by parents interviewed.

Himmelweit (1962) reported that both parents and children considered television of benefit to the family, and Steiner (1963) found that the majority of respondents felt that children are better off with TV. The latter opinion was even more pronounced among married people with children than among childless couples or single persons.

Most people, when asked, cited educational and entertainment values as the most important benefits for children. Steiner (1963) noted that many parents cited television's function as a "baby sitter" as an advantage for children, as did Hess and Goldman (1962) and Belson (1960). Over one-third
of Steiner's pro-television parent respondents and one-fifth of his anti-television parents "admit to delegating some aspects of child supervision" to TV, even though they considered its content partially harmful.

Could the widespread recognition of educational benefits stem, at least in part, from parents' relegation of the young to the television set in the service of their own freedom? There would naturally be less reluctance about the peaceful, quiet hours the youngsters spend in front of the set if the children are "getting something out of it." (p. 87)

Steiner is not the only author to note this. Hess and Goldman (1962) found that mothers in their sample reflected a clear ambivalence about television's value because they tended to agree with both positive and negative statements about the medium. Similarly, Himmelweit et al. (1962) considered that most mothers take a strong "defensive" attitude in asserting that television did not make a difference in their family life, because "parent viewers have a vested interest in presenting TV as something of a benefactor... so it tends to be regarded in an uncritical manner" (p. 379). Families seemed to have ambivalent feelings about the medium, which Steiner summarizes well:

The intricate and intimate relationship between feelings about watching and attitudes toward program content reappears. When TV appears to instill or reinforce family values or help educate the child, people feel more justified in surrendering their family hours or their children than when it seems to subvert these purposes. So certain programs alleviate some of the problems associated with extensive family viewing, while others add to the burden of "bad influence." (p. 107)

The importance of television in relation to other activities may be a good reflection of the attitude people hold about TV. No study has directly
addressed this question, but LoSciuto (1971) did ask his sample if they did not watch TV because there were no programs worth watching. Some respondents answered "yes," but more interesting was their answer to what activities they chose to do instead of watching television. Substitute activities, such as housework, tended to be obligatory rather than free-time activities.

Television and the socialization of children. Perhaps some of the ambivalence reported above is due to the mixed feelings of parents about relegating their parenting role to television, as some authors indirectly indicate. Bronfenbrenner (1970), in his book comparing American and Russian child rearing methods, claims that the American child is no longer being raised by his family as much as by television and his peers. Winn (1977) strongly agrees with this contention. If this is the case, then television has taken over some of the functions of socializing agent which traditionally belong to the family. Leifer et al. (1974) allude to this:

Television, whether or not it accurately reflects our social system, does contribute to forming this social system. At the very least it helps to socialize a new generation of children into an already existing pattern. To the extent that it does not reflect reality, it socializes children into a fictitious social system . . . (p. 221)

Maccoby (1964) noted that the mass media play a role in shaping values, but that this influence, if undesirable, could be counteracted by significant people in the child's life. Bandura and Walters (1963) also address this point:

Because of the amount of time during which most young people are exposed to pictorially presented models, mainly through television . . . such models play a major part in shaping behavior and in modifying social norms and thus exert a strong
influence on the behavior of children and adolescents. Consequently parents are in danger of becoming relatively less influential as role models and often are greatly concerned with the problem of regulating their children's television viewing. (p. 44)

The role of parents is also stressed by Dominick and Greenberg (1971) who consider that much of the child's reaction to television is the result of what the child brings to this experience from his or her prior socialization. For instance, "... a child whose family has not actively pointed out that violence is noxious, and who is a heavy viewer of TV violence, will be more positive toward aggression as a mode of conduct" (p. 1). In the context of violence as a social value, the authors point out that if the family's predominant pattern of interaction is pluralistic (see p. 22 for definition and description), then the child will be exposed to alternative styles of problem-solving, since TV typically presents violence as a highly successful means of achieving goals. Thus, the family can minimize the impact of TV through its attitudes and values. But, they also point out that TV may play a predominant role for youngsters who are "less socialized by families" in influencing their beliefs about the effectiveness of violence.

One interesting finding in the Dominick and Greenberg (1971) study is the difference between male and female subjects. A significant class interaction was found for viewing of violence programs and attitudes toward violence. Lower class adolescent boys who watched violent programs were more likely to approve of aggression, more willing to use aggression, more likely to perceive violence as effective in conflict situations, and more likely
to use violence as solutions to hypothetical problems. For girls, socio-economic class was not found to be a significant variable in attitudes toward aggression and violence viewing. "Perhaps both lower and middle class girls receive similar instructions as to the undesirability of violence . . ." (p. 11). Here again, the role of the family in the socialization process is stressed.

An indirect study (Singer & Singer, 1974) examined family television viewing habits and the spontaneous play of preschool children. Imaginative play is considered a desirable and necessary precursor of many behaviors. The authors found that mothers who engaged in considerable viewing of violent programs had children who showed less spontaneous, imaginative play. This relation was also correlated with the mother's self-worth rating. Although there may well have been many secondary or tertiary factors which influenced spontaneous play, the study does point out the complicated relations that can exist among parental behaviors and attitudes, child behaviors and attitudes, and television. Defining the role of television in the socialization of children will not be an easy task, but one that will have to be tackled soon.

The family is the most influential agent in the child's socialization, but television also plays an important role, especially if the child is a heavy viewer. This effect may be two-fold. On the one hand, children are exposed to a variety of role-models whose behaviors do not reflect the values of the child's family and who may cause undesirable behaviors in the child (Bandura & Walters, 1963). On the other hand, television viewing usually results in
lessened opportunity for parent-child interactions.

From an operant-learning point of view, the child's reduced activity level may have the indirect effect of lowering his base rate for positively rewarded, as well as negatively valued, behaviors. If parents are seen as agents of selective reinforcement . . . their effectiveness may be lessened when children are viewing television, since the lower frequency of many classes of responses reduces the opportunity for selective reward. (Gadberry, 1974 p. 1135)

Unfortunately, very little research has attempted to directly assess television's role in socialization, a conclusion also drawn by Garbarino (1972) in a brief review of research related to television and the family.

The fact [that little research has been done in this area] seems to have gone unnoticed because of the inadequacy of the perspective which looks only for direct effects upon the child rather than viewing the impact on the family interactional system. (p. 398)

Socialization and Mother-Child Interaction

This portion of the literature review will construct a framework within which television can be seen as having an impact on that interaction. After a brief review of Sears' (1951) socialization theory, there will be further discussions of two important components of socialization: opportunity for interaction and opportunity for play.

A theory of socialization. A describable sequence of behaviors and events leads the child from earliest infancy to socialized adulthood. The major factor shaping a person's personality, according to Sears (1951), is
dyadic interaction. Early in a child's life the mother is the primary influence, while later the child interacts with an ever-increasing circle of persons.

The newborn's behaviors are, at first, primary drives or respondents, arising from stimuli that precede them, like hunger or pressure on the bladder (Bijou & Baer, 1967; Sears, 1947). Since the child needs the help of his mother to meet his primary needs, mother and child are very quickly brought into an interactional system with each other.

She is nearly always present when his primary needs are satisfied. Hence her helping actions become a necessary part of the sequence of behavior that leads to the child's satisfactions. Her actions are the environmental events that link with his actions in a frequently repeated reinforcement sequence. This gradually produces, in the infant, a secondary drive system of dependency-on-the-mother. (Sears, 1957, p. 153)

In other words, the way innate needs are met provides environmental learning experiences. As nurturing experiences are increasingly related to the meeting of physiological needs, social learning eventually becomes the primary source of behavior. This is a period Maier (1969) refers to as "pre-socialization." The child eventually learns which of his behaviors will result in mother's attention and reinforcement, and thus the relationship firmly becomes a dyadic one, one that also fosters dependency by its very nature.

During his second year, more and more training is incorporated into the child's life, and the socialization process becomes more deliberate on the part of his parents. Standards for more mature forms of behavior
are established, and "the child becomes aware that his personal happiness depends upon his readiness to do as he is expected, and, eventually, his actions become self-motivated" (Maier, 1969, p. 179).

Sears places strong emphasis on the importance of child rearing practices. He refers to child rearing as a continuous process. "Every moment of a child's life that he spends in contact with his parents has some effect on both his present behavior and his potentialities for future action" (Sears et al., 1957, p. 466). Behavioral control needs to be carefully balanced, being neither too great nor too little.

By the time the child is around three, he starts to identify with his parents, especially his mother. Much of his behavior resembles that of his parents. Sears speculates that this process of adopting parental behaviors stems from the young child's attempts to recover his mother's presence when she is not with him. He repeats certain behaviors to recapture the satisfaction he experiences when mother is nearby. In essence, he is engaging in imitative behavior. Bandura and Huston (1965) address this point:

Although part of the child's socialization takes place through direct training, much of a child's behavioral repertoire is believed to be acquired through identification with the important adults in his life. This process, variously described in behavior as "vicarious" learning, observational learning, and role taking appears to be more a result of active imitation by the child of attitudes and patterns of behavior that the parents have never directly attempted to teach than of direct reward and punishment of instrumental response. (p. 247)
Much of the child's imitative behavior is expressed in play. This activity is essentially his own territory and as such remains relatively free from adult intrusion. Play becomes an acceptable means of incorporating parental behavior and acting out feelings. Much of the child's time is spent in play, which serves an important function in the socialization process.

By the time the child reaches the end of the preschool period, he moves into another stage in which "extra-familial learning" becomes a much more important socializing influence (Maier, 1969). The child's dependency by this time is considerably reduced to include only certain aspects of family life and interaction. His sphere of influential persons now include peers and adults other than his parents.

**Interaction.** "All behavior in an interactional situation communicates . . . Regardless of what one does or does not do, one's nonverbal behavior communicates something to someone" (DeVito, 1976, p. 307). Communication, as part of interaction among persons, occurs at all ages, from birth on. The infant's ability to communicate with his caretaker has been the focus of considerable study, while other researchers have been concerned with isolating and identifying the parameters of adult communication. Unfortunately, there is a dearth of research related to the communicative process of preschool-aged children.

For this reason, an assumption is made in this research about the contribution of certain modes of communication to the interaction of
preschoolers and their mothers. If particular aspects of communication are important in infancy and then are identified as having importance in adulthood, it would seem logical that they retain their significance between these two ages.

Communication is composed of many components, of which nonverbal behaviors "play a predominant role" (Duncan, 1969, p. 133). Bloom (1975) for example, found that adult social stimulation such as talking and touching had a significant effect on the vocalization of three-month-old infants, but that this effect was dependent on eye contact. Yarrow et al. (1975) conclude that the infant's social responsiveness, in fact his total development, is dependent on early stimulation such as touch, visual, and auditory stimulation. Visual interaction is identified by these authors as a component of almost all social exchanges for the young infant. Such early social stimulation is, according to Schaffer (1963), very important in the development of attachment behavior.

One study has examined the development and change of various communication modes from birth to 36 months to determine, among other things, the effects of age and sex (Ling & Ling, 1974). Communication modes included vocal, verbal, eye contact, facial expression, body posture, action, demonstration, and gesture. Although there was a decrease over age in most of the non-verbal modes, including eye contact and body posture (which included touch), all of them were still present at the later ages. Sex of child did not significantly influence modes of communication at any age.
The literature on adult modes of communication also describe various forms of nonverbal communication as important. Duncan (1969) reviews the literature on such nonverbal forms of communication as visual interaction or eye contact, proxemics, and touch. These modes take on different functions for adults than they do for children (e.g., Exline, 1974, discusses the significance of eye contact in the establishment of power and preference), but they still maintain an important role in interactive communication.

**Opportunity for interaction.** The basic premise of this research is that television interferes with the process of socialization. During the preschool years—the age-group into which Ss in this study fall—children learn to identify with their primary caretakers, according to Sears. This process is a gradual and often unconscious one, requiring time to observe and interact with role-models as well as time to imitate and role-play. Unfortunately, no direct research indicates that television interferes with this process, and only some indirect evidence hints that this might be the case.

