\EFFECTS OF LONG-TERM VIEWING OF TELEVISION VIOLENCE ON COGNITIVE, PHYSIOLOGICAL, AND BEHAVIORAL RESPONSES TO REAL LIFE VIOLENCE/

by

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(ABSTRACT)

Study one was designed to assess the relationship between television violence viewing and expectations of others physical aggression in conflict situations. Four hundred thirty one children, fourth and fifth graders, completed a television frequency survey and a conflict situations hierarchy. It was found that children who normally view a relatively large amount of television violence expected others to be physically aggressive in conflict situations more than children who normally view a relatively small amount of television violence. Study two was designed to assess the relationships between violence viewing, latency to seek help in the presence of real life violence, and physiological responses to real life violence. Thirty nine children who participated in study one, 19 high

violence viewers and 20 low violence viewers, were recruited to serve as subjects. Subjects were led to believe that they alone were responsible for monitoring younger children in another room via a camera and television monitor. Subjects viewed a videotape of two children who initially play quietly, but become increasingly hostile, and the film culminated in a physical fight ending with the apparent destruction of the camera. Latency to seek help and heart rate were measured. High violence viewers took reliably longer to seek help in the presence of real life aggression than low violence viewers. However, when the distribution of latency scores was examined, group differences appeared attributable to the performance of a relatively small number of subjects. This study suggests that increasing levels of television violence viewing may be related to increasing latency to seek help in the presence of real life aggression, that the relationship may be modest, and that replication of the procedures is needed before strong conclusions can be made. High violence viewers and low violence viewers did not differ in their heart rate responses to the scene of real life violence. This study suggests that heavy violence viewing may not be associated with physiological desensitization to real life violence. However, further studies employing different indices of

physiological arousal is clearly needed before strong conclusions are warranted. Differential research strategies to address these issues were discussed.

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TABLE OF CONTENTS

INTRODUCTION

A. The Emerging Role Of Television In Family Life

Television, a communication and entertainment medium of a little over 40 years old, has emerged to play an ever increasing role in the average American family's daily routine. Within two decades of its commercial introduction, nearly every American home had at least one television set (Liebert, Sprafkin, & Davidson, 1982). Although initially a luxury, the cost of a television set has decreased over the years despite inflation. Over the last two decades, with slight increases each year, the average household set is on between five and six hours a day (Steinberg, 1980). Adults, average between two and three hours a day viewing television, while children become purposeful viewers with favorite shows by the time they are three-years-old (Comstock, 1978). From about age eight, viewing increases steadily to an average of almost four hours per day during early adolescence (Comstock, 1978).

The advent of television has affected the structure of family life. For instance, Johnson (1967) reported that 60% of families changed their sleeping patterns, and 55% altered

meal times because of television, while 78% used television as an electronic babysitter. Robinson (1972) compared the daily activities of television set owners and nonowners in 15 locations in 11 countries. It was found that television owners decreased a number of activities, including sleep, social gatherings away from home, other leisure activities (correspondence and knitting), conversation, and household care (Robinson, 1972). In comparison to other technological innovations of the 20th century, Robinson (1972) concluded that television appears to have had a greater influence on the structure of daily life than any other innovation.

B. Concern Over Television Use Grows

In the early 1960's, with the increasing use of television by the American family, social scientists began to research the immediate and cumulative effects of television exposure. Researchers were and continue to be especially interested in the effect of television exposure on children. Due to the fact that children have been exposed to far less information than adults, children are viewed as more susceptible to the effects of television (Singer, 1982). As the amount of television exposure increases, the possibility of television acting as a socialization agent also increases (Rushton, 1982). In

fact, the average child today spends more time in the first 15 years of life viewing television than going to school (Liebert, et al, 1982). "We must recognize that children are growing up in an environment in which they must learn to organize experiences and emotional responses not only in relationship to the physical and social environment of the home but also in relation to the omnipresent 21-inch screen that talks, sings, dances, and encourages the desire for toys, candies and breakfast foods" (Singer, 1982, p.6).

Literally, thousands of studies have attempted to answer questions on the effects of television exposure on individual's thoughts, actions, attitudes, feelings, and reactions. The most recurring issue in research on television involves the question of whether or not television violence instigates aggressive or antisocial behavior and/or causes children to be more tolerant or accepting of such behavior in others. A brief review of the literature on television and violence will follow. The focus of this paper will be on the nature of the relationship between children's exposure to television violence and their toleration of real life violence.

C. Television Violence And Aggression

Does television violence cause aggression? This question grew out of public concern about the effects of commercial television (Rubinstein, 1982). In the early 1960's, newspapers provided anecdotal reports of the antisocial effects of television. In the first major study reported on the effects of television, Schramm, Lyle, and Parker (1961) presented a collaboration of documented instances in which television was implicated in the aggressive or antisocial behavior of otherwise innocent youth. For instance, "In Los Angeles, a housemaid caught a seven-year-old boy in the act of sprinkling ground glass into the family's lamb stew. There was no malice behind the act. It was purely experimental, having been inspired by curiosity to learn whether it would really work as well as it did on television" (p. 161). In an investigation on juvenile delinquency by the U.S. Senate (1961), equally compelling instances were also documented.

With public concern as a stimulus, social scientists presented laboratory experimental data which implicated filmed violence as a teacher of aggressive behavior. Bandura (1965) demonstrated that children would spontaneously copy the aggressive acts of a filmed model if either no consequences or positive reinforcement occurred to

the model. Although the children would not demonstrate spontaneous aggression after being exposed to a filmed aggressive model who was punished for their actions, the children would demonstrate aggressive behavior which copied the model when there were incentives for aggression (Bandura, 1965). These findings demonstrated that children could learn and copy aggressive behavior from exposure to filmed aggressive models, regardless of the consequences to the model.

Early laboratory studies also demonstrated a disinhibition of aggression following exposure to filmed aggression (Bandura, Bandura, & Ross, 1961; Hartman & Gelfand, 1969; Lovaas, 1961; Nelson, Gelfand, & Hartman, 1969; Rosenkrans & Hartup, 1967; Walters and Thomas, 1967; Walters and Willows, 1968). In other words, the observation of filmed aggression increased the likelihood of displaying a variety of aggressive behaviors that were not necessarily identical to the film. For instance, Lovaas (1961) exposed children to either an aggressive cartoon or a nonaggressive film. After film presentation, each child was allowed to play with toys. Children who previously viewed an aggressive film exhibited significantly more aggressive behavior with the toys than children who watched the nonaggressive film (Lovaas, 1961).

In another example, Walters and Thomas (1963) exposed hospital attendants, high school boys, and young women to either a film containing a knife fight or a film of adolescents engaging in constructive activities. Prior to and after viewing one of the films, all subjects participated in an experiment which required shocking another person for making errors in a learning task. Prior to film presentation, subjects who were about to see the violent film did not differ from subjects who were about to see a nonviolent film in the strength of shock given in the learning task. However, subjects who were exposed to the aggressive film gave stronger shocks after film presentation than subjects who were exposed to the constructive film.

In 1972, the Surgeon General's scientific committee on television and social behavior concluded that there existed a causal connection between violence shown on television and subsequent aggressive behavior. Although there has been ever growing support that exposure to violent television increases the likelihood of aggression or antisocial behavior on the part of the viewer (i.e., Addison, 1977; Bandura, 1973; Belson, 1978; Berkowitz, 1972; Bogart, 1972; Comstack, 1978; Eyesenck & Nias, 1978; Geen, 1976; Goranson, 1970; Hearold, 1979; Surgeon General's Scientific Advisory Committee, 1972), the television industry has continued to

debate these findings. In fact, in a recent longitudinal field study on the long-term effects of television violence and subsequent aggression, the National Broadcasting Company (Milvasky, Kessler, Stipp, & Rubens, 1982) reported no significant association between violent television exposure and aggression. Milvasky et al (1982) suggested that television does not have the socializing effect of increasing aggression. However, the overwhelming majority of longitudinal field studies concur with the Surgeon General's conclusion that television violence increases aggression (Eron & Huesmann, 1980a; Eron and Huesmann, 1980b; Fraczek, 1980; Huesmann, Eron, Klein, Brice, & Fischer, 1981; Huesmann, Fischer, Eron, Mermelstein, Kaplan, & Morikawa, 1978; Lagerspetz, 1979; Lefkowitz, Eron, Walder, & Huesmann. 1972, 1977; McCarthy, 1975; Singer & Singer, 1980a, 1980b, 1981; Steinberg, 1980; Williams, 1978;).

Although the case for the relationship between aggression and television has been strengthened over the years, full authenticity and power of cause and effect is still subject to honest disagreement (Rubinstein, 1982). All parties involved do seem to agree that television does influence the attitude and behavior of some viewers. For instance, the television industry (Milvasky et al, 1982) does not challenge laboratory results that demonstrate

short-term, modeling effects of televised aggression. However, the television industry and their researchers do challenge findings that suggest short-term effects of television exposure accumulate and generalize to day-to-day behavior. Differences in conclusions may not only be due to differences in methodology across individual studies (i.e., subjects, measures, procedures, etc.), but may also be due to differences in interpreting the concept of causality. Most television researchers as well as the Surgeon General's Advisory Committee, look at the totality of evidence and conclude that the convergence of most of the findings about televised violence and later aggressive behavior by the viewer supports a positive conclusion of a causal relationship (Rubinstein, 1982). The television industry tends to look at each piece of research individually, finding flaws in each design and/or methodology, and concludes that the case has not been made for the causal relationship (Rubinstein, 1982). The question that current research addresses is how much influence, and in what ways, and under what circumstances does television affect our behavior, attitudes and feelings (Rubinstein, 1982).

D. Television Violence and Tolerance To Real Life Aggression

Newspapers daily document apathetic behavior in emergency situations. Individual's will often do nothing to save victims of criminal acts. The most publicized occurrence of the "unresponsive bystander" (Latane & Darley, 1970) is the case of Kitty Genovese who was assaulted, raped, and murdered in front of over 40 witnesses who did absolutely nothing to help. In another example, eleven subway riders watched a 17-year-old bleed to death after the attackers who stabbed the victim left the subway car (Latane & Darley, 1970).