One study contributes some indirect evidence to this question. Gadberry (1974) observed and compared preschoolers' behavior during playtime and during television viewing. She found certain behaviors distinctly associated with TV or with play. When the television was on, children sat more, walked less, attempted to leave the room less often, displayed less object-directed aggression, engaged in more self-stimulation, and shifted attention focus more often. At the same time, mothers interfered
less with children when the latter were watching television. Each of these results were statistically significant.

The more passive nature of children who watch television (also found by Murray, 1971) results in less need for parental intervention. Gadberry concludes that television may well affect the socializing practices of parents since they interact considerably less with their TV-watching youngsters. Not only is there less opportunity for interaction with and observation of role models, but the child receives less feedback and fewer reinforcers when he watches TV. One may argue that there are plenty of other opportunities for such interaction; but the fact that on the average preschool children spend over one-third of their waking hours watching television (Winn, 1977) is a sobering thought.

Some of the time children watch TV undoubtedly overlaps with parental viewing. But, as earlier-reviewed studies indicate, mutual viewing is by no means indicative of interaction (Maccoby, 1951). More likely than not it is a non-interactive time. Thus, if children are more passive during their televiewing hours, and families do not generally interact during TV time, mutual viewing may not provide needed opportunities for socialization.

Another factor that can be interjected at this point is that many young children have limited contact with their parents because both parents work. In the United States today, about 30% of preschool children have working
mothers (Bronfenbrenner, 1974; Golenpaul, 1977). With interaction opportunities limited by family life style to begin with, television undoubtedly has an even more severe effect.

One study which found that both the quantity and quality of maternal interaction has an effect on young children was done by White and Watts (1973). Although these authors were examining the antecedents of competence, their findings are very relevant. The children who were considered competent experienced much more interaction with their mothers than their less competent counterparts. "The difference in sheer quantity is quite large . . . and holds almost steady through . . . subsequent observation phases" (p. 187). First observations were made when the children were 12 to 15 months, while later sessions continued until the children were 30 to 33 months old. Thus the amount of interaction with the mother was not only related to the child's abilities but was fairly constant over a period of one-and-a-half years. In addition to quantity, quality of interaction was also very different between the two groups. Mothers of competent children spent a considerably larger proportion of their interaction time in activities labelled as "highly intellectual" with their children than did mothers of less competent youngsters.

Interestingly, White and Watts define competence in a way that implies well socialized. Social abilities of competent children include the following:
1. to get and maintain the attention of adults in socially acceptable ways
2. to effectively use adult resources to obtain what he needs
3. to express affection and hostility toward adults
4. to be able to both lead and follow peers
5. to express both affection and hostility toward peers
6. to exhibit interpersonal competition with peers
7. to praise self and/or show pride in accomplishments
8. to involve self in adult role-playing behaviors or to otherwise express the desire to grow up.

These social competencies are combined with linguistic, cognitive, executive, and attentional abilities.

This definition of competence is very similar to the definition of socialization given by Reese and Lipsitt (1970):

The well-socialized child is one who, in his current life within his effective culture, is above average in the major areas of social behavior according to that culture. His behavior will typically include . . . having at least some good friends, occasionally assuming a role of leadership, being able to follow when the occasion is appropriate, adjusting to school at an appropriate age, being within the masculine or feminine range of behavior acceptable for his biological sex, and being without undue discomfort within his family. (p. 573)

The fact that development of competence is affected by amount and type of mother-child interaction may well have implications for television's influence on that interaction. If both children and adults spend
considerable time watching television, then interaction, by necessity is decreased. And if competence is defined partly in terms of socialization, television may well have an adverse effect on the socialization of young children.

Indirectly, other studies have also indicated that children need ample opportunity to interact with parents. Hoffman and Saltzstein (1969) studied the relation of parental disciplinary practices to children's moral development. They found far less relationship between level of child's morality and type of discipline used by parents in lower class families than in middle class homes. In the latter there was a distinct correlation between the two variables. The authors suggest that one reason this class difference appears is because mothers in lower class families often work full time. The implication here are clear: if children have limited opportunity to interact with parents, their adoption of desired moral standards (certainly an important function of socialization) may not be as strong as when children have greater opportunity to interact with parents. And, to carry this point one step further, television certainly reduces the opportunity for interaction.

Another study which provides indirect evidence about the effects of insufficient interaction was done by Hetherington (1969). He found that in homes where fathers deserted or left the family before boys were five years old, a profound effect was later evident on those boys in sex-typed traits. The effect of paternal-absence during the crucial preschool years was very
marked a few years later. It would seem that opportunity for interaction again is missing. Boys, who during their preschool years did not have a father to observe and interact with, later suffered distinct deviation in sex-typed behaviors, also manifestations of socialization.

A few other studies, although extreme in nature, also have some relevance for the importance of interaction opportunity. Studies in early deprivation (Dennis, 1960; Provence & Lipton, 1962; Spitz & Wolf, 1946) demonstrate that infants who had little opportunity for interaction with a stimulating environment (including, of course, a caretaker) were severely retarded in physical, social, and emotional development. Another study (Rheingold, 1960) compared caregiver activities of institutional and home-reared infants. Mothers were found to look at their infants about five times as often as institutional caregivers; they talked to their babies about nine times as often; and they held their children about six times as often. An earlier study by the same author (reported in Rheingold, 1973) demonstrated that increased amounts of care given to institutionalized infants very quickly increased their social responsiveness. Without such intervention, institutionalized children, after a period of institutionalization, are pictured as listless, unresponsive, and indifferent to adults.

Certainly, it would be absurd to equate such deprivation with the effects of television viewing. That is not the point. But deprivation is not a clearly definable state that a child either experiences or does not experience. Deprivation, like any other quality, occurs on a continuum and can
be severe, as in the above cited studies, or more subtle. Young children spending many hours before the TV set are perhaps being deprived of a portion of their opportunity to interact with and observe their parents.

It would seem, based on the results of the more extreme deprivation studies, that such decreased opportunity will have an effect on children, though different and less noticeable in intensity, just as the cause is different and less conspicuous in a society where TV is so much a part of life.

Opportunity for play. As pointed out above, the socialization process requires that children have both the opportunity to interact with and the opportunity to observe role-models. It is partly through such opportunities that the child identifies with these role-models. The preschool child increasingly adopts the role of his models through imitation (Bandura & Walters, 1963), usually manifest in play.

The term "play" is a rather difficult one to define, and, in fact, has not become the subject of serious research until recently.

The behavioural sciences tend to be rather sober disciplines, toughminded not only in procedures, but in choice of topics as well. . . . No surprise, then, that when scientists began extending their investigations into the realm of early human development they steered clear of so frivolous a phenomenon as play. . . . Since play [can] not even be properly defined, . . . [it] cannot be impeccably framed into a single operational definition. How indeed can one encompass so motley a set of capers as childish punning, cowboys-and-Indians, and the construction of a tower of bricks into a single or even a sober dictionary entry? (Bruner et al., 1976, p. 13)
The difficulty of definition referred to above is still evident today. A review of treatises on play and developmental textbooks reveals a clever series of evasions, anecdotal examples, and generalizations. Attempts at actually defining play are few. General definitions include such statements as "an activity concerned with the whole of his being" (Cass, 1971, p. 11); "Whatever young children do that cannot be classified as the serious business of life" (Stone & Church, 1973, p. 279); and "the young child's chief mode of interaction and development" (Smart & Smart, 1972, p. 191). Sutton-Smith, in fact, feels that "there is as yet no generally accepted definition of what play really is or what it does" (1967, p. 97). He goes on to say that one reason for this problem is the wide and diverse range of activities that fall under the heading "play" (e.g. a baby shaking a rattle, an adolescent in a football game, or an adult in a gambling casino).

Perhaps a more useful approach to grasping the meaning of play is to discuss the values of play. Hurlock (1972) lists seven values of play which help "the child to develop as a person" (p. 289). The first is the physical value which helps in muscle development, exercise of the body, and energy release. A second value is a therapeutic one whereby the child is able to release pent-up tensions in an acceptable manner. Dramatic play often serves this function as the child finds an outlet for expressing fears, desires, or ambiguous feelings. Play also serves an educational value for the child by helping him acquire skills and knowledge through
interaction with a wide range of stimuli in his environment. The creative outlet provided by play is the fourth value. Through experimentation, construction, and dramatization, the child has many opportunities to be creative. Another value of play is the opportunity it affords for self-insight. The child gains a more realistic picture of himself as he interacts with others, experiences the results of these interactions, and learns how to establish satisfying relationships. A related value is the social one, whereby the child learns how to establish social relations and solve problems that arise from these. He also learns what behaviors are appropriate for his sex and what patterns of behavior are socially accepted. Finally, play contributes to the moral training of the child as he learns to give and take, be fair, a good-sport, and self-controlled when needed. This list of values demonstrates that play has relevance for virtually every aspect of the young child's development.

Dramatic play or role playing is one form of play which is highly important in the socialization process (Sears, 1957). This form of play, stemming from earlier imitative behavior, predominates during the preschool years (Stone & Church, 1973). The child adopts roles and acts out themes drawn first from home life and then later from the world at large, including that of fantasy.

In dramatic play the child puts himself--sometimes literally--into other people's shoes. We see children dressing up in adult clothes, playing mother or baby or doctor, serving tea, acting the role of fireman or groceryman, pretending to be a rabbit or a tiger, and simultaneously being pilot and airplane, or steam shovel and operator . . . . Since so much
of the child's dramatic play is modeled on the behavior of familiar adults, we can often gather from his reenactments the special qualities and meanings that the adult world has for him. (Stone & Church, 1973, pp. 273-274)

This adoption of adult behaviors and events in the form of dramatic play gives the child the opportunity "to become an active user rather than a passive recipient of experience" (Winn, 1972, p. 82). All in all, theorists consider such play highly important in the overall development of the child.

If play has such an important function for young children, what, then, are the consequences of deprivation of this opportunity? Research indicates that loss of play time can have devastating effects. Perhaps the most widely-quoted example of this are the experiments conducted by Harlow with monkeys. Suomi and Harlow (1976) relate the effects of several types of deprivation on play behavior and on later adult behavior of monkeys. Infant monkeys raised without adults but with infant peers display retarded, unsophisticated, and generally passive play behavior. On the other hand, monkeys reared by their mothers but without the opportunity for peer interaction, are socially withdrawn while at the same time being hyper-aggressive when exposed to peers after eight-months of mother-only existence. Even in adulthood, though in many ways "adequate," both peer-only and mother-only raised monkeys still display developmental discrepancies. A third and much more severe type of early deprivation exists for monkeys who have no physical contact with other monkeys and are raised in bare wire cages. Such monkeys rapidly develop severe disturbances which they never
overcome, and as adults they are unable to interact with peers or care for their young. Such monkeys never develop normal play behavior.

Such deliberate manipulation of play opportunity cannot, of course, be done with human children. Studies, have, however, been conducted with children who display deficits in play behavior. One such study was done by Smilansky (1968), who compared the differences in sociodramatic play and in family background of middle-class and disadvantaged children in Israel. Smilansky first chose to study sociodramatic play because she felt it would provide a vehicle for teaching other skills to disadvantaged preschoolers. But she soon found some important differences in the play of the two groups. For one thing, the disadvantaged children engaged in far less sociodramatic play. More significant, however, were the qualitative differences in the play of the two groups. The disadvantaged youngsters displayed less diversity and flexibility in role-taking; they showed less symbolic use of materials; they used language in far more limited ways; their play groups usually had an identifiable, authoritarian leader as opposed to the more democratic play groups of the middle-class; they handled tensions or problems through use of force rather than through problem-solving; they tended to laugh at rather than with peers; criticisms were directly personal rather than in reference to interpretation of a role; and they were often openly aggressive toward each other.

Smilansky views sociodramatic play within a framework similar to the one earlier discussed in this paper:
The key concept in the understanding of sociodramatic play is the concept of identification, which is the basis for all imitative behavior. Imitation in turn is the mainspring of dramatic and sociodramatic play. We regard identification as an integral part of healthy development of all children.

The differences in the play of the lower-class and middle-class groups, then, stems from the objects of imitation and identification of these children. Children engage in sociodramatic play "as a means of approximating the adult world of 'reality'" (p. 72). Smilansky sees the role of parents as important in the development of sociodramatic play, both in direct and in indirect ways. Home visits, observations, and interviews showed a number of significant differences between the two groups of families. Both quantitatively and qualitatively, the interaction of children and parents in the two classes differed. Following is a list of these differences:

1. Middle class parents see themselves more in the role of teachers than the lower class parents, who feel that teaching is the role of school teachers and that they are not equipped to do this.

2. Learning tasks are often broken down to simpler components in middle class homes, whereas lower class children are confronted with more global demands.

3. There is far less general conversation or specific discussion of rationale for given behaviors in lower class homes contrasted to middle class homes where families are "accustomed to looking for the context in which actions have meaning" (80).
4. In lower class homes parents exert an authoritarian control from which children have no recourse, and as a consequence children are not considered as independently thinking or feeling persons nor do parents generally listen to what they have to say.

5. Middle class parents provide more toys than lower class parents. The latter consider such playthings more as a means of keeping children quiet than as learning tools. Books and didactic games are rarely found in lower class homes.

6. Middle class parents frequently play with their children, encourage them to enter the world of make-believe, abandon their own activities to meet the child's play needs, encourage interaction with other children, and praise success in play-related activities. None of these was found in lower class homes where play as an activity is not valued or encouraged.

Smilansky's approach to compensating for lower class children's social disadvantages was to teach these children how to engage in sociodramatic play through adult intervention and provision of an enriched environment. Results showed that adult intervention very significantly increased sociodramatic play among the disadvantaged group. Thus both quantitative and qualitative adult interaction with these children proved to be key factors in this experiment. The time children spent observing interacting with, and imitating models through sociodramatic play was very significant.
A number of other studies have compared the play behavior or imagination of middle and lower class children (Ames & August, 1966; Marshall & Hahn, 1967). Smilansky, however, proved more thorough and specific in linking deficits to parental and environmental factors. One study examined differences between children from a more homogenous, middle class background. They were rated as highly imaginative or relatively unimaginative (Singer, 1973). One finding was that the more imaginative youngsters had a significantly greater frequency of parental interaction. Singer sums up the parents' role as follows:

An optional balance of benign parental contact and opportunity to be alone seems therefore essential to the development of a rich imaginative life. The optimal situation probably occurs most readily where the child's mother is relatively warm, devoted, willing, and capable of spending time with the child, but not so emotionally involved that she cannot at times leave the child to its own devices. (p. 62)

Singer's point that children need not only parental attention and interaction in relation to play, but time alone, is well taken. This time to be alone, however, should be time spent in play, not in the passive activity of television viewing. Play, particularly dramatic play, has been described above as highly important to socialization and general development of young children, but this play needs to develop through many opportunities to engage in it. And television watching diminishes the frequency of such opportunities.

One study has examined television's role in imaginative play (Singer & Singer, 1975). Groups of preschool children were (1) shown a
series of children's television program; (2) had an adult watch the same
television programs with them and discuss the shows where appropriate;
(3) had an adult spend an amount of time equal to the program with the
children, leading imaginative games and activities; and (4) had no special
treatment, but experienced the regular nursery school program. Group 3,
the no-television but adult-attention group, made the greatest gains in amount
of imaginative play while other groups showed fewer or no effects from the
treatment.

Another example, though not a formal study, of the relation between
TV and play is cited by Winn (1977). A New York nursery school asked
parents to decrease the amount of televiewing their children were allowed.
Teachers at the school subsequently reported considerably more imaginative
play by the children when they had had some time of lessened TV exposure.
Such an experiment would be well worth conducting under controlled experi-
mental conditions.

Summary of Review of Literature

Television's pervasiveness in today's family has been discussed.
Considerable numbers of hours each day are spent by both adults and chil-
dren in front of the TV. A review of the television literature indicates that
mutual viewing time, when family members watch TV together, is generally
not an interactive activity but, at best, a "parallel" one. Television has
been shown as limiting conversation as well as bringing about conflict and
stress in families. The medium also seems to be an indicator of family and personal stress, with heavy viewing being correlated with greater stress.

Because of its wide acceptance in today's society and its appeal to all ages, television must, to some extent, have some impact on the socialization process. Little research, however, has been conducted to support this contention. Socialization of young children is a subtle, long-term process which relies heavily on ample parent-child interaction, on the child's observation of role-models, and on the child's adoption of his role-models' behaviors and values through imitation and play. The importance of these elements has been stressed in theoretical works, and the effects of deprivation of opportunity for interaction and play have been experimentally shown.

Since television viewing occupies a bulk of time in the lives of family members, it has been proposed that this time diminishes the opportunity for parent-child interaction and children's play, thus affecting the process of socialization. There is a need to begin gathering some direct information about how television affects such variables. This study, therefore, sought to examine television's impact on some elements of parent-child interaction (eye-contact, physical contact, proximity, and verbalization) and on children's and parents' interaction with alternative materials such as toys, books, and magazines.
Method

The purpose of this study was to compare mother-child interaction when a television set was operating and when no TV was on. Each mother and child were observed together, on one occasion when a television set was on, and one time when it was off. These observations were made from behind a one-way mirror while Ss were "waiting" to participate in the ostensible purpose of the study. The subjects were not aware they were being observed.

Subjects

The Ss were 39 children, aged three to five, and their mothers. Approximately half the children were boys and half were girls. Ss were taken from participants in the Reno and Sparks YMCA Parent Cooperative Preschools, which are attended by about 125 children. As members of a parent cooperative, the families in the preschools were, for the most part, middle and upper middle class in income. All were two-parent families in which the mothers did not work outside the home. And finally, all shared an expressed interest in their children's development and education by their participation in the Parent Cooperatives. According to the teachers, none of the children in the programs had any gross physical or developmental abnormalities.

Initially, 45 pairs of Ss were selected to participate in this study. Six dyads were eliminated for various reasons. One was eliminated for mechanical reasons when the TV did not go on at the appropriate time; one
dyad was made up of a father and child rather than the expected mother and child; one did not check in with the secretary and came directly to the experimenter's office, "catching" the observers outside the observation room; two cancelled their appointments; and one requested that her data not be used. The last mother objected to the methodology used in this study and it was agreed that the data collected on her and her child would be destroyed.

The Setting

The experimental procedure was carried out in the School of Home Economics at the University of Nevada, Reno. The room in which Ss were asked to wait and in which they were observed is approximately 12 by 20 feet. There is a one-way mirror and screen along one side of the room with an observation booth behind it. Observers were behind this screen to rate the Ss' behavior. (See Appendix A for diagram.)

The room was furnished with a sofa at the end opposite the one-way mirror and a small table holding a few toys, children's books, and adult magazines. More specifically, the following items were on the table:

Toys: one puzzle, one stacking toy, several play people (Weebles), and a box of Legos.

Books: The Cat in the Hat, by Suess; The Caboose That Got Loose, by Peet; The Bears' Picnic, by Berenstein; and The Big Schoolhouse, by Scarry.

Magazines: one recent issue each of Ladies Home Journal, Family Circle, Young Children, and Family Health.
The toys, books, and magazines, were chosen to provide some alternative to watching television or being inactive. They were also selected because they are relatively common and do not have undue novelty value.

The television set was placed across from the sofa with its back to the observation booth. Videotape controls were in the observation booth; thus, the observers were able to turn the TV on and off as needed. A small opening in the wall between the experimental and observation rooms, directly behind the TV set, was used to connect the videotape monitor and recorder unobtrusively.

The ostensible program was carried out in another room in the Home Economics building. The experimental room thus served only as a "waiting" room.

The Ostensible Program

Since it was important that Ss not be aware of the actual purpose of the research, another program was used as the ostensible purpose of the study. For this the Denver Developmental Screening Test (Frankenburg et al., 1970) (DDST) was used. The DDST is a gross screening test for young children under the age of six. It yields scores in four areas: social-adaptive, language, gross motor, and fine motor. This test was selected for several reasons. It is simple and needs no extensive training to apply, it is quick, taking on the average 20 minutes to carry out; and it gave parents a tangible result to make them feel that their participation was worth their time.
The Films

During one of the sessions when Ss were observed, a television set was on, playing a videotaped program. The program consisted of two films, one novel and one familiar to the Ss.

The two films were run back-to-back and two videotapes were made, one with the novel film first, the other with the familiar film first. To counterbalance for order effect, half the Ss saw the novel film first while the rest saw the familiar film first.

To add "realism" to the situation, the program was in progress when the Ss were brought into the experimental room, and Ss left the experimental room before the second film ended.

The novel film. The novel film, "Water Follies," is a short cartoon film made by the Denver Water Department. This seven-minute film has great appeal both to adults and to children. Its subject, water conservation, is sophisticated enough to be of interest to adults, while its cartoon presentation and outlandish humor proves to be enjoyable to children and adults alike. The film, which is a series of short television spots on water conservation, has won four national awards and has gained a national and international reputation. It was, however, novel to the Reno area since local Reno television stations had not used those spots at the time of this study.

The familiar film. The other film used was a seven-minute segment of "Sesame Street." This program is shown in Reno twice a day, once on a commercial station and once on cable TV. From interviews with the mothers
at the end of the experimental sessions, it was found that all of the children were familiar with "Sesame Street," and observers noted that during obser-
vation sessions many of the children made comments that revealed great familiarity with the program and its characters.

Procedures

1. It was assumed that all Ss had a television set in the home on the basis of studies which reveal that a vast majority of American households have television sets (e.g., LoSciuto, 1971, found that 98.6% of his sample had at least one TV set in the home). Interviews with the mothers at the end of the experimental sessions confirmed that all Ss had a television set in the home.

2. A letter explaining the ostensible program (See Appendix B) was given to all the mothers in the preschools. Return of an attached form by those desiring and able to participate was requested. A total of 45 forms was returned and it was decided to use all of these for the study.

3. Confirmation of participation and of a mutually agreed-upon time for each mother-child dyad was made by telephone.

4. A letter was then sent to the participants reconfirming the time arrangement and discussing the arrival procedure (See Appendix C). A brief mention of the possibility of "a few minutes' wait" was included to alert the mothers to the fact that there might be a slight wait because the previous group "may not be finished."
5. After these preliminary steps, the following experimental procedure was followed when observations began:

a. When parent and child arrived at the School of Home Economics, they first checked in with the secretary-receptionist. The secretary, after checking their name, told the mother that she would see whether the experimenter "was ready" for them. While she ostensibly called the experimenter to announce the arrival of the mother and child and ask if the experimenter was ready for them, she actually dialed a number which, with three rings, alerted the observers that the Ss would be arriving shortly. The secretary then told the mother that the experimenter was not quite finished with the preceding dyad. Ss were then taken to the experimental room to wait for "a few minutes."

b. A contingency plan, in case a mother and child arrived extremely early or late and off-set the schedule, was worked out. In the case of an early arrival, the mother was told that she was very early and asked to wait in the nearby faculty lounge. At the appropriate time the secretary then took the Ss to the experimental room and asked them to wait for the experimenter. This occurred only once, and the alternate plan worked very smoothly. In case of an extremely late arrival, the secretary was asked to keep the following dyad in the lounge until the late dyad finished the second experimental session. This plan never had to be implemented.
c. A random half of Ss had the television set on during the first observation session. Of these, a random half viewed the novel film first while the others viewed the familiar film first.

d. From behind the one-way glass dividing the experimental room from the adjoining observation room, two or three observers rated the Ss according to the criteria on the rating sheet. One observer scored the mother and one scored the child. During 70% of the sessions, a third observer checked for reliability. This observer rated either mother for the first half of the observation period and child for the second half, or vice versa, in random order. The observers were randomly assigned to mother, child, or reliability observation, and partitions kept them unaware of each other's tasks.

e. At the end of ten minutes, the experimenter entered the experimental room, apologized for the delay, then conducted mother and child to a room at the other end of the building.

f. The experimenter conducted the ostensible test, interacting with mother and child. At the end of the testing period, she informed the mother that the test would take a few minutes to score and asked her and the child to wait in the original (experimental) room.
g. Mother and child were again taken to the experimental room where the TV was on for those who did not originally have it operating and vice versa, with novel and familiar program order again counterbalanced.

h. As in the earlier session, two or three observers rated the Ss.

i. At the end of ten minutes, the experimenter entered the experimental room and conducted mother and child to her office to discuss the results of the test. This discussion was frequently accompanied by a more general discussion about the child, especially if the mother expressed some concerns or had some questions.

j. After being told the results of the DDST, mothers were debriefed (Holmes, 1976) about the actual nature of the study. They were also asked not to tell this to any other mothers who would be participating in the study at a later date. At no time during the study was there any indication that mothers had any prior knowledge about the purpose of their visits. The debriefing was also accompanied by a promise to share the results of the study with any parents who might be interested. Many of the mothers expressed such interest.

k. After the debriefing, each mother was questioned about her family's televiewing habits. She was asked to estimate how many hours she watched television per week and how many hours
her preschooler watched. Although such information can, at best, be considered tenuously (e.g. Bechtel et al. 1971, found considerable overreporting of TV viewing time), it at least gave an indication of whether respondents are heavy or light viewers.