It has been suggested (e.g. Goranson, 1970) that televised violence may not only facilitate aggression but may also serve to increase viewer's toleration of real life aggression. As early as 1964, the issue of becoming apathetic to real life aggression as a result of television was a concern of the public. For instance, Merriam (1964) wrote:

> "The violent entertainment forms affect children in other ways. If they are not becoming actively delinquent-they are becoming passively jaded. As a kind of self-protection, they develop thick skins to avoid being upset by the gougings, smashings, and stompings they see on television. As the voice of reason is shown to be a swift uppercut to the chin, child viewer's cannot afford to get involved, for if they did, their emotions would be shredded. So they keep cool, distantly unaffected. Boredom sets in, and the whole cycle starts over again. Bring on another show with even more bone-crushing and teeth-smashing so the viewers will react" (p. 45).

However, it was not until a series of experiments were conducted by Drabman and Thomas (1974-1978) that the issue was scientifically addressed. Drabman and Thomas (1974) exposed third and fourth graders to either an aggressive cowboy film or no film. Subsequently, all children were led to believe that they alone were responsible for monitoring kindergarten children who were in a trailer outside of the school. The third and fourth grade subjects were given instructions to seek the experimenter if the younger children got into trouble. Then the subjects watched a pre-recorded videotape of two younger children who ended up yelling and physically fighting. While each subject was watching the tape of the children fighting, the experimenter remained outside of the room measuring the amount of time it took each subject to seek appropriate adult help. It was found that children who were first exposed to the aggressive film took significantly longer to seek adult help under conditions of real life violence than children who were not exposed to a film (Drabman &Thomas, 1974).

Thomas and Drabman (1975) replicated their initial finding (Drabman & Thomas, 1974) with a more appropriate control condition. Since it is possible that differential arousal between the film and no film groups in the initial study (Drabman & Thomas, 1974) may have confounded the

findings, control subjects in the second study were exposed to an exciting but nonviolent baseball excerpt. Thomas and Drabman (1975) found that third graders who were exposed to a violent detective film took significantly longer to seek adult help when viewing real life violence than children who were initially exposed to an exciting but nonviolent baseball excerpt. In 1976, Drabman and Thomas further replicated and extended their findings with fifth graders as subjects. In all three of the aforementioned studies, boys and girls did not significantly differ in their response times within each condition.

1. Theories Of Television's Effect On Apathetic Behavior

Exposure to media violence may serve to increase toleration of real life violence (Drabman & Thomas, 1974, 1976; Thomas & Drabman, 1975). Drabman and Thomas (1974) suggested two tenable hypotheses to explain this effect. They suggest that exposure to media violence may convey the impression that violent behaviors are normative. Subsequently, real life violence may then appear trivial in comparison to the extreme violence presented in the media. In a second explanation, Drabman and Thomas (1974) suggest that viewer's may physiologically habituate to violence as a result of frequent television exposure, thus reducing the

viewer's emotional responsivity to subsequent scenes of real life violence. Drabman and Thomas (1974) do not treat these hypotheses as mutually exclusive. They suggested that both an attitude or cognitive change may take place as well as an emotional or physiological change from viewing televised violence.

a) Cognitive Desensitization To Violence

Increased toleration of real life aggression may result from changing attitudes towards violence following cumulative exposure to televised violence. Televised violence may suggest to viewers that aggression is both commonplace and an appropriate method of conflict resolution (Thomas & Drabman, 1978). In fact, there is converging evidence that television can shape attitudes (Atkin, 1975; Beuf, 1979; Bogatz & Ball, 1972; Davidson, Yasuno. & Tower, 1979; Dominick and Greenberg, 1972: Fox & Philliber, 1978; Freuh & McGhee, 1975; Graves, 1975; Greenberg, 1972; Mass, Henderson, Seidman, & Steiner, 1975; Miller and Reeves, 1976; Roberts, 1974; Ryback & Connel, 1978; Tan, 1979; Volgy & Schwartz, 1980) and expectations/perceptions of social reality (Doob & McDonald, 1979; Gerbner et al, 1977, 1979a, 1979b, 1980a, 1980b, 1980c, 1981; Gerbner & Gross, 1973, 1974, 1976, 1980; Hawkins & Pingree, 1980; Hirsch, 1980a,

1980b, 1981;Hughes, 1980; Stevens, 1980a, 1980b; Wober, 1978;).

The overwhelming majority of studies on television and attitude formation revolve around the issues of racial and gender stereotypes. This research grew out of concern that minorities and women were being portrayed in a stereotyped fashion (see Liebert et al, 1978 for review). In the world of television, blacks are overrepresented in smaller, less important roles (Hinton et al, 1974), as criminals and victims (Gerbner, 1970), in roles in which they are dominated by whites (Lemmon, 1977), and do not speak or hold the product in commercials (Dominick & Greenberg, 1970). Women are strongly outnumbered by males, particularly in more important roles (Cantor, 1978; McNeil, 1975; Segger, 1977; Sternglanz & Serbin, 1977), are dominated by men (Lemmon, 1977), and are usually portrayed as homemakers who need men to help solve their problems (McNeil, 1975).

The stereotyped portrayals of women and minorities has been shown to be related to stereotyped beliefs of children. For instance, Frueh and McGhee (1975) found that for both boys and girls in kindergarten, second, fourth, and sixth grades, heavy television viewers were more likely than light viewers to identify with the sex stereotyped roles associated with their own gender. Public television's

Sesame Street portrays Blacks and Hispanics in an almost exclusively positive light (Bogatz & Ball, 1972). Bogatz & Ball (1972) found that exposure to Sesame Street was associated with more favorable attitudes towards Blacks and Hispanics. "The generalization which emerges from the research to date is that viewer's beliefs, values, and attitudes are affected by the content of commercial entertainment television " (Siegel, 1982, p. 177).

In another line of research, television has been implicated as affecting viewer's conceptions of social reality. Cultivation theory (Gerbner & Gross, 1974) predicts that the more a person is exposed to television, the more likely the person's perceptions of social reality will match those represented on television. In a recent study by Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, (1979), adolescents had to choose the correct answer from two choices to questions about society. One answer was based on actual facts while the second answer was based on the television representation of society. It was found that for every question, a significantly higher percentage of heavy television viewers gave the television answer than light television viewers (Gerbner, et al, 1979). These findings have been corroborated with many different samples of people, differing in age, income, education,

race, and country. "The most significant and recurring conclusion of our long range study is that one correlation of television viewing is a heightened and unequal sense of danger and risk in a mean and selfish world" (Gerbner, et al, 1979, p. 196). In other words, due to the high proportion of violence on television, heavy television viewers may perceive and come to expect the world to be a very violent place.

Thomas and Drabman (1978) attempted to assess whether or not televised violence leads to expectations that violence is commonplace. They exposed third and fifth grade children to either an aggressive detective film or a nonaggressive nature film. All children were then given a questionnaire (Leifer and Roberts, 1972) which described conflict situations similar to ones likely to have been encountered by children in their everyday life. For each conflict situation, the children were asked to choose between the alternatives (physical aggression, verbal aggression, leaving the field, positive coping) that they thought other children would use, thus tapping normative expectations. They were also asked to choose the alternative they felt was the right thing to do, tapping moral beliefs. Thomas and Drabman (1978) found that children who were exposed to the aggressive film expected

that other children would react aggressively more often than children who were exposed to a nonviolent film. Exposure to filmed aggression did not reliably influence children's choices of morally correct behavior. There were no sex differences in either measure. Thomas and Drabman (1978) suggest that the tendency to regard aggressive behavior as commonplace may decrease the likelihood of intervention by witnesses to other's aggression.

b) Emotional Desensitization To Violence

An observer's readiness to intervene in aggressive incidents among other individuals may be decreased if these behaviors cease to evoke his emotional reaction (Thomas, Horton, Lippincott, and Drabman, 1977). Thus, prior exposure to violent portrayals on television may gradually blunt emotional responses to subsequent displays of aggression both in television and in real life (Goranson, 1970).

It has been found that witnessing violence and brutality evokes strong emotional reactions on the part of adult and child observers (Berger, 1962; Lazarus & Alferti, 1964; Lazarus, Speisman, Mordkoft, & Davison, 1967; Osborn & Endsley, 1971). Although observers react initially with relatively intense physiological responses to scenes of

violence, it is also true that habituation will occur over prolonged or repeated exposure. For instance, Berger (1962) reported that the strength of physiological responses to watching a confederate receive electrical shocks declined progressively over succeeding shock trials. In another example, subjects exposed to films of tribal rituals involving painful and bloody genital mutilations became increasingly less emotionally responsive to the film over time. In reviewing a number of studies, Zuckerman (1977) noted that a habituation or desensitization effect also occurs to erotic stimuli. Thus, habituation may normally occur to stimuli which initially produce strong emotional-physiological responses.

In a correlational study, Cline, Croft, and Courrier (1973) assessed the effects of amount of television exposure on the physiological responses to a violent film. Children between the ages of five and fourteen were divided into two groups, heavy television viewers (25 hours or more a week) and light television viewers (4 hours or less a week). The investigators assumed that the heavy television viewers were exposed to a greater amount of television violence than light viewers. All subjects were then physiologically monitored (Galvanic Skin Response and blood volume pulse amplitude) while watching a boxing film. It was found that

light television viewers were aroused significantly more than heavy television viewers. These results support the idea that heavy television users may become physiologically desensitized to violence.

Thomas, Lippincott, Horton, and Drabman (1977) provided an experimental test of the hypothesis that exposure to television violence reduces viewer's emotional responsivity to violence in general. In this study, children aged eight to ten were physiologically monitored (Galvanic Skin Response) during the presentation of two successive films. One half of the children first watched a violent police excerpt while the other half watched an exciting volleyball game. There were no significant differences in physiological response to these two films. They were then led to believe that the second film was actually a live presentation of children in another room. These children end up arguing and fighting. It was found that children who first watched a violent film physiologically responded less to the scenes of real life violence than children who first watched the volleyball film (Thomas et al, 1977). Thomas et al (1977) found identical results with adults with different stimulus materials. Thomas et al (1977) concluded that these two experiments add considerable strength to the argument that repeated observation of violent action in

dramatic television portrayals can result in the blunting of viewer's emotional sensitivity to similar aggressive actions.