6. After all data were collected, the estimated number of televiewing hours of the mothers and children were ordered from most to least number of hours. The demarcation line separating heavy from light viewers was based on the median of Ss' self-reported hours. The upper 50% of reported viewing hours was labelled "heavy" viewing while the lower 50% was considered "light" viewing. Data from these Ss indicated that both mothers and their children fell below LoSciuto's (1971) norm for weekly hours of television watching. LoSciuto reported that preschoolers view over 33 hours per week while the mean for children in this study was 20.97 hours. Adults in LoSciuto's sample watched over 23 hours weekly, while mothers in this study averaged 19.87 hours per week. The median scores for both mothers and children were almost identical to the means.

Observer Reliability

Three observers were used to rate Ss. In all sessions, two observers were present, one rating the mother and one rating the child. A third observer checked reliability during 70% of the sessions. These three functions were randomly rotated so that the observers did not fulfill the same task each time.
The three observers were upper division students in Child Development, and were selected by the experimenter on the basis of their performance in a course on observation method which the experimenter had taught during the semester previous to this experiment. Prior to beginning training in the observation method used for this study, the observers were asked to read and then discuss with the experimenter an article by Johnson and Bolstad (1973) to make them aware of some of the methodological issues involved in data collection.

**Observer training.** Training first involved acquainting the observers with the behaviors to be rated and their definitions, with the format of the rating sheet, and with the general procedure of the study. (See Appendix D for instructions given to observers.) The observers did not know what hypotheses were being tested. Following this, the three observers practiced using the rating sheet until they were comfortable and well acquainted with it.

The minimum criterion of 80% agreement was achieved even during the earliest training sessions. The observers' reliability quickly reached an average 95% during training. Reliability checks during the experimental sessions ranged from 91 to 100%, with a mean of 96%.

**Interobserver reliability computation.** Reliability was assessed by comparing interval by interval agreement rather than by using a total agreement score. Overall reliability was computed by the following formula (Hopkins & Hermann, 1977):
In this formula, overall reliability ($R_{\text{overall}}$) is obtained by dividing the total number of intervals ($T$) into the number of intervals in which both observers record the response as occurring ($0_{1+2}$) plus the number of intervals in which both observers record the response as not occurring ($N_{1+2}$), multiplied by 100 to yield a percentage figure.

Hopkins and Hermann (1977) cite a limitation to this formula which was brought out by Bijoy, Peterson, and Ault (1968). This index could pose problems of interpretation when either occurrence or non-occurrence happens in a large percentage of intervals. Thus, if during ten intervals both observers agree that the behavior occurred only once, but they disagree during which interval it occurred, they still have an "agreement rate" of 80% on non-occurrence. "Such records would cause doubt that the observers are, in fact, agreeing on occurrences of the response" (Hopkins & Hermann, 1977, p. 122). A similar problem arises for cases where the response occurs in a large number of intervals.

In this study, number of occurrences and number of non-occurrences are fairly similar, with non-occurrences appearing only slightly more often. Therefore, it was decided that the above cited formula would adequately serve for this study.

This study did provide one internal check on inter-observer reliability between the observer rating the mother and the observer rating the
child. Since a check for "proximity" or "physical touch" for either S should have a corresponding check for the other S, correlations between mother and child ratings on these variables should be high. Pearson correlations for these data are .99 for physical touch and proximity in both the TV and the no-TV conditions. Although these data reflect the accuracy on only two of several measures and do not provide reliability scores of one observer and the reliability checker, these data do provide added information.

Two other points can be made. First, reliability scores for two observers rating mothers were slightly higher than scores on the children. This is probably due to the fact that the children moved about more and switched focus of attention more than the mothers. The other point is that reliability scores for the TV and no-TV conditions were virtually the same.

Procedures followed by the observers. Before each day's sessions began, the observers were given their rating sheets for that day by the experimenter. Since rating assignments were randomly made, they did not know ahead of time whom they would be observing. The observers were asked to keep their task secret from the other two observers so that they would not inadvertently be following each other's cues. Another precaution was the partitions placed between observers, preventing them from seeing what the others were writing.

The first task of the observers was to turn on the videotape recorder during the TV condition for all Ss. This was done when the telephone in a
nearby office range (the signal from the secretary) announcing the arrival of Ss.

When Ss arrived in the room, one observer turned on a tape recorder which counted-off intervals for observing and recording. Observers watched Ss for five seconds, then recorded for five seconds. A 30 second wait before observation intervals began gave Ss a chance to acclimate to the room and to settle down. The tape recorder was low enough so that anyone in the experimental room could not hear it, but loud enough for the observers to hear.

At the end of ten minutes, after Ss left, the observers turned off the tape recorder and videotape recorder, checked their reliability, and wrote down any informal observations they had on the Ss. The latter were not used for formal assessment, but provided some interesting and informative side-lights to the study.

Definitions and Terms Used on the Rating Sheet

1. **TV**: The television set in the room which could be the focus of attention by eye contact of Ss.

2. **Toy/Magazine**: The toys, magazines, and children's books, present in the room, which could be the focus of attention by touch, eye contact, or both by Ss.

3. **Person**: The other S (mother or child) who could be the focus of attention by eye contact, proximity, physical touch, or verbalization of Ss.
4. **Eye contact:** The amount of time the eyes of a S needed to be focused on an object or person varied, as follows:

- on TV -- minimum of five seconds, continuous
- on toy/magazine -- minimum of five seconds, continuous
- on person -- no minimum; a glance sufficed.

5. **Proximity:** Within three feet of the other person.

6. **Physical touch:** Contact of any part(s) of bodies of the two Ss.

7. **Verbalization:** Any word(s) spoken by either S.

8. **Interaction:** Verbalization directed to other S with verbalization, eye contact, or physical touch by the other person during the same or the next interval.

9. **Interaction segment:** Interaction involving both Ss, of variable length, initiated by verbalization of one S, with no more than one interval of non-interaction between Ss in the verbalization, eye contact, or physical touch columns.

10. **Non-response:** Verbalization by one S with no verbalization, eye contact, or physical touch in the same or the next interval by the other S.

**Recording Data**

Ratings were made at five second intervals for ten minutes. Each dyad was rated twice, once when the TV set was on and once when it was not on. The raters observed the Ss for five seconds, then marked their rating sheets for the next five seconds. They were instructed not to look up from
the rating sheet until the five-second period was ended by the appropriate
code on the tape recorder. The rating sheet (see Appendix E) had five or
six horizontal columns--an extra column in the TV-on condition--including
the following: Toy/Magazine, Eye Contact, Physical Touch, Proximity,
Verbalization, and TV. Thus data were collected on 11 variables for each
S, while each dyad ended up with 22 variables. If a given behavior occurred
during a five-second period, a check mark was placed in the appropriate
box; if a behavior did not occur then, the box was left blank. Numbers
from one to six were written across the top of the columns to correspond
with ten second intervals (five seconds for observing, five seconds for
rating). These numbers corresponded with the numbers called on the tape
recorder so that observers would not lose their place during observation
sessions.

Data Analysis

Control variables. Before the various hypotheses were tested,
several control variables were checked to determine if any results were due
to sex of child or order effects. These control variables and the statistical
analyses used were as follows:

1. Sex: The group was subdivided into 21 boys and 18 girls. A t-
test was run on the 11 variables concerned with the data collected on the
children to determine if there was a difference due to sex.
2. Counterbalancing of TV-on or TV-off first—Ss were randomly subdivided into two groups, the 20 who had the TV on during the first session and the 19 who had the TV off during the first session. A t-test was run on all 22 variables to determine if there was a difference due to this factor.

3. Novel vs. familiar film -- Data for the 39 mothers and the 39 children in the TV column was divided between the novel and the familiar films ("Water Follies" and "Sesame Street"). A dependent t-test was run on the two variables concerned with mother and child TV viewing to see if there was a difference due to this factor.

4. Counterbalancing of novel or familiar film first -- The Ss were subdivided into two groups, the 20 who saw the novel film first and the 20 who saw the familiar film first. T-tests were run on the TV column for mothers and children on novel first-familiar second and familiar first-novel second to determine if the order of the films affected results.

Any significant results on the above variables were to be used to subdivide categories for data analysis on the main hypotheses.

Analyzes for research questions. Earlier, 16 specific questions were posed. The following statistical analyses were used to answer these research questions:

H₁ There are a greater number of intervals of eye contact with the other person in the no-TV condition than in the TV condition.

t-test for dependent means
H₂ There is a difference in number of intervals of proximity between the TV condition and the no-TV condition.

\textit{t-test for dependent means}

H₃ There is a difference in number of intervals of physical touch with the other person between the TV condition and the no-TV condition.

\textit{t-test for dependent means}

H₄ There are a greater number of intervals of verbalization in the no-TV condition than in the TV condition.

\textit{t-test for dependent means}

H₅ There are a greater number of intervals of focus of attention on alternate activities during the no-TV condition than in the TV condition.

\textit{t-test for dependent means}

H₆ Dyads who fall above the median on a combined number of verbal interactions, physical contacts, and eye-contacts with each other during the no-TV condition have higher combined scores during the TV condition than those dyads who fall below the median.

\textit{t-test for dependent means}

H₇ Mothers who are heavy TV viewers at home have a greater number of intervals of attending to the TV than do mothers who are light TV viewers.

\textit{t-test for independent means}

H₈ Children who are heavy TV viewers at home have a greater number of intervals of attending to the TV than do children who are light TV viewers.
t-test for independent means

$H_9$ Mothers who are heavy TV viewers at home have fewer verbal interactions in the combined TV and no-TV condition than do mothers who are light viewers.

t-test for independent means

$H_{10}$ Children who are heavy TV viewers at home have fewer verbal interactions in the combined TV and no-TV conditions than children who are light TV viewers at home.

t-test for independent means

$H_{11}$ There are a greater number of interaction segments in the no-TV condition than in the TV condition.

t-test for dependent means

$H_{12}$ The mean duration of interactions is greater in the no-TV condition than in the TV condition.

t-test for dependent means

$H_{13}$ While controlling for mean duration so that this value is constant, the number of interaction segments in the no-TV condition will be greater than the number of interaction segments in the TV condition.

covariance analysis for dependent samples

t-test for dependent means after regression analysis has been completed
H\textsubscript{14} There is a greater number of non-responses in the TV condition than in the no-TV condition.

t-test for dependent means

H\textsubscript{15} There is a decrease in attention to the TV across sequential segments of the TV program by mothers.

analysis of variance for dependent samples (using four equal segments of 15 intervals)

t-test for dependent samples (using the first and the last of the segments of 15 intervals)

H\textsubscript{16} There is a decrease in attention to the TV across sequential segments of the program by children.

analysis of variance for dependent samples (using four equal segments of 15 intervals)

t-test for dependent samples (using the first and the last of the segments of 15 intervals)

In addition, correlations were done for each of the 22 variables with the other 21. Relevant findings will be discussed in the next chapter as they relate to the basic research questions.
Results

To determine whether television affects selected aspects of mother-child interaction, 39 dyads of mothers and their preschool-aged children were observed both when a television set was on and when it was off. It was hypothesized that TV would have an effect on eye contact, proximity, physical touch, and verbalization. In addition, it was predicted that TV would affect interaction with other activities such as toys, books, and magazines. Ratings taken during the TV-on and TV-off conditions were subsequently analyzed to determine whether there were any statistically significant differences between the two measures.