D. Experimental Rationale

Drabman and Thomas (1974, 1976) and Thomas and Drabman (1975) demonstrated that children take longer to seek help in the presence of real life violence when previously exposed to a violent television excerpt. In addition, Thomas and Drabman (1978) demonstrated that children who were exposed to a violent film expected other children to respond more aggressively in conflict situations than children who were exposed to a nonviolent film. Although these studies provided an experimental demonstration of the immediate or short term effects of violent television programs on tolerance to, and expectations of real life aggression, there is no evidence suggesting whether or not violent television portrayals lead to a cumulative or long-term effect on behavior (i.e. the latency of response) to real life violence. It is possible that violent portrayals on television may temporarily desensitize an individual to real life violence but not lead to a cumulative effect of desensitization and apathy.

Thomas, Lippincott, Horton, and Drabman (1977) demonstrated that exposure to television violence reduces viewer's physiological responsivity to real life violence. It has also been demonstrated that heavy television viewers physiologically respond less to televised violence than light viewers (Cline, Croft, & Courrier, 1973). Drabman and Thomas (1974) suggested that the demonstration of a decrease in the speed of children to intervene in other children's altercations following exposure to violent television may be understandable in terms of a parallel decrease in emotional sensitivity to aggressive behavior. However, no study has assessed the extent to which the toleration of aggression can be predicted from a subject's level of emotional reactivity.

The current study will attempt to assess the cumulative effects of exposure to television violence on subsequent responses (behavioral and physiological) to, and expectations of real life violence. A large number of 4th and 5th grade children will be surveyed on their violence viewing habits. These children will also be given Leifer and Roberts (1972) conflict situations questionnaire, thus measuring their expectations of other's aggression (Drabman & Thomas, 1978). The correlation between violence viewing and expectations of other's aggression will be assessed.

From the initial sample of children, two extreme groups, high violence viewers and low violence viewers will then be chosen. In an experimental setting, the two extreme groups of television violence viewers will be exposed to a scene of real life violence (adapted from Drabman & Thomas, 1974). The scene of real life violence will not be preceded by any other film. All children will be physiologically monitored during the scene of real life violence, and latency to respond (to seek help) to the scene will also be measured. The absence of a film prior to the scene of real life violence allows for the assessment of the relationships between long-term violence viewing, arousal, and latency to respond to real life aggression.

E. Hypotheses

1. Violence Viewing and Expectations of Violence

Children who normally view a large amount of television violence will be expected to predict other's to respond aggressively in conflict situations more often than children who normally view a relatively smaller amount of televised violence. The basis for this hypothesis is the results of Thomas and Drabman (1978) which demonstrate that exposure to a violent film subsequently increased children's expectations of physical aggression in others.

2. Violence Viewing and Tolerance to Real Life Aggression

Children who normally view a large amount of television violence will be expected to take longer to seek help in the presence of real life violence than children who normally view a relatively smaller amount of televised violence. The basis for this hypothesis is data from a series of studies that demonstrate that exposure to a violent film subsequently increased latency to seek help in the presence of real life violence (Drabman & Thomas, 1974, 1976; Thomas & Drabman, 1975).

3. Sex and Tolerance to Real Life Violence

Females are not expected to take any longer to seek help in the presence of real life aggression than males. Hypothesis three is based on previous data which demonstrated that males and females did not differ in their latency to seek help in the presence of real life violence (Drabman & Thomas, 1974, 1976; Thomas & Drabman, 1975).

4. Violence Viewing and Arousal To Real Life Violence

Children who normally view a large amount of television violence will be expected to be less physiologically aroused in the presence of real life violence than children who normally view a relatively smaller amount of televised violence. The basis for this hypothesis is the data of Cline et al (1973) and Thomas et al (1977) which suggest that heavy television violence viewers may be

physiologically desensitized to subsequent scenes of violence.

5. Arousal and Tolerance to Real Life Violence

A negative correlation between level of arousal and latency of seeking help in the presence of real life violence is expected. Hypothesis five is based on two sets of data which suggest 1.) that heavy violence viewers may be physiologically desensitized to subsequent scenes of violence (Cline et al, 1973; Thomas et al, 1977) and, 2.) exposure to a violent film subsequently increased latency to seek help in the presence of real life violence (Drabman & Thomas, 1974, 1976; Thomas & Drabman, 1975).

METHOD

A. STUDY ONE-CORRELATIONAL STUDY

Subjects

A total of 568 fourth and fifth grade children who attended one of six schools in Montgomery County Virginia served as subjects. Three of the schools were in the Blacksburg town limits, while three of the schools were in the more rural sections of the county. There were approximately equal numbers of males and females as well as fourth and fifth graders. The children were asked to fill out a total of eight questionnaires in two 45-minute session batteries. Many of the questionnaires in the battery were given as part of a delinquency prevention project supported by the Department of Justice. Data collection occurred in October-November, 1983.

Questionnaires

1. Violence Viewing

Early in the battery of measures, children were asked to write down their three favorite television shows (see Appendix A). Later in the battery, the children were given

a list of television programs that were either currently on the air or were on within the last year in the local area (see Appendix B-television frequency form). The television frequency form was similar to ones used in the literature (Thomas et al, 1977; Greenberg & Gordon, 1970; McLeod, et al, 1972). The list contained programs that were on prime time, early mornings, late afternoons, and Saturday mornings. There were also eleven titles of programs that had never been on the air. The children were asked to rate the frequency of viewing each television program by indicating if they watch each program often (nearly every time it is on), sometimes, or never. The list of three favorite television programs and inclusion of nonexistent television program titles in the frequency form served as a way to check the reliability of the subject's self report.

Scoring of television frequency form

In order to determine the amount and relative rate of violent television viewing, two methods for scoring the completed television frequency form were employed. One method was based on subjective ratings of violence in television programs. The second method was based on a formal content analysis of violence in television programs.

a) Subjective ratings

Violence ratings for each program were determined according to the following procedure used previously (Greenberg and Gordon, 1970; McLeod, et al, 1972; Thomas, et al 1977). Ninety college student volunteers were given the same list of programs that were given to the children and were asked to rate each program with respect to its violent content using a 10-point scale. The following instructions (derived from Abel & Bennison, 1976; Greenberg & Gordon, 1970; Thomas et al, 1977) were given to the raters. "Please rate the amount of violence for each of the television programs on a one to ten scale where one is no violence and ten is extremely violent. By violence, I mean how much fighting, shooting, yelling, kicking, or destruction there is in the program. Please only rate those programs which you have viewed at least three times and feel familiar enough with to rate." Each program was rank ordered according to the mean violence ratings and scores from zero (nonviolent) through ten (most violent) were assigned to clusters of programs on the basis of similar mean violence ratings (Appendix C). Based on subjective ratings, the absolute violence viewing index for each subject (child) was the sum of the products of each show's weighted violence score and the viewing frequency rating (often = 3, sometimes = 2, never = 0).

Intrarater and interrater reliability of subjective violence ratings was assessed. Prior research has demonstrated good interrater reliability of violence ratings of television programs by college students (Greenberg & Gordon, 1970; Thomas et al, 1977), but no data on intrarater reliability of subjective ratings have been reported. To assess intrarater reliability, five of the program titles were repeated and embedded in the rating form. When considering an agreement as the same rating for a program rated twice, the calculation of intrarater reliability (number of agreements divided by the number of agreements plus disagreements) was .80. When considering an agreement as the same rating plus or minus one for a program rated twice, the calculation of intrarater reliability (same formula as above) was .96. Thus, when asked to rate the same program twice, the college student raters appeared to be fairly consistent with their ratings.

An assessment of interrater reliability of subjective ratings was made by examining a distribution of ratings for each program, which tended to clump together on some part of the one to ten rating scale. Interrater reliability of subjective ratings were assessed by computing the percentage of student ratings that were in the modal rating category, as well as the percentage of ratings in the modal rating

category plus one, two, and three adjacent rating categories for each program. On the average, 37% of the student ratings were in one rating category (mode) for each program. When considering the modal rating category and the next frequently rated adjacent category, 56% of the ratings on the average were in these two categories for each program. With the modal rating category plus two and three adjacent categories, 74% and 89% of the ratings were on the average in three and four rating categories for each program respectively. These figures suggest that a clear majority of the ratings appear to be clustered together on one part of the scale for each program. Thus, there appeared to be a good deal of consistency between raters when asked to rate the level of violence in television programs.

b) Content Analysis

The National Coalition on Television Violence (NCTV) is a national public interest organization that has performed content analyses of violence on television programs for the last three years. Their general definition of interpersonal violence is the following: "The deliberate and hostile use of overt force (or the immediate and direct threat) by one individual, an agent, coercively against another individual, a victim". Their rating system takes into account intent,

intensity, and consequences of the action. For instance, a weighting scale causes murder and attempted murder to account somewhat more than angry pushes and shoves. Interrater reliability correlations of violent acts have generally been in the low .70's. Based on their content analysis, NCTV reports the number of violent acts per hour for each program monitored. They consider all programs with ten or more violent acts per hour as extremely violent.

Seventy-three of the 101 programs listed on the television frequency form have been monitored by NCTV. Mean violent acts per hour of these 73 programs were computed by summing and averaging violent acts per hour data reported by NCTV over the last three years (October 1980-December 1983). Means of ten or more violent acts per hour were found for 32 programs (see Appendix D). Thus, based on content analysis of violence, an absolute violence viewing index for each subject was the sum of the frequency ratings (often = 3, sometimes = 2, never = 0) for the 32 extremely violent programs.

c) Relationship between subjective and NCTV ratings

The two rating systems employed, subjective ratings and content analysis of violence, had 73 programs in common. Correlational analyses were performed on mean violence

subjective ratings and the number of violent acts per hour to assesss the relationship between the two rating systems. Pearson Product Moment and Spearman's Rank Order procedures yielded correlations of .67 and .78 respectively. When considering the relationship between weighted subjective means and NCTV ratings, Pearson and Spearman correlations are .68 and .79 respectively. These findings are unique as there have been no reported attempts at correlating subjective and content analysis ratings.

2. Expectations of Other's Violence

Children's expectations of other's behavior in conflict situations was assessed by use of a response hierarchy questionnaire adapted from Leifer and Roberts (1972) and employed by Thomas and Drabman (1978) (see Appendix E). Each item describes a conflict situation, similar to one likely to have been encountered by children in their everyday life. Following each conflict situation, all possible combinations of the four alternative responses (physical aggression, verbal aggression, positive coping, leaving the field) were presented in a paired comparison technique. Thus, six pairs of responses were presented for each of the nine situations. For each pair of responses, stick figure illustrations were presented to the children in addition to verbal and written descriptions of behavior.