Control Variables

Before the main research questions were addressed, several variables were analyzed to control for potential effects due to sex, order of experimental condition, type of film, and order of films.

Sex. About half the children used in the study were boys, and about half were girls. None of the 11 variables concerned with data collected on the children and analyzed by sex was significant. Most of the t-values on these variables were very low except for one. Boys tended to remain in somewhat closer proximity to their mothers during the TV-on condition than girls, though this difference was not statistically significant. Therefore, sex was not used as a control variable in subsequent analyses.
Order of experimental condition. Half the Ss were observed in the TV-on condition first while the others were first observed in the TV-off condition. All 22 variables, involving data collected on both mothers and children, were analyzed, and no statistically significant differences were found. There were differences in eye contact both in the TV-on and TV-off conditions, with those who experienced the TV-off condition first having somewhat more eye contact than those who experienced the TV-on condition first. Since this difference was not statistically significant, however, order of experimental condition was not used as a control variable in subsequent analyses.

Novel vs. familiar film. All Ss were shown two films, "Water Follies," the novel film, and a portion of "Sesame Street," the familiar film. Although Ss attended somewhat more to the novel film, there was no statistically significant difference. Children particularly watched the novel film more, but since this did not meet the minimum significance level, type of film was not used as a control variable in subsequent analyses.

Order of films. Half of the Ss saw the novel film first and the familiar film second, while the rest saw the films in the reverse order. There was no significant difference on this counterbalancing control for either mothers or children. Therefore, order of films was not used as a control variable in subsequent analyses.
Research Questions

Various statistical analyses were used to determine whether there were any significant differences on various measures when a television set was on or when it was off. Results are presented below as they relate to the specific research questions outlined in Chapter I.

H₁ Eye contact. It was hypothesized that there would be a greater number of intervals of eye contact in the no-TV condition than in the TV condition. The results showed a significant difference on this variable for both mothers and children. Mothers had more intervals of eye contact when no TV was on (t=2.48, p < .02) than when the TV was on, as did children (t=2.49, p < .02).

Table 1

Comparison of mothers' eye contact scores when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-TV</td>
<td>39</td>
<td>21.85</td>
<td>12.76</td>
<td>2.48</td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>17.23</td>
<td>9.52</td>
<td></td>
</tr>
</tbody>
</table>

p < .02
Table 2

Comparison of children's eye contact scores when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>13.31</td>
<td>7.68</td>
<td>2.49</td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>10.33</td>
<td>6.65</td>
<td></td>
</tr>
</tbody>
</table>

p < .02

H2 Proximity. It was hypothesized that there would be a difference in number of intervals of proximity between the TV and the no-TV conditions. This difference was not statistically significant for either mothers or children. It should be noted, however, that there were more intervals of proximity in the TV condition (t = -1.62, p < .11 for mothers and t = -1.63, p < .11 for children) than in the no TV condition. This difference is in the same direction as the hypothesis related to physical touch, discussed below.

H3 Physical touch. It was hypothesized that there would be a difference in number of intervals of physical touch in the TV and the no-TV conditions. There was no statistically significant difference in this variable for either mothers or children, although the direction of the slight difference indicated was the same as that for proximity, as would be expected.
H Verbalization. It was hypothesized that there would be a greater number of intervals of verbalization in the no-TV than in the TV condition.

There was a highly significant difference in this variable for all Ss. Mothers talked more often during the no-TV condition ($t=3.76$, $p < .001$) than during the TV condition, as did children ($t=3.48$, $p < .001$).

Table 3
Comparison of mothers' verbalization scores when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>36.28</td>
<td>14.42</td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>25.31</td>
<td>11.85</td>
<td>3.76</td>
</tr>
</tbody>
</table>

$p < .001$

Table 4
Comparison of children's verbalization scores when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>32.36</td>
<td>16.66</td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>22.72</td>
<td>14.43</td>
<td>3.48</td>
</tr>
</tbody>
</table>

$p < .001$
It was hypothesized that there would be more intervals of interaction with the alternate activities during the no-TV condition than during the TV condition. Again, there was a highly significant difference between conditions on this variable for mothers ($t=6.53$, $p<.001$) and for children ($t=8.88$, $p<.001$). This was the most significant difference of all the analyses done.

**Table 5**

Comparison of mothers' attention to alternate activity scores when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>33.26</td>
<td>15.28</td>
<td>6.53</td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>15.80</td>
<td>14.96</td>
<td></td>
</tr>
</tbody>
</table>

$p<.001$
Table 6

Comparison of children's attention to alternate activity scores when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>40.44</td>
<td>11.76</td>
<td>8.88</td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>16.80</td>
<td>13.28</td>
<td></td>
</tr>
</tbody>
</table>

*p < .001

H_6 Combined interaction scores. It was hypothesized that mother-child dyads who fall above the median on a combined number of verbal interactions, physical contacts, and eye contacts with each other during the no-TV condition would have higher combined scores during the TV condition also.

After an examination of the raw data and the frequency distribution, it was decided to modify this hypothesis somewhat. The physical touch data were eliminated because of their skewed distribution. All four physical touch measures yielded a low frequency, a wide range (0 to 60), and a very low median (3.67, 4.25, 3.67, and 4.25). Ss tended either not to touch at all (the mode was 0) or to sit by each other, resulting in a relatively high frequency of intervals with physical touch.
Instead, only eye contact and verbalization measures were used for this hypothesis. A combination of mothers' and children's scores indicates a significant difference ($t=3.45, p < .01$) between the group that fell above the median and the group that fell below the median on these scores.

Table 7

Comparison of above-the-median and below-the-median Ss on interaction scores when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Md</td>
<td>19</td>
<td>91.79</td>
<td>28.29</td>
<td>3.45</td>
</tr>
<tr>
<td>Below Md</td>
<td>20</td>
<td>61.20</td>
<td>26.39</td>
<td></td>
</tr>
</tbody>
</table>

$P < .01$

The data were ranked on the combined measure for the no-TV condition, then dichotomized by above- and below-the median scores. Data for the two groups on the combined measure for the TV condition were then compared. Other data (e.g., combined mother and child scores on eye contact, combined mother and child scores on verbalization, combined child scores on eye contact and verbalization, and combined mother scores on eye contact and verbalization) similarly compared by above- and below-the-median scores also showed a significant difference. In other words,
mothers and children who interacted more in the absence of TV, also interacted more when the TV was on.

\[ H_7 \] Mothers' home viewing. It was hypothesized that mothers who are heavy TV viewers at home would have a greater number of intervals of attending to the TV than would mothers who are light TV viewers at home. This hypothesis was not supported by the data; in fact, there was an almost statistically significant negative result. Mothers who reported viewing a lot of television at home tended to attend less to the TV than mothers who viewed little at home. A look at the raw data indicates that of those mothers who watched television for more than half the time when the TV was on in the experimental session, eleven were in the low home-TV category while only two were in the high home-TV category. What keeps these data from being statistically significant is that a good number of the low home-TV mothers also attended little to the TV in the experimental session. There seems to be no apparent dimension along which the low home-TV mothers can be divided between the low and high experimental-TV viewers to explain this difference.

In addition to seeing whether mothers' home viewing patterns affected their experimental session viewing pattern, the high home viewers and the low home viewers were compared on the other measured variables. Results show two highly significant differences and several statistically non-significant, though interesting, relations. The most significant result is that children whose mothers reported watching little TV at home attended
far more to the TV in the experimental session than children whose mothers watch more television at home (t = -4.35, p < .001).

Table 8

Comparison of attending to television by children of mothers whose home viewing is above the median score and mothers whose home viewing is below the median score

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Md</td>
<td>20</td>
<td>15.35</td>
<td>11.12</td>
<td>-4.35</td>
</tr>
<tr>
<td>Below Md</td>
<td>19</td>
<td>35.16</td>
<td>16.62</td>
<td></td>
</tr>
</tbody>
</table>

p < .001

The means of intervals of attending to the TV is 15.4 for children of high home-TV mothers and 35.2 for children of low home-TV mothers.

The other significant result relates to children’s interaction with toys when the TV was on. Children of mothers who reported watching a lot of TV at home interacted more with toys than did children of mothers who reported watching less TV at home (t = 3.39, p < .002).
Table 9

Comparison of attending to alternate activities when the TV was on by children of mothers whose home viewing is above the median score and mothers whose home viewing is below the median score

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Md</td>
<td>20</td>
<td>23.00</td>
<td>12.39</td>
<td></td>
</tr>
<tr>
<td>Below Md</td>
<td>19</td>
<td>10.26</td>
<td>11.07</td>
<td>3.39</td>
</tr>
</tbody>
</table>

p < .002

The statistically non-significant results include the fact that low home-TV mothers tend to have more eye contact with their children and that both they and their children tend to verbalize somewhat more than the high home-TV mothers. The high TV mothers, on the other hand, tended to have more physical contact with their children.

$H_8$ Children's home viewing. It was hypothesized that children who are heavy TV viewers at home would have a greater number of intervals of attending to the TV than would children who are light TV viewers at home. This hypothesis was not proven. Again, as with the mothers, there was a slightly negative relationship. In other words, children who reportedly watched a lot of TV at home watched less in the experimental situation,
and vice versa. None of the other variables was significantly related to
the amount of time children watched TV at home.

One point in relation to children's and mother's amount of home
viewing needs to be made. There is a highly significant correlation between
these two figures ($r = .55350, p < .001$). High TV watching mothers tend to
have high TV watching children while low TV watching mothers tend to have
low TV watching children.

$H_9$ Interactions and mothers' home viewing. It was hypothesized
that mothers who are heavy TV viewers at home would have fewer verbal
interactions in the combined TV and no-TV conditions than would mothers
who are light TV viewers at home. The result of this analysis was not
statistically significant. Low home viewers, however, tended to have
somewhat more numbers of interactions in the no-TV condition while they
tended to have somewhat fewer in the TV condition.

$H_{10}$ Interaction and children's home viewing. It was hypothesized
that children who are heavy TV viewers at home would have fewer verbal
interactions in the combined TV and no-TV conditions than would children
who are light viewers. As with the previous hypothesis, there was no
statistically significant difference, although low home viewers had more inter­
actions without TV and fewer with TV than the high home viewers.

$H_{11}$ Interaction segments. It was hypothesized that there would be a
greater number of interaction segments in the no-TV condition than in the TV
condition. The results indicated the opposite, with a significantly greater
number of interaction segments in the TV condition than in the no-TV condition ($t = -4.03$, $p < .991$).

Table 10

Comparison of number of interaction segments when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>$t$-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>4.10</td>
<td>1.93</td>
<td>-4.03</td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>6.21</td>
<td>2.42</td>
<td></td>
</tr>
</tbody>
</table>

$p < .001$

The mean number of segments in the TV condition was 6.2 and in the no-TV condition, 4.1.

$H_{12}$ Mean duration of interactions. It was hypothesized that the mean duration of interactions would be greater in the no-TV condition than in the TV condition.
Table 11
Comparison of duration of interactions when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>17.36</td>
<td>15.95</td>
<td>4.68</td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>5.69</td>
<td>4.33</td>
<td></td>
</tr>
</tbody>
</table>

p < .001

This result proved to be highly significant (t=4.68, p < .001), with a mean duration during the no-TV condition of 17.4 and during the TV condition of 5.7. In other words, the mean of mean duration of interaction segments was more than three times as great when the TV was not on than when the TV was on.