The experimenters explained to the classroom of children that they would like to know how they thought most children their age would behave in a certain situation. Each child was then given a booklet containing the stick figure drawings and answer sheet. The experimenter slowly read aloud the description of each situation and then for each pair of responses asked the children to indicate on the answer sheet which of the two responses they believed to be characteristic of "most kids" behavior. The experimenter strongly emphasized that they were interested in what they thought other children would do in each situation, not what they themselves would do. The children were instructed to work independently and not to indicate their answers aloud.

For each item on the scale, a simple count was made of the number of times each response was chosen. Thus on each item, a physical aggression score could range from zero (never chosen) to three (chosen every time presented). For the entire scale, a sum total was computed of the number of times each response category was chosen.

Test-retest reliability (one month) was .72 for physical aggression and .57 for verbal aggression (Leifer & Roberts, 1972). When children were required to complete the hierarchy for their own responses in the conflict situations, concurrent validity was demonstrated through

correlations with teacher ratings of aggression (Leifer & Roberts, 1972). In addition, the measure has been shown to discriminate aggressive from nonaggressive children (Leifer & Roberts, 1972).

3. AML

The AML (Cowen, et al, 1973) is an 11 item questionnaire given to teachers to fill out about their students (see Appendix F). The two major subscales measure Aggression and Moodiness while a minor subscale (one question) measures Learning problems. Each item describes a behavior and the teacher must rate the frequency of that behavior on a five point rating scale ranging from never to most or all of the time for each child. The range of scores for each of the Aggression and Moodiness subscales are five to 25. Test-retest reliability (two weeks) ranges from .80 to .86 for both individual subscales and the total scale. Concurrent validity has been demonstrated with other brief teacher rating forms (Cowen, Dorr, and Orcal, 1971). This measure has been shown to differentiate maladjusted from normal children (Cowen, et al, 1973).

The inclusion of the AML was to serve two purposes: 1.) Child's own level of aggressiveness may be a better predictor of expectations of other's aggression than

violence viewing, and 2.) A lack of a correlation between aggressiveness and expectations of other's aggression would suggest that the children were responding to what they were asked, expectations of other's aggression and not how they themselves would behave.

B. STUDY TWO-EXPERIMENTAL STUDY

Subjects

Thirty nine fourth and fifth graders, 21 male and 18 female served as subjects in study two. The experimental design was a 2 x 2 with the variables of violence viewing (high and low) and gender (male and female). In the high violence viewing condition, there were 10 males and nine females. In the low condition, there were 11 males and nine females. Data collection occurred in April-May, 1984.

The 39 subjects were obtained from a subsample of 146 subjects who participated in study one. Subjects were chosen from this subsample because of access to family's home telephone through the social behavior project (Ollendick, 1983). From the possible 146 subjects, 21 were considered as unreliable self-reporters of television frequency due to endorsement of viewing nonexistent television programs. The remaining 125 children were rank ordered according to their television violence viewing index

as determined in study one. Those children that were at or above the 75th percentile (31 high violence viewers) or were at or below the 25th percentile (31 low violence viewers) when rank ordered according to their television violence index when employing both rating systems were considered as potential subjects.

Through personal contact with members of the social behavior project staff, six children were considered inappropriate at the time of recruitment for a variety of reasons (child in special education, too aggressive, illness in the family, or parents were not interested in finding out more about the project). In addition, seven potential subjects could not be recruited due to a lack of a telephone or to a disconnected telephone. The remaining 49 potential families were contacted by telephone and asked if they would like to participate with their child and be paid 25 dollars to be in a psychology experiment concerned with the physiological effects of television on children. In addition, parents were told that they would have to fill out some questionnaires and that their child would be physiologically monitored (heart rate and sweating) while watching different television programs. Out of 49 parents contacted, 39 agreed to participate.

Apparatus

The entire experiment took place at the Psychological Services Center in Blacksburg Virginia, a free standing building two miles from campus. The child sat in a reclining chair in a 1.85 meters by 2.31 meters experimental chamber. There was a 12 inch Sony black and white television sitting on a table that was facing the child. Isopropyl rubbing alcohol 91% (Rite Aid Brand) applied with cotton balls (Sentinel Brand) was employed to cleanse the child's skin at electrode placement sites. Electrode jel (Spectra 360) was applied to the electrodes to lower impedence. Beckman silver-silver chloride electrodes were attached to the skin via tape (Johnson & Johnson Dermicel Brand). Electrodes were attached to a Grass Model 7 polygraph in an adjacent experimental room. A Sony Betamax was employed to project the videotaped scenes onto the television. A Heller stopwatch measured the latency of the child's response to the scene of real life violence.

Experimenters

There were three experimenters, one graduate student (the author) and two undergraduate assistants. The graduate student greeted the family, attained parental consent, and monitored the polygraph. A male undergraduate assisted the

parents with the questionnaires and a female undergraduate worked with the child. The two undergraduate assistants were blind to the child's television violence viewing habits (high vs. low) while the graduate student was aware of the child's group assignment.

Procedures

A. Parent

When the family arrived at the center, the parent was given details of the experiment and asked to sign am informed consent form to allow their child to participate (Appendix G). The parent was then given a short interview that requested some general information about the family including education and occupation of the parents. The education and occupation was used to classify each family into a social class level (Hollingshead & Redlich, 1957). Social class was correlated with all measures as it may be related to any or all of the behaviors under study. In addition, the parent was asked to fill out the following questionnaires.

1. Television Frequency Forms

The parent was given three television frequency forms (same form as in study one). On the first frequency form, the parent was requested to circle the frequency their child viewed each program. If they were unsure about their child's frequency of viewing a particular program, they were instructed to guess, but were also told to place an X next to any title where they lacked confidence in their answer. On the second frequency form, they were asked to circle how frequently they themselves viewed each program. The third frequency form was given to them to take home in order for their spouse to complete. The third form was to be mailed back to the experimenter and there was 100% compliance.

2. Conflict Tactics Scales

The Conflict Tactics Scales (Strauss, 1974, 1979) were designed to measure the use of reasoning, verbal aggression, and physical violence under conditions of family conflict. There are a series of scales assessing conflict resolution techniques among the possible dyads in the family (e.g. between siblings, between mother and child, mother and father, etc.). Internal consistency reliability of the scales was found in prior research to be adequate by an item analysis that computed the correlations of the items on the

scales with the total scale score (Strauss, 1979). Strauss (1979) provided evidence for both content, concurrent, and construct validity of the scales.

The parent was asked to complete four Conflict Tactics Scales (Appendices H-J). The first one required the parent to report how their child handled conflicts with other siblings or friends. The next two required the parent to report how they themselves and their child handled conflicts, as well as how their spouse and child resolved conflicts. On the fourth scale, the parent was asked how marital conflicts were settled by assessing their behavior as well as their spouse's. From these scales, three indexes were computed. The reasoning index (summing of items A-C) measures attempts at rational discussion in conflict situations. The verbal aggression index (summing of item D-J) refers to increasing degrees of expression of emotion, anger, and verbal violence while in a dispute. The physical aggression index (summing of items K-R) refers to the use of physical force in a conflict situation. A reasoning, verbal aggression, and physical aggression index was computed for each member of the dyad for each form. In addition, for each index, a total child score, parents score, and family score were also computed. The Conflict Tactics Scales were included to assess the relationships between family violence

with violence viewing and latency to respond to real life aggression.

B. Child

After the parent signed the consent form, the child was given a short tour of the center. This tour included viewing a room that was decorated like a playroom. The room was equipped with toys suitable for young children, including blocks, playphone, plastic hammer, paper and pencil. In addition, a video-camera mounted on a tripod was at one end of the room focusing in on the toys. The experimenter said to the child: "This room is used by a friend of mine who works with kindergarten children. See that camera? It takes pictures of what's going on in this room all the time. In fact, its taking pictures of us right now". Then the experimenter escorted the child to the experimental room, asked the child to sit down, and turned on the television set. While turning on the television, the experimenter said: "I promised my friend who works with the kindergarten children that I would keep an eye on them while she's gone. See I can turn on this TV set and watch what's happening in the other room". On the screen, the child then saw a videotaped scene that was identical to the playroom that they previously visited.

The experimenter then attempted to find out if the child knew about the experimental manipulation. The experimenter questioned the child about what they thought they were supposed to do and what was to happen. This was done by asking the child what their parents told them, if any of their friends participated before, what their friends told them about it, and what programs they thought they were going to watch. No child demonstrated any knowledge of the experimental manipulation. Communication between children was minimized by testing the majority of the children from a given school on one weekend. Although there was not a balance of high and low violence viewers at each school, an order effect was avoided by alternating between primarily high and primarily low violence viewing schools.

The experimenter then described the alleged purposes of the experiment. "What we want to do is find out how much children your age like different things, especially different television shows. This whole thing should take about an hour. There are two ways we're going to find out what you like. First of all, I'll ask you some questions and secondly, I'm going to tape these things (shows electrodes) to your hands and ankle. These wires are attached to a machine, like a computer in the next room. The machine will help tell us how much you like the

different things were going to show you. O.k.? Do you have any questions"? While the experimenter placed the finger electrodes on the child, the experimenter told the child, "These electrodes will tell me how much you like different things". The experimenter then placed the electrodes on the following locations: left wrist, right wrist, above the left ankle, middle joint of the second and fourth fingers of the left hand.

The subject's skin resistance and heart rate was recorded continuously throughout the experiment. The experimenter spent the next ten minutes talking to the child (food toys, school, etc.). This time served to acclimate the child to the experimental environment and electrodes. The experimenter also emphasized that it was important that the child sit still in order that the machines could get an accurate reading and praised the child if they did so.

After the ten minute adaptation period, the experimenter set up the deception by saying the following: "Now I have to check on the machines to make sure they are working right. I'll only be gone for about ten minutes and I would like you to just sit still and relax while I'm gone. Remember that you can't move around too much. Oh, by the way, I'm supposed to keep an eye on those younger kids. There's no one there now and I should be back before they

arrive, but if I don't, could you just watch them for me? Thanks. All you have to do is watch the television and if the children get there before I get back, then you keep an eye on them. I think they'll be O.K. but sometimes little kids can get into trouble, and that's why an older person should be watching them. If anything bad happens, you can ring this bell and I'll know to come back into the room. Unless you have to ring the bell to get me, I want you to hold your hand and leg still so I can check the machines. Do you have any questions?" The experimenter then left the room.

All of the children then viewed a six minute videotaped scene that was modeled after the scene of real life violence produced by Drabman and Thomas (1974). An initial two minute segment showed the room unoccupied and served to obtain baseline psychophysiological data. Then an adult and two children, a five year-old boy and a seven year-old girl, enter the room. The adult soon leaves and the children play fairly quietly for the next minute and forty seconds. However, they soon begin to make derogatory comments to each other and then maliciously destroy each other's block buildings. Their altercation becomes progressively more severe and culminates in a physical fight during which the camera appears to be knocked over and broken. Then the

video portion goes blank while the audio continues for about 30 seconds as the children cast accusations of blame and apparently continue to physically fight.

The experimenter recorded the time elapsed between the beginning of the tape and the subject's ringing of the bell. The experimenter reentered the room after the child rang the bell, asked the child what was happening, shut the television off, and left the room for a short while so to supposedly check on the other children. When the experimenter reentered the room, she reassured the subject that everything was alright. The experimenter said, "Thanks for letting me know those kids were getting into trouble. My friend came back and she's taking care of everything. The kids are O.K. and nothing was broken". If the subject did not respond within two minutes after the audio portion of the scene ended, the experimenter reentered the room and said: "My friend came back and she's taking care of the kids now. They're O.K. and nothing was broken". If the subject did not ring the bell, seventy seconds were added to the total time of the film (Drabman & Thomas, 1974, 1976; Thomas and Drabman 1974).

After reassuring the subject that the other children were fine, the experimenter then set up the situation for what was supposed to be in the eyes of the subject the real

experiment. "The machines are working alright. You did a real good job of holding still. Now we can get started. Now remember, I don't want you to move around too much. I'm going to show you a ten minute television show and I want you to find out how much you like this show. It's a police show. Do you like police shows? I want you to just sit there and watch the show and remember to keep still. I'm going to leave and when its over, I want you to ring the bell to get me. When you ring the bell, I'll know to come back in".

The experimenter then left the room. The subject viewed an excerpt from the television program S.W.A.T. used by Thomas, et al, 1977. After the police program, the experimenter reentered the experimental room, talked to the child briefly about the program, and then introduced the next film which was an excerpt from a championship volleyball game also used by Thomas, et al, 1977. The experimenter left the room during the volleyball film and reentered at its conclusion.

After the last film, the subject was asked to complete a television frequency form orally as the experimenter asked the child how frequently they watched each program. Once the form was completed, the electrodes were removed and the child was thanked for their participation.

Finally, a manipulation check was performed to assess if the subject thought that the tape of the other children was actually live and really happening in the building. After the electrodes were removed, a second experimenter entered the room and the first experimenter left. The second experimenter asked the child to tell him what happened during the hour under the guise that they needed to know if the first experimenter did everything correct. When the child referred to watching other children, the experimenter probed to see where the subject felt the kids were, on television or in the other room by asking, "where were these kids"? All the subjects responded that the other children were in the other room in the house, not just on television.

C. Teachers

Teachers were asked to complete a second AML form for the juvenile delinquency prevention project in April, 1984.

RESULTS

A. Study One

1. Reliability of Television Frequency Report

Two methods assessed the reliability of subject's self report of television frequency viewing. One method compared subject's listing of favorite television programs with their frequency rating of those favorite programs. Eighty eight percent of the favorite television programs were rated as viewed "often" on the frequency report. Twelve percent of the favorite programs were rated "sometimes" while less than one percent were rated "never". Therefore, none of the children's frequency reports were considered unreliable from this assessment. In general, there was good consistency between subject's list of favorite programs and their frequency report of those programs.

A second method to check the reliability of subject's self report of television viewing frequency assessed the endorsement of viewing the eleven nonexistent program titles. From the total of 568 subjects, 94 endorsed viewing three or more programs that were never on television. Data from these 94 children were considered unreliable and

removed from all further statistical analyses. Out of the remaining 474 subjects, endorsement of viewing a bogus program title only occurred four percent of the time.

2. Television Frequency Data

A Pearson Product Moment Correlation (PPMC) between subjects' two television violence indexes, content analysis method (content) and subjective ratings method (subjective), yielded a significant positive coefficient of .956 ($p < .0001$). Although the two television violence indexes were highly correlated for the sample, separate analyses were performed, employing each index, when a score for television violence viewing was to be included in a statistical procedure.

3. Television Violence Viewing and Expectations of Other's Violence

Out of the 474 subjects, there were 431 properly completed expectations of other's behavior in conflict situations questionnaire. For the 43 children for which there was insufficient data on the expectations measure, some were absent on the day of testing, some had not completed the entire questionnaire, and some completed it improperly. Table 1 presents PPMC coefficients between violence viewing and the subscales of the expectations

TABLE 1

Pearson Product Moment Correlation Coefficients Between Violence Viewing and Subscales on the Expectations Measure

	Violence Viewing (Content)	Violence Viewing (Subjective)
Coping	- .095#	- .11#
Leaving	- .11#	- .11#
Physical Aggression	.23*	.25*
Verbal Aggression	- .093	.089

#p <.05 * p <.0001

measure. A PPMC yielded a significant positive coefficient between violence viewing and physical aggression expectations ($p < .0001$) and significant negative coefficients between violence viewing with both coping and leaving the field expectations ($p < .05$).

For exploratory purposes, group differences for sex (male and female), school (town and county), and grade (4th and 5th) for both violence viewing habits and expectations of other's behavior in conflict situations was asssessed. Analysis of Variance (ANOVA) for television violence viewing (see Tables 2 and 3) yielded reliable effects for school ($p < .0001$), and sex ($p < .0001$). Children in the county as well as males endorsed viewing reliably more violent television than children in the town and females respectively (see Tables 2A and 3A).

An ANOVA for expectations of other's behavior in conflict situations (see Tables 4-7) yielded reliable effects for sex on coping, leaving the field, physical aggression, and verbal aggression expectations (ps < .0001); reliable effects for grade on coping ($p < .005$), leaving ($p < .005$), physical aggression ($p < .01$), and verbal aggression ($p < .0001$); reliable effects for school on physical aggression expectations ($p < .0001$). Females and fourth graders expected reliably more coping and leaving

TABLE 2

Analysis of Variance for Television Violence Viewing (Content)

Source	df	SS	F
School	1	14184.43	55.32*
Grade	1	75.17	<1
Sex	1	6942.03	27.07*
School x Grade	1	59.41	<1
School x Sex	1	39.81	<1
Grade x Sex	1	39.38	<1
School x Grade x Sex	1	531.40	2.07
Error	423	108467.45	--

*p <.0001

TABLE 2A

Mean Televeision Violence Viewing (Content) for School & Sex

School		Sex	
Town	County	Male	Female
44.23	56.37	51.93	44.80

TABLE 3

Analysis of Variance for Television Violence Viewing (Subjective)

Source	df	SS	F
School	1	1500991.69	55.51*
Grade	1	3363.01	<1
Sex	1	349665.11	13.86*
School x Grade	1	4115.14	<1
School x Sex	1	296.67	<1
Grade x Sex	1	5339.25	<1
School x Grade x Sex	1	59581.08	2.36
Error	423	10668734.53	--

*p <.0001

TABLE 3A

Mean Televeision Violence Viewing (Subjective) for School & Sex

School		Sex	
Town	County	Male	Female
422.53	547.43	491.05	440.40

TABLE 4

Analysis of Variance for Coping Expectations in Conflict Situations

Source	df	SS	F
School	1	72.55	2.51
Grade	1	420.64	14.56&
Sex	1	736.34	25.48*
School x Grade	1	55.95	1.94
School x Sex	1	4.96	<1
Grade x Sex	1	6.81	<1
School x Grade x Sex	1	60.35	2.09
Error	423	12222.21	--

&p <.005 * p <.0001

TABLE 4A

Mean Coping Expectations for Sex and Grade

Sex		Grade	
Male	Female	4th	5th
9.6	12.2	11.99	9.99

TABLE 5

Analysis of Variance for Leaving the Field Expectations in Conflict Situations

Source	df	SS	F
School	1	13.91	<1
Grade	1	163.60	8.00&
Sex	1	716.37	35.03*
School x Grade	1	0.53	<1
School x Sex	1	0.08	<1
Grade x Sex	1	86.99	4.25#
School x Grade x Sex	1	57.61	2.82
Error	423	8651.02	--

#p <.05 & p <.005 * p <.0001

TABLE 5A

Mean Leaving the Field Expectations for Grade & Sex

Grade		Sex	
4th	5th	Male	Female
15.64	17.24	18.40	14.63

TABLE 6

Analysis of Variance for Physical Aggression Expectations in Conflict Situations

Source	df	SS	F
School	1	587.06	16.69*
Grade	1	266.42	7.57@
Sex	1	1607.88	45.72*
School x Grade	1	20.56	<1
School x Sex	1	2.43	<1
Grade x Sex	1	16.03	<1
School x Grade x Sex	1	65.83	<1
Error	423	14877.53	--

@p <.01 * p <.0001

TABLE 6A

Mean Physical Aggression Expectations for School, Grade & Sex

School		Grade		Sex	
Town	County	4th	5th	Male	Female
18.14	15.67	15.64	17.24	18.40	14.63

TABLE 7

Analysis of Variance for Verbal Aggression Expectations in Conflict Situations

Source	df	SS	F
School	1	7.25	1.97
Grade	1	288.25	15.99*
Sex	1	182.60	10.13&
School x Grade	1	4.96	<1
School x Sex	1	0.34	<1
Grade x Sex	1	5.77	<1
School x Grade x Sex	1	49.35	2.74
Error	423	7623.67	--

&p <.005 * p <.0001

TABLE 7A

Mean Verbal Aggression Expectations for School, Grade & Sex

Grade		Sex	
4th	5th	Male	Female
15.27	16.90	16.85	15.46

responses and reliably less physical aggression and verbal aggression responses than males and fifth graders respectively. Children in the county expected reliably more physical aggression responses than children in the town (see Tables 4A-7A).