H₁₃ Combined number and duration of interactions. It was hypothesized that while controlling for number of interaction segments so that this value would be constant, the mean duration of interactions in the no-TV condition would be greater than in the TV condition. Again, this result proved to be highly significant (t=6.91, p < .001).
Table 12

Comparison of combined number and duration of interactions where number was controlled as a constant when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variation</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>17.36</td>
<td>9.74</td>
<td>6.91</td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>5.76</td>
<td>3.60</td>
<td></td>
</tr>
</tbody>
</table>

\(p < .001\)

It was hypothesized that there would be a greater number of non-responses in the TV than in the no-TV condition. Again, results were significant, \((t=3.07, \ p < .004)\).

Table 13

Comparison of non-responses when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>39</td>
<td>1.05</td>
<td>1.73</td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>39</td>
<td>2.33</td>
<td>2.32</td>
<td>-3.07</td>
</tr>
</tbody>
</table>

\(p < .004\)

with more than twice as many non-responses when the TV was on than when no TV was on.
Attention to sequential TV segments by mothers. It was hypothesized that there would be a decrease in attention to the TV across sequential segments of the TV program by mothers. Results were not significant, either when the four 15-interval segments were compared or when only the first and the last segments were compared.

Attention to sequential TV segments by children. It was hypothesized that there would be a decrease in attention to the TV across sequential segments of the TV program by children. Again, results were non-significant for both the four-segment comparison and the first and last segment analysis.
Discussion and Conclusions

As indicated in the previous section, a number of the originally-stated hypotheses were supported by the results of this study. Some, on the other hand, were not. A discussion of the results and implications of these findings follows.

Control Variables

Although none of the control variables proved to have a statistically significant effect on results, several interesting relationships were shown. For instance, Ss who did not see the videotaped programs first tended to have more eye contact than Ss who experienced the TV-on condition first. During the first waiting period, Ss seemed to have been somewhat more anxious about the experimental situation than during the second waiting period. This notion is supported by informal observations, both by the experimenter and the observers, who noted Ss' verbal expressions of anxiety about the ensuing testing. One might speculate that Ss sought and/or wanted to give reassurance to each other, that this was facilitated by the absence of TV, and that this was then carried over to the second waiting period. On the other hand, it may be purely coincidental that the group which was without TV first had more eye contact.

Another control variable finding worth noting is related to the type of film. The novel film seemed to have slightly, though not significantly, more appeal, especially to children. The raw data show that most Ss
watched some parts of both programs, while some Ss watched either
"Water Follies" or "Sesame Street" only, ignoring the other film entirely.
There does not appear to be a pattern to this selective watching, indicating
that it is probably due to personal preference. It should be mentioned that
there was a significant relationship between mother's TV viewing and the
child's viewing in the experimental situation (r = .6633, p < .001).

Research Questions

In the first chapter, some general questions were raised in relation
to the possible effects of television on mother-child interaction; it was from
these that specific hypotheses were then drawn. Below, each of these
eight general questions will be discussed on the basis of the results presented
in the previous chapter.

Interaction mode. The question was raised whether the presence
of television shifts the mode of interaction between parents and children,
such as verbal interaction being replaced by touch. Although the clear-cut
answer to this question is not demonstrated by the results, there is an
indication that this might well be so. Television very definitely decreased
verbal interaction and eye contact. Physical touch and proximity, however,
were not significantly affected by the presence or absence of this medium,
although there was a slight increase in these behaviors when the TV was on.

It does seem clear from these results that television decreases
certain interactive behaviors. Certainly, self-report studies on television's
impact have indicated that verbal interactions decrease when the set is on (e.g., Coffin, 1955; Maccoby, 1951; McDonagh, 1950). None of these studies, however, examined television's impact on verbal interaction by actual observation. The results of the study reported here thus confirm what earlier self-report data had reported. Verbalization is an important communicative tool. Its decrease implies decreased interaction.

Eye contact, an important factor in interpersonal communication (e.g., Exline, 1974), has not previously been examined in relation to television viewing. The results of this study strongly support the original hypothesis that television decreases eye contact. Since television is a visual medium, this result is to be expected; but the strength of this result, coupled with results relative to decreased verbal interaction and increased non-responses in television's presence, indicate that this is more than a casual relationship. Since interaction is not a simple behavior but one made up of many components, television's impact on decreasing eye contact and verbalization should be viewed as important.

The fact that proximity and physical touch were not significantly different in the two conditions might well be due to the short span of the experimental situation as well as its very nature. Since mothers and children were only exposed to the TV for a ten minute period and since the situation was an artifical one to a certain extent, the measure may not have been as indicative of "real" television viewing behavior as it could have been. But, proximity and physical touch did increase in the presence of television
These are, in fact, the only two main variables that yielded a negative relationship in a comparison of the TV-on and the TV-off conditions. It is, of course, to be expected that these two variables would be in the same direction since they are interrelated (e.g., "physical touch" ratings were automatically also "proximity" ratings), and correlations between touch and proximity ratings are fairly high and statistically significant (e.g., \( r = .5011, p < .001 \) for mothers in the no-TV condition). But the increase in these behaviors in the presence of television is noteworthy, even if the results are statistically non-significant.

The data provided by the correlations of the 22 variables with each other give some insight into the relationships among the variables here discussed. Touch and proximity are highly related, as discussed above, and so are eye contact and verbalization. The correlations for the latter two are highly significant \((r= .5591, p < .001)\) for children in the no-TV condition, with a somewhat lower correlation in the TV condition \((r= .4365, p < .001)\). Data for mothers are similar. This result is to be expected since verbal conversation is often accompanied by eye contact between the two conversants.

The relationship between eye contact and touch and proximity is somewhat different. Across all conditions (mothers, children, no-TV, TV) there is a slightly negative, albeit statistically non-significant, relation between eye contact and the other two variables. This may be negative because at times, when Ss were in close proximity or touching, they were
side by side rather than face to face where eye contact would be more natural. It is interesting that the relative ratios between eye contact and touch or proximity did not alter between the TV and the no-TV conditions, although the absolute numbers of eye contacts significantly decreased and of physical touch and proximity ratings slightly increased between no-TV and TV conditions, as indicated by the t-test results.

The verbalization and touch and proximity relationships show a difference between the TV and no-TV conditions. For instance, for mothers, verbalization correlates significantly with the other two \( r = .4408, p < .002 \) for touch and \( r = .5869, p < .001 \) for proximity) when no TV is on, but there is almost no discernible relation when the TV is on. For children, the relations are similar, being significant with no TV and non-significant with TV.

It would appear that if in this study TV has the effect of significantly decreasing eye contact and verbalization—two important avenues of communication—extended hours of TV viewing at home would result in extended decreases in communication opportunity. As discussed earlier, the opportunity for interaction with caregivers is highly important in the socialization process of young children. Children need to observe role models, and watching television decreases this opportunity. Similarly, children need frequent feedback from their parents about the appropriateness of their behavior. Television, by decreasing both parent and child
verbalization, may also decrease the opportunity for such feedback, a conclusion also reached by Gadberry (1974).

The original question speculated as to whether the mode of interaction of mothers and children shifts during television viewing. One can certainly state that interaction through verbalization and eye contact decreases in the presence of TV. But whether a different interactional mode becomes prevalent when the television is on cannot be stated with any certainty. Indications are that touch and proximity may increase during TV viewing, but these are only slight indications. Perhaps more extended observations of mothers and children watching television in a more natural setting such as the home would provide more conclusive evidence.

Alternate activity. The second general question raised was whether television affects interaction with play materials. The results of the comparison between the no-TV and TV conditions related to alternate activities was the most significant and conclusive finding of this study. TV very definitely decreases interaction with toys, etc., especially for children.

The mean number of intervals of interaction with toys, books, or magazines for the no-TV and the TV conditions reveal some interesting contrasts. Whereas in the no-TV condition children interacted with the play materials an average of 40.8 times, they only did so an average of 16.8 times in the TV condition. In other words, there was about two-and-a-half times as much play-related activity in the no-TV condition than in the
TV condition. The results for mothers were also significant, though not as widely divergent, with averages of 33.3 and 15.8 in the two conditions. Mothers, however, were more consistent across conditions in their interaction with alternate activities.

Although no formal data collection was undertaken in relation to what alternate activities the mothers engaged in, the observers’ notes indicate that during the no-TV condition about one-third of the mothers played with a toy with or read books to the child, about one-fourth engaged in none of the alternate activities provided, while the rest read an adult magazine. The latter group included the largest number (N=17). A few mothers engaged in more than one activity, but the above informal estimates represent the way in which most of their time was spent.

Similar information gathered when the TV was on indicates that mothers played with their children in somewhat fewer instances, looked at magazines only half as often, and engaged in none of the alternate activities more than twice as often. Of course, the TV provided an activity other than toys, magazines, or books, and most of the mothers in the last category were watching TV quite steadily. These informal data are not concerned with amount of time spent in these activities—t-test data provide some of that—but only what activity options mothers engaged in.

The information gained from this study in relation to children's interaction with toys confirms what researchers and theorists have expressed concern over: the fact that television decreases play behavior
(e.g., Singer & Singer, 1976). Children need the opportunity to play for many reasons. One important reason is the chance it affords youngsters to explore and act out their world through role playing. It is through role playing that young children identify with their role models, and this process of identification is vital in socialization. By decreasing the opportunity to play, television diminishes the opportunity to adopt the behaviors and values of role models. In this way television appears to exert a negative influence in the process of socialization of young children.

**Interaction frequency.** The third general question posed was whether mothers and children who interact more frequently without television also interact more frequently in the presence of TV. This question sought to find whether individuals show some consistency in the quantity of their interactive behavior, no matter what the circumstances. The fact that the results to the analyses related to this question were significant is really not surprising. People are different and interact in a way unique to them, including the quantity of interactions. Thus, mothers' and children's combined and separate eye contact and verbalization scores indicated their individual behavioral consistency. Furthermore, this consistency was maintained when scores were combined for mothers and children, indicating a dyadic consistency.

Some of the correlational scores are relevant to this question. Since, in a dyadic situation, scores on various measures for one S should be highly correlated to scores of the other S in that dyad, high correlations
are to be expected for mothers and children in the same condition. (See Appendix F for Correlation Table.) This proved true, and thus there were highly significant correlations for eye contact in the no-TV condition ($r = .5114$, $p < .001$) for mothers and children; for eye contact in the TV condition ($r = .5797$, $p < .001$) for mothers and children; and for verbalization in the TV condition ($r = .4594$, $p < .002$) for mothers and children.

But signs of dyadic consistency are more apparent when correlations are sought across conditions for various behaviors. Several significant correlations were found between the no-TV and the TV conditions for the same behavior. For instance, mothers' eye contact in the no-TV condition was correlated with mothers' eye contact in the TV condition ($r = .4882$, $p < .001$) and with children's eye contact in the TV condition ($r = .3938$, $p < .007$).

The relevance of these results to the basic premise that television interferes with the socialization process needs to be explored. Previously discussed results have shown that television does decrease interactional opportunities for mothers and children. Since quantity as well as quality of mother-child interactions has been linked to later child functioning (White & Watts, 1973), those children who experience more such opportunities may well have an advantage over children who have fewer interactions with their mothers. For the latter group of children, television thus serves as an additional decreasing factor for interactions; their mothers seem to be less inclined to interact verbally and by eye contact to begin with,
and the presence of television accentuates this inclination. Therefore, these data are relevant in that they indicate that television may interfere more severely with the socialization process for children who initially interact less with their mothers. A note of caution is in order here: these data are based on two ten-minute segments in a laboratory situation; thus, they may not reflect how these parents and children act under more natural conditions. Also, these data are merely quantitative, and cannot be given any qualitative connotations.