A multiple regression for physical aggression expectations (Tables 8 and 9) yielded reliable effects for violence viewing ($p < .0001$), sex ($p < .0001$), school ($p < .005$), and grade ($p < .01$). Thus, violence viewing, sex, school, and grade were all predictors of physical aggression expectations. The four variables of violence viewing, sex, school, and grade accounted for approximately 16% of the variance for physical aggression expectations.

Due to reliable differences in violence viewing for the variables of school and sex, and reliable differences in expectations of other's behavior for the variables of school, sex, and grade, correlations between violence viewing and expectations for subgroups of the total sample were assessed. Pearson Product Moment Correlations (Tables 10-12) yielded significant positive coefficients between violence viewing and expectations of physical aggression for all of the following subgroups; males ($p < .05$), females ($p < .005$), town ($p < .005$), county ($p < .05$), fourth graders ($p < .05$), fifth graders ($p < .0001$). Thus, reliable

TABLE 8

Multiple Regression for the Variables of Violence Viewing (Content), Sex, School, and Grade on Physical Aggression Expectations

Source	df	SS	F
Violence Viewing (Content)	1	903.73	26.06*
Sex	1	1121.10	32.33*
School	1	386.92	11.16&
Grade	1	257.93	7.44@
Error	426	14774.08	--

@p <.01 & p <.005 * p <.0001

TABLE 9

Multiple Regression for the Variables of Violence Viewing (Subjective), Sex, School, and Grade on Physical Aggression Expectations

Source	df	SS	F
Violence Viewing (Subjective)	1	1066.69	31.11*
Sex	1	1200.81	35.02*
School	1	311.93	9.10&
Grade	1	256.82	7.49@
Error	426	14607.51	--

@p <.01 & p <.005 * p <.0001

TABLE 10

Pearson Product Moment Correlation Coefficients Between Violence Viewing and Subscales on the Expectation Measure for Males and Females

	Males (n = 214)	
	Violence Viewing (Content)	Violence Viewing (Subjective)
Coping	- .03	- .07
Leaving	- .05	- .07
Physical Aggression	.16#	.20&
Verbal Aggression	- .10	- .10
	Females (n = 217)	
	Violence Viewing (Content)	Violence Viewing (Subjective)
Coping	- .06	- .09
Leaving	- .06	- .08
Physical Aggression	.20&	.23&
Verbal Aggression	- .12	- .10

#p <.05 & p <.005

TABLE 11

Pearson Product Moment Correlation Coefficients Between Violence Viewing and Subscales on Expectations Measure for Children in the Town and County.

	Town (n = 286)	
	Violence Viewing (Content)	Violence Viewing (Subjective)
Leaving	- .07	- .07
Coping	- .10	- .10
Physical Aggression	.18&	.18&
Verbal Aggression	- .08	- .07
	County (n = 145)	
	Violence Viewing (Content)	Violence Viewing (Subjective)
Leaving	- .10	- .14
Coping	- .11	- .14
Physical Aggression	.18#	.24&
Verbal Aggression	- .01	- .01

#p <.05 & p <.005

TABLE 12

Pearson Product Moment Correlation Coefficients Between Violence Viewing and Subscales on Expectations Measure for Fourth and Fifth Graders.

	Violence Viewing (Content)	Violence Viewing (Subjective)
Fourth Graders (n = 199)		
Coping	.01	- .02
Leaving	- .05	- .06
Physical Aggression	.15#	.16#
Verbal Aggression	- .10	- .09
Fifth Graders		
Coping	- .19&	- .20&
Coping	- .18&	- .19&
Physical Aggression	.33*	.33*
Verbal Aggression	- .05	- .03

#p <.05 & p <.005 * p <.0001

positive coefficients between violence viewing and expectations of physical aggression was found for all of the subgroups of the variables sex, school, and grade.

4. High and Low Violence Viewers and Expectations

To further assess the relationship between violence viewing and expectations of other's aggression, extreme groups of violence viewers (high vs low) were compared with respect to their expectations. The 431 children were rank ordered according to their television violence viewing indexes. Those children that were at or above the 75th percentile for both indexes were considered as high violence viewers (n = 102), while those at or below the 25th percentile were considered low violence viewers (n = 102). A t-test (see Table 13) yielded a reliable effect for violence viewing (high vs low) for expectations of physical aggression. The high violence viewers expected others to be physically aggressive in conflict situations reliably more than the low violence group. However, the high and low violence viewing groups also differ in their subject samples, especially for the variable of school (see Table 14).

In addition, an ANOVA for extreme groups for physical aggression expectations (see Table 15) yielded reliable

TABLE 13

T-Test for High vs Low Violence Viewers on Their Expectations of Others Behavior in Conflict Situations

	High Violence Viewers	Low Violence Viewers	T
Coping	10.36	11.58	1.09
Leaving the Field	10.06	11.29	1.25
Physical Aggression	17.77	14.44	4.03*
Verbal Aggression	15.78	16.67	1.44

*p <.0001

TABLE 14

Composition of Subject Samples for High and Low Violence Viewing Groups

	High Violence Viewers	Low Violence Viewers
Male	48	44
Female	54	58
Town	44	92
County	58	10
Fourth Grade	49	44
Fifth Grade	53	58

TABLE 15

Analysis of Variance for Extreme Violence Viewers (High & Low) for Physical Aggression Expectations

Source	df	SS	F
School	1	370.88	11.08&
Sex	1	550.01	16.43*
Grade	1	64.43	1.92
School x Sex	1	0.38	<1
School x Grade	1	3.82	<1
Sex x Grade	1	47.93	1.42
School x Sex x Grade	1	1.37	<1
Error	196	6560.81	--

&p <.005 * p <.0001

TABLE 15A

Mean Physical Aggression Expectations for School & Sex

School		Sex	
Town	County	Male	Female
15.15	18.01	17.57	14.91

effects for school ($p < .01$), and sex ($p < .0001$). Children in the county as well as males expected reliably more physical aggression responses than children in the town or females respectively (see Table 15A).

Multiple regression for physical aggression expectations (see Tables 16 and 17) yielded reliable effects for violence viewing ($p < .0001$), sex ($p < .01$), and school ($p < .01$). In the subsample of extreme television violence viewers, including both high and low, expectations of physical aggression were predicted by the variables of violence viewing, sex, and school. Approximately 16% of the variance of physical aggression expectations was accounted for by the three variables of violence viewing habits, sex, and, school.

A PPMC for the combined groups of high and low violence viewers for the relationship between violence viewing and subscales on the expectations measure (see Table 18) yielded a significant positive coefficient for physical aggression expectations ($p < .0001$), and a significant negative coefficient for leaving the field expectations ($p < .05$). Due to differences in physical aggression expectations for the variables of school, and sex, separate correlations for subgroups were assessed. A PPMC (see Tables 19 and 20) yielded significant positive coefficients

TABLE 16

Multiple Regression for the Variables of Violence Violence (Content), Sex, School, and Grade on Physical Aggression Expectations for Extreme Groups of Television Violence Viewers

Source	df	SS	F
Violence Viewing (Content)	1	750.42	23.21*
Sex	1	237.42	7.34@
School	1	111.51	3.45¬
Grade	1	66.10	2.04
Error	199	6434.18	--

@p <.01 * p <.0001 ¬ p <.10

TABLE 17

Multiple Regression for the Variables of Violence Viewing (Subjective), Sex, School, and Grade on Physical Aggression Expectations for Extreme Groups of Television Violence Viewers

Source	df	SS	F
Violence Viewing (Subjective)	1	778.50	24.25*
Sex	1	270.40	8.42&
School	1	97.68	3.04¬
Grade	1	63.78	1.99
Error	199	6389.27	--

&p <.005 * p <.0001 ¬ p <.10

TABLE 18

Pearson Product Moment Correlation Coefficients Between Violence Viewing and Expectations for Sample of Extreme Television Violence Viewers

	Violence Viewing (Content)	Violence Viewing (Subjective)
Coping	- .11	- .12
Leaving	- .14#	- .15#
Physical Aggression	.31*	.32*
Verbal Aggression	- .12	- .12

#p <.05 * p <.0001

TABLE 19

Pearson Product Moment Correlation Coefficients Between Violence Viewing and Expectations for Each Sex for Sample of Extreme Violence Viewers

	Males (n = 29)	
	Violence Viewing (Content)	Violence Viewing (Subjective)
Coping	- .13	- .17
Leaving	- .18	- .19
Physical Aggression	.33&	.37*
Verbal Aggression	- .12	- .09
	Females (n = 112)	
	Violence Viewing (Content)	Violence Viewing (Subjective)
Coping	- .05	- .05
Leaving	- .09	- .09
Physical Aggression	.26&	.26&
Verbal Aggression	- .16	- .16

&p <.005 * p <.0001

TABLE 20

Pearson Product Moment Correlation Coefficients Between Violence Viewing and Expectations for Each School for Sample of Extreme Violence Viewers

	Town (n = 136)	
	Violence Viewing (Content)	Violence Viewing (Subjective)
Coping	- .05	- .07
Leaving	- .10	- .12
Physical Aggression	.23@	.23@
Verbal Aggression	- .15	- .11
	County (n = 68)	
	Violence Viewing (Content)	Violence Viewing (Subjective)
Coping	- .20	- .20
Leaving	- .11	- .11
Physical Aggression	.31@	.33@
Verbal Aggression	- .01	- .02

@p <.01

for the relationship between violence viewing and physical aggression expectations for the subgroups of males ($p < .001$), females ($p < .005$), town ($p < .01$), county ($p < .01$).

5. Child's Aggression and Expectations of Other's Aggression

For 311 out of the 474 subjects, there were completed AML forms from the teachers. For the 311 subjects, a PPMC (see Table 21) yielded no significant coefficients between any of the subscales on the AML with any of the response categories of the expectation measure. Thus, the children's level of aggressiveness was not related to their expectations of other's aggression.

ANOVAs (see Tables 22-24) yielded reliable effects for sex on aggressiveness ($p < .0001$), moodiness ($p < .05$), and learning difficulties ($p < .05$). Males in the subsample were rated by teachers as reliably more aggressive, moody, and learning difficulties. However, a PPMC for each sex (see Table 25) still did not yield a significant coefficient for the relationship between subscales of the AML and subscales of the expectation measure. Thus, child's own level of aggressiveness was not related to expectations of other's aggressiveness for either sex.

TABLE 21

Pearson Product Moment Correlation Coefficients Between Subscales of the AML with Subscales on the Expectations Measure

	Aggressiveness	Moodiness	Learning
Coping	- .05	.10	.08
Leaving	.02	.10	.06
Physical Aggression	.04	- .09	- .02
Verbal Aggression	- .02	- .10	- .10

TABLE 22

Analysis of Variance for Aggressiveness

Source	df	SS	F
School	1	6.12	<1
Grade	1	41.33	2.44
Sex	1	246.20	14.52&
School x Grade	1	12.75	<1
School x Sex	1	0.11	<1
School x Grade x Sex	1	1.85	<1
Error	303	5138.63	--

&p <.005

TABLE 22A

Mean Aggressiveness for Sex

Male	Female
10.08	8.37

TABLE 23

Analysis of Variance for Moodiness

Source	df	SS	F
School	1	15.38	1.37
Grade	1	0.76	<1
Sex	1	46.27	4.12#
School x Grade	1	2.90	<1
School x Sex	1	6.97	<1
Grade x Sex	1	1.43	<1
School x Grade x Sex	1	2.95	<1
Error	303	5138.63	--

#p <.05

TABLE 23A

Mean Moodiness for Sex

Male	Female
8.5	7.8

TABLE 24

Analysis of Variance for Learning Difficulties

Source	df	SS	F
School	1	0.02	<1
Grade	1	0.74	<1
Sex	1	5.21	4.60#
School x Grade	1	0.93	<1
School x Sex	1	0.07	<1
Grade x Sex	1	1.21	1.07
School x Grade x Sex	1	0.98	<1
Error	303	3404.64	--

#p <.05

TABLE 24A

Mean Learning for Sex

Male	Female
2.08	1.83

TABLE 25

Pearson Product Moment Correlation Coefficients Between Subscales of the AML with Subscales on the Expectations Measure for Each Sex

	Aggressiveness	Moodiness	Learning
Males (n = 158)			
Coping	.02	.09	.12
Leaving	.05	.14	.07
Physical Aggression	- .01	- .10	- .07
Verbal Aggression	- .08	- .11	- .15
Females (n = 153)			
	Aggressivensss	Moodiness	Learning
Coping	- .02	.16	.06
Leaving	.13	.16	.14
Physical Aggression	- .04	- .14	- .03
Verbal Aggression	- .04	- .15	- .15

6. Violence Viewing and AML

The relationship between television violence viewing and aggressiveness was assessed given the convergence of evidence suggesting a relationship between television violence and subsequent aggression (Rubinstein, 1982). A PPMC (see Table 26) yielded significant positive coefficients between television violence viewing with aggression ($p < .0005$), moodiness ($p < .005$), and learning difficulties ($p < .0001$).

However, previous analyses demonstrated that males were rated as reliably more aggressive, moody, and experiencing learning difficulties. Thus, separate correlations between violence viewing and subscales of the AML were performed for each sex. A PPMC (see Table 27) yielded significant positive coefficients between violence viewing and aggressiveness ($p < .0001$), moodiness ($p < .005$), and learning ($p < .0001$) for males; For females, only a significant positive coefficient for violence viewing and learning difficulties ($p < .0001$), Thus, a significant correlation between television violence viewing and aggressiveness was found for males but not for females.

A multiple regression for males for AML subscales (see Tables 28 and 29) yielded reliable effects for violence viewing on aggressiveness ($p < .005$), moodiness ($p < .005$),

TABLE 26

Pearson Product Moment Correlation Coefficients Between the Violence Viewing and Subscales of the AML

	Aggressiveness	Moodiness	Learning Difficulty
Violence Viewing (Content)	.21*	.17*	.25*
Violence Viewing (Subjective)	.24*	.21*	.28*

*p <.0001

TABLE 27

Pearson Product Moment Correlation Coefficients Between Subscales of the AML and Violence Viewing for Each Sex

	Aggressiveness	Moodiness	Learning
Males (n = 158)			
Violence Viewing (Content)	.27&	.27&	.34*
Violence Viewing (Subjective)	.26&	.23&	.30*
Females (n = 217)			
Violence Viewing (Content)	.12	.11	.17*
Violence Viewing (Subjective)	.08	.06	.16*

#p <.05 & p <.005 * p <.0001

TABLE 28

Multiple Regression for Males with the Variables of Violence Viewing (Content), School, and Grade on AML Subscales

Source	df	SS	F
Subscale - Aggressiveness			
Violence Viewing	1	232.15	12.39&
School	1	6.20	<1
Grade	1	29.73	<1
Error	154	2885.85	--
Subscale - Moodiness			
Violence Viewing	1	153.40	12.20&
School	1	0.87	<1
Grade	1	0.08	<1
Error	154	1937.05	--
Subscale - Learning			
Violence Viewing	1	23.77	20.47*
School	1	3.14	2.71
Grade	1	0.20	<1
Error	154	178.82	--

&p <.005 * p <.0001

TABLE 29

Multiple Regression for Males with the Variables of Violence Viewing (Subjective), School, and Grade on AML Subscales

Source	df	SS	F
Subscale - Aggressiveness			
Violence Viewing	1	211.99	11.26&
School	1	8.36	<1
Grade	1	34.97	1.86
Error	154	2898.60	--
Subscale - Moodiness			
Violence Viewing	1	114.49	8.92&
School	1	1.19	<1
Grade	1	0.01	<1
Error	154	1975.71	--
Subscale - Learning			
Violence Viewing	1	18.22	15.20*
School	1	3.11	2.60
Grade	1	0.09	<1
Error	154	184.51	--

&p <.005 * p <.0001

and learning ($p < .0001$). A multiple regression for females for the learning subscale (see Tables 30 and 31) yielded a reliable effect for violence viewing ($p < .05$). Thus, school and grade were not related to any of the AML subscales.

B. STUDY TWO

1. Group Characteristics

An ANOVA for the 39 subjects for violence viewing habits as measured by preassignment television frequency surveys (see Tables 32 and 33) yielded reliable effects for group ($p < .0001$) and sex ($p < .05$) with the content scoring system and a reliable effect for group ($p < .0001$) with the subjective scoring system. Subjects completed a second television frequency form on the day of the experimental test. An ANOVA for violence viewing habits for the postassignment television frequency form (see Tables 34 and 35) yielded reliable effects for group ($p < .0001$) and sex ($p < .05$). Thus, children assigned to the high violence viewing group reported viewing reliably more violent television programming for both assessment periods (see Tables 32A-35A). In addition, due to the magnitude of the difference and lack of overlap between the distribution in the scores of the two groups, the two groups can be regarded

TABLE 30

Multiple Regression for Females with the Variables of Violence Viewing (Content), on the Learning Subscale of the AML.

Source	df	SS	F
Violence Viewing	1	4.05	4.29#
School	1	0.06	<1
Grade	1	2.67	2.83
Error	149	149.79	--

#p <.05

TABLE 31

Multiple Regression for Females with the Variables of Violence Viewing (Subjective) for the Learning Subscale of the AML

Source	df	SS	F
Violence Viewing	1	4.01	4.25#
School	1	0.06	<1
Grade	1	2.81	2.97
Error	149	140.71	--

#p <.05

TABLE 32

Analysis of Variance for Violence Viewing (Content) as Measured by Preassignment Surveys

Source	df	SS	F
Group	1	17991.65	344.78*
Sex	1	246.24	4.72#
Group x Sex	1	6.92	<1
Error	35	1826.42	--

#p <.05 * p <.0001

TABLE 32A

Mean Violence Viewing Scores for Group and Sex

Group		Sex	
High	Low	Male	Female
67.17	22.79	46.75	41.59

TABLE 33

Analysis of Variance for Violence Viewing (Subjective) as Measured by Preassignment Surveys

Source	df	SS	F
Group	1	1760044.87	237.10*
Sex	1	14256.48	1.88#
Group x Sex	1	124.39	<1
Error	35	265414.56	--

#p <.05 * p <.0001

TABLE 33A

Mean Violence Viewing Scores (Subjective) for Group and Sex

Group		Sex	
High	Low	Male	Female
675.00	238.26	469.65	428.47

TABLE 34

Analysis of Variance for Violence Viewing (Content) as Measured by Post Assignment Surveys

Source	df	SS	F
Group	1	9630.96	88.02*
Sex	1	822.40	7.52@
Group x Sex	1	191.69	1.75
Error	35	3829.62	--

@p <.01 * p <.0001

TABLE 34A

Mean Violence Viewing Scores (Content) for Group and Sex

Group		Sex	
High	Low	Male	Female
58.11	26.16	46.35	36.24

TABLE 35

Analysis of Variance for Violence Viewing (Subjective) as Measured by Post Assignment Surveys

Source	df	SS	F
Group	1	907727.41	108.92*
Sex	1	40005.17	4.80
Group x Sex	1	11267.17	1.35
Error	35	291696.26	--

#p <.05 * p <.0001

TABLE 35A

Mean Violence Viewing Scores (Subjective) for Group and Sex

Group		Sex	
High	Low	Male	Female
565.78	258.42	442.25	367.59

as extremes with respect to violence viewing. Males reported viewing reliably more violent television than females. However, due to the considerable overlap between the two distributions of scores, the two groups (by sex) should not be regarded as extremes with respect to violence viewing. To assess the relationship between the two violence viewing measures at different times, a PPMC between pre and post assignment scores yielded significant positive coefficients of .84 ($p < .0001$) for content method and .87 ($p < .0001$) for subjective method.

To assess the concurrent validity of group differences on television violence viewing, parents were asked to report how frequently they thought their child viewed the programs on the form. Most parents reported being unsure of many programs. Still, an ANOVA for violence viewing habits as estimated by parents (see Tables 36 and 37) yielded a reliable effect for group ($p < .01$). Children in the high violence viewing group were reported by parents as viewing reliably more violent television programming than children in the low violence viewing group (see Tables 36A and 37A). A PPMC between child's violence viewing score (postassignment) and parents estimate of child's violence viewing yielded significant positive coefficients of .68 ($p < .0001$) for content and .62 ($p < .0001$) for subjective scoring methods.