**Home TV viewing amount.** The fourth general question sought to find out whether mothers and children who are heavy TV viewers at home attend to the television with more concentration than mothers and children who watch less TV at home. Although some of the results are statistically non-significant, there are some highly interesting points raised.

One interesting finding is the negative relationship between home and experimental session viewing. Viewers who reported watching relatively little television at home were more attentive to the TV in the experimental session than viewers who reported watching greater amounts of television at home. Although this result is not statistically significant, the fact that the negative relationship exists for both mothers and children somewhat strengthens the notion that this occurrence is more than casual.

One might speculate on some reasons why this occurred. For one thing, it is possible that mothers and children who watch a great deal of television at home pay less attention to it because it is so much a part of
everyday life. During the debriefing sessions after data had been collected, the experimenter was told by several mothers who reported high amounts of television viewing for themselves and/or their children, that the TV set is on most of the day and thus seems to be part of the background rather than a specific focus of attention. Conversely, mothers and children who watch less television may watch it more purposefully, and thus attend to it more. One more point in this connection: mothers who reported watching little television mentioned what they watched in terms of specific programs while mothers who watched greater amounts tended to mention it in terms of parts of the day (e.g., "In the afternoon I usually have the TV on for three hours").

This notion that viewers who watch little focus more attentively on the TV than more copious viewers relates to another point which has support in the literature. Children who are heavy television viewers tend to shift attention more often (Gadberry, 1974; Murray, 1971). Thus, it might be hypothesized that heavy viewers shift attention more frequently and attend less to the TV than light viewers. To test this idea, a further analysis was run. A new measure, "attention shifts," was devised. "Attention shifts" were defined as any break of one of more intervals in attention to the TV or the alternate activities when the TV was on and to the alternate activities when the TV was off. Number of attention shifts were counted for both the TV-on and TV-off conditions, and Ss were divided by high and low home viewers. Differences between the mothers of the two groups proved
insignificant, although there was a difference between conditions for both groups (t=4.86, p < .001 for high home TV viewing mothers, and t=3.37, p < .01 for low home TV viewing mothers), with more attention shifts occurring when the TV was on.

Table 14

Comparison of number of attention shifts by high home TV viewing mothers when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>20</td>
<td>8.25</td>
<td>3.65</td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>20</td>
<td>12.8</td>
<td>4.10</td>
<td>-4.86</td>
</tr>
</tbody>
</table>

p < .001

Table 15

Comparison of number of attention shifts by low home TV viewing mothers when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>19</td>
<td>8.50</td>
<td>3.22</td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>19</td>
<td>11.22</td>
<td>2.94</td>
<td>-3.37</td>
</tr>
</tbody>
</table>

p < .01
Data for the children were highly significant in comparing those who viewed little TV at home with those who viewed greater amounts. High home viewing children had significantly more attention shifts than low home viewing children in the TV-on condition \( t=3.70, \ p<.01 \).

Table 16

Comparison of number of attention shifts when the TV was on between high home TV viewing children and low home TV viewing children

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>18</td>
<td>15.33</td>
<td>2.98</td>
<td>3.70</td>
</tr>
<tr>
<td>Low</td>
<td>21</td>
<td>10.86</td>
<td>4.30</td>
<td></td>
</tr>
</tbody>
</table>

\( p<.01 \)

Furthermore, high home viewing children had significantly more attention shifts than low home viewing children in the no-TV condition \( t=2.97, \ p<.05 \). And, as with mothers, there were more attention shifts for both groups between conditions \( t=4.20, \ p<.001 \) for high home viewing children, and \( t=2.86, \ p<.05 \) for low home viewing children.
Table 17

Comparison of number of attention shifts when no TV was on between high home TV viewing children and low home TV viewing children

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>18</td>
<td>11.00</td>
<td>4.66</td>
<td>2.96</td>
</tr>
<tr>
<td>Low</td>
<td>21</td>
<td>7.24</td>
<td>2.91</td>
<td></td>
</tr>
</tbody>
</table>

p < .05

Table 18

Comparison of number of attention shifts by high home TV viewing children when no TV was on and when the TV was on

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No TV</td>
<td>18</td>
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p < .001
Table 19

Comparison of number of attention shifts by low home TV viewing
children when no TV was on and when the TV was on

<table>
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<td>-2.86</td>
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p < .05

This measure indicates that there is an effect of the home viewing pattern on other behaviors. It would appear that the mere counting of intervals of attention to the TV or an alternate activity is not indicative of a pattern of responding to the TV or another activity; but the number of times attention moves away from that activity is more significant. It is interesting that the home viewing pattern is reflected not only in television viewing behavior but also in the response to other activities in the experimental situation.

There is one more possible reason why the heavy home viewers (both mothers and children) attended less to the TV than the light home viewers. This relates to the thought that people seem to pay more attention to something less familiar than to something familiar. Thus, Ss who watch a lot of television at home might not have been as interested in TV as those who view less frequently at home.
A second interesting analysis derived from this research question concerns the significant relationship between mothers' reported home viewing and children's viewing behavior in the experimental situation. Mothers who said that they watched relatively little TV at home had children who attended considerably more to the TV in the experimental session. It is interesting that this strong relationship is related more to the mother's home viewing than to the child's home viewing. There are several possible reasons for this relationship. First, it is possible that mothers who watch little television are more concerned with restricting the numbers of hours their children watch this medium at home, and make this concern known to their children. (A number of parents indicated such a conscious effort at limiting viewing hours to the experimenter during the debriefing.) Thus these children may have been more drawn to watching the TV in the experimental session as a "bonus" to their limited number of hours.

The reasons cited earlier to explain the negative relationship between home viewing and experimental viewing may also be involved here. Children whose mothers watch little television would experience the TV less as background noise and thus, perhaps, attend to it more when it is on. For the same reason, these children may experience less distraction from this medium and thus attend with more concentration (have fewer attention shifts). Finally, the TV may have more novelty value to children who don't watch it too much at home.
While attending to the TV was very high for children of low home viewing mothers, interaction with the alternate activity was, on the other hand, very low. This result is an expected one since there is a highly negative correlation between TV viewing and the alternate activity during the TV-on condition ($r = -0.8626$, $p < .001$). These two variables were mutually exclusive. Thus, those children who watched greater amounts of TV automatically interacted less with alternate activities.

One more point needs to be made about the data from which the above-discussed analyses were derived. The demarcation between high and low home viewing mothers and children and the basis on which data on home viewing was collected may be questioned.

For one thing, self-report data about one's own or one's child's television viewing, through the prevalent method of determining such information, has been shown to be inaccurate (Bechtel, 1971). For this reason, data for this study were simply dichotomized by above- and below-the-median scores. Even then, many of the middle-range scores were close and may not have really differentiated between groups adequately. For instance, seven of the children's and nine of the mother's scores were within three hours of either side of the median. Another caution about self-report data comes from the experimenter's observations. Many mothers had considerable difficulty estimating number of hours they or their children watch TV. Two frequently cited reasons for this difficulty were inattention to such information and changing patterns of viewing from
season to season and even week to week.

**Interaction and home viewing.** The next general question also dealt with the pattern of home viewing and speculated on whether it affected interaction between mothers and children in the experimental situation. Although statistically non-significant, results are partly in the direction expected. It was anticipated that a combined score of interaction segments in the TV and in the no-TV conditions would show that low home viewers interact more than high home viewers.

There was a near-significant difference between the two groups in the no-TV condition for mothers and a tendency toward such a difference for children. On the other hand, when the TV was on, the results were opposite, with the high home TV viewers interacting somewhat more. As a result, these two tendencies (more interaction segments in the no-TV condition and more interaction for high home viewers in the TV condition) cancelled each other out so that there was virtually no difference between groups on the original hypothesis.

It should have been anticipated, from the results related to attentiveness to the TV by low and high home viewers, that the low home viewers would interact less in the presence of TV because they attended more intently to the set.

Except for children's attention shifts, none of the data concerned with home viewing show statistical significance in this study. One can
conclude one of two things. First, there may not be much difference between those who view a great deal of television at home and those who view little. Second, the measures used in this study may be inaccurate. Either the method of determining which Ss are high home viewers and which are low home viewers lacks accuracy, or the attempt to equate a home viewing pattern with the brief experimental exposure to television is the problem. One must consider that there were a number of intervening and unmeasured variables at play in the experimental session including the strange setting, potential anxiety about the ensuing testing situation, the alternate activities which may have represented a novelty (e.g., child perceiving that mother should play with child and a toy since all were in the same room), etc.

It would seem that this research does not show a conclusive result differentiating between high and low home viewers in relation to interaction. But several factors indicate that one should not make the precipitous decision that there is little difference between high and low home viewers. For one thing, the results of this study indicate that in all cases there is some, small difference. Second, the significant difference in attention shifts of children indicates that there is a difference between groups and that perhaps the method of adding up numbers of intervals of looking at the TV is not the best way of determining attending to this medium. Finally, prior research related to the correlation between high home viewers and various indicators of anxiety and stress (e.g. Maccoby, 1954; Pearlin, 1959; Rosenblatt &
Cunningham, 1975) lead one to believe that there must be a discernible difference between groups.

With more accurate measures, this difference should become apparent. This study did not seem to tap the accurate information to get at this difference between high and low home viewers. But this research has gained relevant information about the effects of television on interaction between mothers and children, as the next question to be discussed will show.

**Verbal interactions.** The sixth general question considered whether verbal interactions decreased in number, duration, or both in the presence of television. Results showed that television has a significant effect in this respect. When the television set was on, dyads engaged in significantly more instances of interaction, while when the TV was off, the mean duration of interactions was significantly higher.

This result was expected to some extent since the longer the duration of interactions in a given time span, the fewer interaction segments there could, potentially, be. Therefore, a third hypothesis was posed to check whether differences between conditions would hold up when both number and duration of segments were taken into account in one analysis. Thus, significance in this last instance would be more indicative of an effect of television on interaction than either of the individual measures.

Results indicate that television has a very marked effect on interaction between mothers and their preschool children. Although there were more interaction segments when the TV was on (a mean number of 6.2
when the TV was on compared to a mean number of 4.1 when the set was off, they were much more extensive in length of time when the television was off. The raw data provide evidence for this. During the no-TV condition, three dyads had one lengthy interaction segment lasting the full time; three had two segments, adding up to interaction almost the full time; and eight had three segments whose totals showed interaction almost the full time. There were no such extensive interactions when the TV was on.

In a sense, one should expect that television decreases interaction since TV engages the viewer in an activity that often excludes anyone or anything else. The confirmation of this expectation by this research is relevant in terms of the amount of time this might occur. When children and/or parents watch television extensively, interaction will be decreased accordingly. When TV viewing engages less of their time, then more time is left for interaction without the interference apparently made by television. Thus, a consideration of the effect of television on the interaction of mothers and children needs to take into account the amount of time these family members watch TV since decreased interaction would seem to occur in a proportion directly related to amount of viewing.

Non-responses. The seventh question asked whether television might so involve parents and/or children that they fail to respond to one another's questions or comments. Significance in the result to this question indicates that television influences communication in yet another way, by interfering with the interactive flow between mother and child. When the TV was on,
there were more than twice as many instances of non-response than when the TV was off. These non-responses represent a combined score for mothers and children, but a separate count indicates that mothers and children engaged about equally in this behavior.

The results of this analysis combined with the results related to number and duration of interaction segments are very significant in a consideration of TV's effects on young children. Certainly one of the aims of socialization involves making children aware of and sensitive to other people. Television, it would appear, interferes with this process. Children and parents not only interact less but also fail to respond to the initiations of interaction by the other person in the presence of television. Awareness of others involves listening and responding to their requests, questions, or statements, while non-responding reflects a lack of such awareness. The children in this study demonstrated this by a significant increase in non-responses in the presence of television. Furthermore, their mothers were modeling this same behavior, in essence reinforcing it.

Extensive hours of television viewing, then, would involve more occurrences of non-responses. The implications here are that television can substantially interfere with the socialization process by making parents less responsive to other family members, including their children, and, in turn, by making children less responsive to parents.

Sequenced program segments. The last general question considered whether viewers tended to pay less attention to the TV over progressive
segments of the program. The non-significance of results indicates either that viewers pay equal attention to all portions of a program, or that the 10 minutes used in this study is not enough time for such a decrease to become apparent.

From previous research findings about decreased attentiveness to a program (Murray, 1971), it is more likely that the latter alternative is the one that applies in this situation. Also contributing to this conclusion is the fact that in the middle of this 10 minute period of television viewing a new film was introduced. Thus, interest in the program may have been renewed if it was waning since there were, in essence, two programs shown.

General Discussion

A considerable amount of data related to television's effects on the interaction of mothers and children and, more generally, on some aspects of socialization, was generated in this research. A discussion of the inter-relatedness of findings and possible implications follows.

The original proposition on which this study was based centered around the impact of television on the socialization of young children. Children need to have ample opportunity to observe role models, they need frequent feedback about the appropriateness of their behavior from significant adults, and they need the opportunity to explore their world through role playing, an important part in the identification process. It was proposed that television, because of the large numbers of hours the
average preschooler watches it, has a negative effect on socialization by
decreasing the opportunity to meet the three needs listed above.

The results of this study lend support to this contention through
several significant findings, listed below:

1. Television decreases verbalization of both mothers and children.
2. Television decreases eye contact of both mothers and children.
3. Television decreases interaction with alternate activities by
both mothers and children.
4. Ss showed behavioral consistency in that high interacters in the
no-TV condition tended to be high interacters in the TV condition also.
5. Children who are high home viewers had more attention shifts
both in the TV and in the no-TV conditions.
6. All Ss had more attention shifts in the TV condition than in the
no-TV condition.
7. Children of low home viewing mothers attended more to the TV.
8. Children of low home viewing mothers attended less to toys
in the no-TV condition.
9. There were more interaction segments in the TV condition.
10. Duration of interactions was longer in the no-TV condition.
11. A combined score of number and duration of interactions was
higher in the no-TV condition than in the TV condition.
12. There were more non-responses in the TV condition.
Television's impact on interaction seems clear since all the measures related to interaction showed a significant difference between the times the TV was on and off. Verbalization, eye contact, and the combined duration-interaction measure all decreased in the presence of TV while non-responses increased. If children need the opportunity to observe role models and frequent feedback from them, television's tendency to decrease interaction, as described above, decreases these opportunities. Also, television's effect in decreasing play-related behavior has an impact on the child's need for role playing.

On the other hand, another trend in the findings of this study can lead one to a different line of thought and a modified conclusion related to television's effects on socialization. Television decreases interaction with parents and toys, as described before; therefore, one might conclude that the more a child watches television, the more interaction opportunities he will miss. But, there was a tendency in these results for high home viewing children to be less attentive to the TV in the experimental situation. This finding, coupled with the results of other research (Murray, 1971), could be interpreted to mean that children who watch a lot of television miss proportionately fewer interaction opportunities while viewing TV than children who watch overall fewer hours but attend with more concentration while watching.

This thought is compounded by another factor, however. Children who watch considerable amounts of television tend to have mothers who
also watch a lot of TV; thus, a high viewing child is likely to have a high viewing mother. In this study, mothers who watch a lot of television did not show any significant differences from their low viewing counterparts in terms of attention shifts, although they attended somewhat less to the television in the experimental situation. Thus, although children may be more distractible when the TV is on, they may have mothers who are not as easily diverted from their viewing, resulting in decreased interaction opportunity and decreased feedback about the appropriateness of their behavior from mothers.

The key to determining the extent of the effect of television on interaction seems to be how much TV the child and his parents watch. The national average indicates that preschoolers view over 30 hours per week and adults watch about 23 hours per week (LoSciuto, 1971). In other words, children spend about one-third of their waking hours in front of the TV each day. If all of this time is spent attentively viewing TV, then the amount of lost interaction with parents and toys is alarming. If, on the other hand, viewing is less concentrated, particularly for heavy viewers, then TV might be viewed as a parallel activity to interaction and other behaviors (Bechtel et al., 1971, indicate this). The quality of such interaction cannot, of course, be commented on and would need to be assessed more directly if such an hypothesis were to be tested.
Suggested Future Research

This study opens many possibilities for further research. The basic design of the study could, for instance, be applied to a home setting where similar behavior could be observed in a more naturalistic way.

Such a study involving fathers as well as mothers might also be fruitful, providing possible insight into parenting roles and television.

The amount of time observing could also be altered. Fewer Ss observed for more extensive periods of time could be used. Thus some of the questions arising in this study from shortness of the procedure might be answered.

Another avenue for further research could be an analysis of content of interactions. Thus, not only the quantitative but also the qualitative impact of TV on interaction could be assessed. For instance, further insight might be gained through such an observational study into the relationship of television and family or individual stress and anxiety. Interaction content analysis could also determine whether parents and children tend to talk about different things when the TV is on than when it is off.

Another study might measure the effect of interaction content to television content to determine how much conversation between parents and children is derived from what is on the screen. A relationship, for instance, between parental warmth and a tendency to discuss and explain TV content might be found. This suggestion comes from the reports of the observers who noted that several parents, who seemed very warm and
loving toward their children in the experimental sessions, explained the content of the programs and discussed it with their youngsters.

Further study of the reactions and interactions of persons who watch considerable amounts of television compared to those who watch little would prove highly interesting. The 10 minute observations of this research did not seem to be sufficient to find much difference between high and low viewers. If there is a difference, more extensive research might find it.

A more specific example of the above suggestion might involve extensive observation and comparison of play behavior and interactions of children who are very high or very low home viewers.

An in-home study might also determine whether low viewers do watch TV more attentively than high viewers. More accurate definition and measurement of attention shifts can then be made.

Another possible study relates to the dichotomization of high and low interacters. Again, the 10 minute observation period of this research proved insufficient to make any accurate conclusions about television's effects on existing interaction patterns. Perhaps dividing Ss into high and low interacters and then subdividing these into high and low television viewers would provide more fruitful groupings as a basis for more extensive observations.

Along with this last point, perhaps any future study of the impact of television on interaction could begin from the viewpoint of interaction
patterns (e.g., amount or type of interaction) and then see how television fits into existing patterns rather than the other way, as this study was approached.

Certainly there are many more research possibilities that can be derived from this study. The above suggestions represent only a limited list of ideas for future research on the impact of television on parent-child interaction.

**Summary**

Television is a pervasive and ever-present influence in today's family. Both children and adults spend a considerable number of hours watching television, and although some of that time may be shared television watching time, this activity has previously been shown to be parallel rather than interactive. The literature has shown that television limits family conversations when it is on, and seems to be an indicator as well as a potential cause of stress and conflict in the family.

The numbers of hours that family members, particularly young children, spend watching TV must replace some other functions in the viewers' lives. Since one of the primary tasks of families with young children in the socialization of their youngsters, it seems logical to assume that television interferes to some extent with this process. Little research, however, supports this contention.
Among aspects of the socialization process are the need for the child to frequently observe and interact with his role models, to get ample feedback on the appropriateness of his behavior, and to have frequent opportunities to test out what he has observed through role playing so he can incorporate and adopt relevant behaviors and values. These all take much time since socialization is a long-term and subtle process.

It was the contention of this research that television can be a disruptive force in the socialization process because it limits children's opportunities for interaction with parents and for play. To test this, a group of 39 mothers and their preschool-aged children were observed on two occasions, once when a TV was on and once when it was off. On both occasions, observers rated each dyad on interactive measures such as eye contact, physical touch, proximity, and verbalization, and on interaction with alternate activities such as toys, books, and magazines. Attention to the television, which showed segments of a novel and of a familiar film, was also measured.

Analysis of the data showed that the presence of television significantly decreased eye contact, verbalization, and interaction with alternate activities. Furthermore, interactions were less extensive and Ss tended not to respond to each other's comments or questions when the TV was on. Children also tended to shift attention more frequently if they watched considerable amounts of TV at home, while children of
mothers who watch little TV at home tended to be considerably more attentive to the TV in the experimental condition.

It was concluded that television does interfere with the normal process of socialization by decreasing interaction and play-related activity. A question was raised, however, whether children who watch substantial amounts of TV might not attend less to the set, thus offsetting some of the negative effects related to decreased interaction with parents and toys. Further study on this and other questions would be useful in gaining more insight into the effects of television on socialization through parent-child interaction and play.
Bibliography


Appendix A

Diagram of Experimental Room

Sofa

Table

Videolap Monitor

Door

One-Way Glass

Observation Booth
Appendix B

Letter Requesting Participation in Research

Dear Mothers,

I am planning a research project to be conducted through the School of Home Economics at the University of Nevada, Reno, and would like to ask your participation.

As part of this project, I am planning to administer a developmental test to a group of preschool-aged children and then compare these test results to the national norms. I am interested in determining whether children who attend preschool when they are three and four years old have higher scores on the average than the norm group. You will be given a test profile of your child’s performance at the end of the testing session.

Participation in this project will involve about one hour of your time. Testing will take place next month, from May 15 to May 27. If you do take part in the project, it will require that you and your preschooler come to the School of Home Economics at the University of Nevada for approximately one hour, between 9:00 a.m. and 5:00 p.m. The date and time will be determined later to suit your schedule.

If you are interested in participating in this project, please fill out the attached form and return to the teacher at the YMCA Coop. I am sure you will find involvement in this project to be of interest to both you and your child.

Thank you for your response.

Sincerely,

Eva L. Essa
Assistant Professor
Child Development
MOTHER'S NAME: ____________________________________________

ADDRESS: ________________________________________________

PHONE NUMBER: ____________________________________________

CHILD'S NAME: _____________________________________________

AGE: ___________ BIRTHDATE: ________________________________

WHAT TIME WOULD BE MOST SUITABLE (Label "1," "2," or "3" for your first, second, or third choice):

_________ MORNING (9 - 12)

_________ EARLY AFTERNOON (12 - 3)

_________ LATER AFTERNOON (3 - 5)

WHAT DAY WOULD BE BEST FOR YOU (Label "1" and "2" for your first and second choice):

_________ MONDAY

_________ TUESDAY

_________ WEDNESDAY

_________ THURSDAY

_________ FRIDAY
Appendix C

Letter Confirming Participation

Dear Mrs.

Thank you for agreeing to participate in my research project with your child. I am sure you will find your involvement to be both informative and enjoyable.

Based on your preference of days, your session will be held on _____, ________, at ______ o'clock.

The length of testing will vary somewhat, depending on the child and the testing situation, so you may have to wait for a few minutes if the mother and child preceding you are not quite finished. Taking into account the short attention span of young children, I will try to keep the testing session and waits to a minimum.

Attached is a map of the School of Home economics and nearby parking to help you find where the testing will be held. The secretary in the front office will take you to the appropriate room when you check with her on your arrival.

If you have any questions or for any reason cannot attend your scheduled session, please leave a message for me at 784-6977. I will return your call as soon as possible.

Thank you again for your participation.

Sincerely,

Eva L. Essa
Assistant Professor
Child Development
Parking

Morrill Hall

Parking

School of Home Economics

Office

Center St.

'9th Street'
| Toy/Magazine | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye Contact  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Physical Touch|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Proximity    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Verbalization|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

| Toy/Magazine | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
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| Physical Touch|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Proximity    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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Appendix F

Figure 1

Correlation of interaction with alternate activities by mothers when no TV was on and when the TV was on (r= .39066).

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TV was on and when the TV was on.
Appendix F

Figure 2

Correlation of eye contact by mothers when no TV was on and when the TV was on ($r = .48817$).
Appendix F
Figure 3

Correlation of eye contact by children when no TV was on and when the TV was on (\( r = 0.46482 \)).

![Correlation of eye contact by children chart]

\[ r = 0.46482 \]
Figure 4

Correlations of verbalizations of children when no TV was on and when the TV was on (r = 38890).
VITA

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Doctor of Philosophy


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