TABLE 36

Analysis of Variance for Parents Estimate of Violence Viewing (Content) by their Children

Source	df	SS	F
Group	1	2628.21	9.74&
Sex	1	1047.10	3.88
Group x Sex	1	105.57	<1
Error	35	9443.01	--

&p <.005

TABLE 36A

Mean Parents Estimate of Violence Viewing (Content) by their Children for Violence Viewing Groups

High	Low
45.22	28.95

TABLE 37

Analysis of Variance for Parents Estimate of Violence Viewing (Subjective) by their Children

Source	df	SS	F
Group	1	239276.88	8.82@
Sex	1	84078.38	3.10
Group x Sex	1	8316.90	<1
Error	35	949132.19	--

@p <.01

TABLE 37A

Mean Parent Estimate of Violence Viewing (Subjective) by their Children for Violence Viewing Groups

High	Low
434.56	281.78

In addition to violence viewing, potential differences between the two violence viewing groups were assessed. The two groups differ in terms of children from the county/town (see Table 38). All of the children in the low violence viewing group lived in the town while slightly less than one-half of the children in the high violence viewing group lived in the town. Males and females do not seem to differ in terms of composition (see Table 39). An ANOVA (see Tables 40-59) yielded reliable effects for group on the following variables; leaving the field expectations ($p < .01$), physical aggression expectations ($p < .005$), aggressiveness ($p < .05$), learning difficulties ($p < .01$), socieoeconomic status ($p < .0001$), number of rooms in the house ($p < .005$), mother's violence viewing ($p < .0001$), father's violence viewing ($p < .005$), parent's report of number of hours child watches television on an average week ($p < .05$), and mother's number of hours watching television on an average week ($p < .01$). For the Conflict Tactics Scales, ANOVA (see Table 60) yielded a reliable effect for group for only mother's physical aggressiveness towards the child ($p < .05$). Thus, children in the high violence viewing group expected reliably less leaving the field responses and reliably more physical a- -essive responses in conflict situations, were rated by teachers as reliably more

TABLE 38

Composition of Children in the High and Low Violence Viewing Groups

	High	Low
Town	10	21
County	9	0
Fourth Grade	4	5
Fifth Grade	15	16

TABLE 39

Composition of Children in Study Two for Each Sex

	Male	Female
Town	16	15
County	5	4
Fourth Grade	5	4
Fifth Grade	16	15

TABLE 40

Analysis of Variance for Coping Expectations

Source	df	SS	F
Group	1	23.11	<1
Sex	1	1.97	<1
Group x Sex	1	9.66	<1
Error	32	1094.01	--

TABLE 41

Analysis of Variance for Leaving the Field Expectations

Source	df	SS	F
Group	1	125.83	8.71@
Sex	1	16.63	1.15
Group x Sex	1	16.02	1.11
Error	32	462.49	--

@p <.01

TABLE 41A

Mean Leaving the Field Expectations for Each Group

High	Low
8.00	11.84

TABLE 42

Analysis of Variance for Physical Aggression Expectations

Source	df	SS	F
Group	1	316.01	10.66&
Sex	1	2.96	<1
Group x Sex	1	1.47	<1
Error	32	948.56	--

&p <.005

TABLE 42A

Mean Physical Aggression Expectations for Each Group

High	Low
19.67	13.79

TABLE 43

Analysis of Variance for Verbal Aggression Expectations

Source	df	SS	F
Group	1	3.07	<1
Sex	1	0.91	<1
Group x Sex	1	34.80	1.85
Error	32	600.78	--

TABLE 44

Analysis of Variance for Aggressiveness from First AML

Source	df	SS	F
Group	1	56.25	4.66#
Sex	1	2.93	0.24
Group x Sex	1	0.31	0.03
Error	35	422.26	--

#p <.05

TABLE 44A

Mean Aggressiveness for Each Group from First AML

High	Low
10.11	7.79

TABLE 45

Analysis of Variance for Aggressiveness from Second AML

Source	df	SS	F
Group	1	94.31	7.16#
Sex	1	11.22	<1
Group x Sex	1	4.45	<1
Error	31	408.59	--

#p <.05

TABLE 45A

Mean Aggressiveness for Each Group from Second AML

High	Low
11.00	8.00

TABLE 46

Analysis of Variance for Moodiness from First AML

Source	df	SS	F
Group	1	30.65	3.77
Sex	1	0.21	<1
Group x Sex	1	0.39	<1
Error	35	484.34	--

TABLE 47

Analysis of Variance for Moodiness from Second AML

Source	df	SS	F
Group	1	47.07	3.99
Sex	1	33.04	2.80
Group x Sex	1	3.03	0.26
Error	31	365.43	--

TABLE 48

Analysis of Variance for Learning from First AML

Source	df	SS	F
Group	1	7.94	11.13&
Sex	1	0.07	0.10
Group x Sex	1	0.47	0.66
Error	35	24.95	--

&p <.005

TABLE 48A

Mean Learning for Each Group from First AML

High	Low
2.00	1.16

TABLE 49

Analysis of Variance for Learning from Second AML

Source	df	SS	F
Group	1	5.33	7.42@
Sex	1	0.24	<1
Group x Sex	1	0.03	<1
Error	34	4749.27	--

@p <.05

TABLE 49A

Mean Learning for Each Group from Second AML

High	Low
2.00	1.29

TABLE 50

Analysis of Variance for Estimate of Child's Hours of Weekly Television Viewing

Source	df	SS	F
Group	1	319.21	5.70#
Sex	1	0.92	<1
Group x Sex	1	0.67	<1
Error	35	1958.89	--

#p <.05

TABLE 50A

Mean Estimate of Child's Hours of Weekly Viewing for Each Group

High	Low
17.50	11.26

TABLE 51

Analysis of Variance for Number of Rooms in the House

Source	df	SS	F
Group	1	54.66	14.65&
Sex	1	0.05	<1
Group x Sex	1	7.82	2.10
Error	35	130.56	--

&p <.005

TABLE 51A

Mean Numbers of Rooms in the House for Each Group

High	Low
7.72	10.05

TABLE 52

Analysis of Variance for Socieoeconomic Status

Source	df	SS	F
Group	1	28.51	21.08*
Sex	1	0.27	<1
Group x Sex	1	4.55	3.37
Error	35	47.34	--

*p <.0001

TABLE 52A

Mean Socieoeconomic Status for Each Group

High	Low
3.11	1.53

TABLE 53

Analysis of Variance for Mother's Violence Viewing (Content)

Source	df	SS	F
Group	1	2728.53	19.53*
Sex	1	0.18	<1
Group x Sex	1	157.27	1.13
Error	34	4749.27	--

*p <.0001

TABLE 53A

Mean Mother's Violence Viewing (Content) for Each Group

High	Low
24.61	9.33

TABLE 54

Analysis of Variance for Mother's Violence Viewing (Subjective)

Source	df	SS	F
Group	1	288318.42	17.67&
Sex	1	1690.38	<1
Group x Sex	1	3866.97	<1
Error	34	554767.70	--

&p <.0005

TABLE 54A

Mean Mother's Violence Viewing (Subjective) for Each Group

High	Low
291.44	137.17

TABLE 55

Analysis of Variance for Father's Violence Viewing (Content)

Source	df	SS	F
Group	1	1877.49	11.34&
Sex	1	142.69	<1
Group x Sex	1	43.90	<1
Error	31	5133.81	--

&p <.005

TABLE 55A

Mean Father's Violence Viewing (Content) for Each Group

High	Low
23.36	10.95

TABLE 56

Analysis of Variance for Father's Violence Viewing (Subjective)

Source	df	SS	F
Group	1	196171.26	8.80@
Sex	1	10267.03	<1
Group x Sex	1	11962.75	<1
Error	31	690824.51	--

@p <.01

TABLE 56A

Mean Father's Violence Viewing (Subjective) for Each Group

High	Low
272.21	146.26

TABLE 57

Analysis of Variance for Mother's Hours of Weekly Television Viewing

Source	df	SS	F
Group	1	261.87	6.79#
Sex	1	1.15	<1
Group x Sex	1	108.53	2.81
Error	35	1349.42	--

#p <.05

TABLE 57A

Mean Mother's Hours of Weekly Television Viewing for Each Group

High	Low
12.44	7.68

TABLE 58

Analysis of Variance for Father's Hours of Weekly Television Viewing

Source	df	SS	F
Group	1	7.20	<1
Sex	1	59.01	1.32
Group x Sex	1	17.22	<1
Error	32	1433.57	--

TABLE 59

Analysis of Variance for Number of Television Sets in the House

Source	df	SS	F
Group	1	0.08	<1
Sex	1	0.26	<1
Group x Sex	1	0.32	<1
Error	35	18.77	--

TABLE 60

Analysis of Variance for Mother's Physical Aggressiveness Towards Child

Source	df	SS	F
Group	1	38.67	4.86#
Sex	1	3.44	<1
Group x Sex	1	5.35	<1
Error	35	278.29	--

#p <.05

TABLE 60A

Mean Mother's Physical Aggressiveness Towards Child for Each Group

High	Low
3.72	1.95

aggressive, and experiencing reliably more learning difficulties, and watch reliably more hours of television on the average week than children in the low violence viewing group (see Tables 40A-50A). In addition, children in the high violence viewing group were from lower socieoeconomic backgrounds, lived in smaller homes, had mother's who viewed reliably more hours of television per week, had mother's and father's who viewed reliably more violent television programming, and had mother's who were reliably more physically aggressive with them than children in the low television violence viewing group (see Tables 51A-60A).

2. Correlational Analyses

Table 61 presents PPMC coefficients between the variables of violence viewing, socieoeconomic status, size of house, and parental violence viewing. There were significant positive coefficients between child's violence viewing (pre and post assignment) with mother's violence viewing ($p < .0001$) and father's violence viewing ($p < .005$). Significant negative coefficients were found between socieoeconomic status with child's violence viewing ($p < .005$), father's violence viewing ($p < .005$), and mother's violence viewing ($p < .0001$). In addition, a PPMC between mother's violence viewing and father's violence viewing

TABLE 61

Pearson Product Moment Correlations Between Violence Viewing, Parental Violence, Viewing, Socioeconomic Status and Size of House

	Preassignment		Postassignment			
	Violence Viewing (Content)	Violence Viewing (Subjective)	Violence Viewing (Content)	Violence Viewing (Subjective)	Socioeconomics Status	Size of House
Socioeconomic Status	- .52&	- .53&	- .53&	- .55&	--	.65*
Size of House	-.46&	- .49&	- .45&	- .47&	.65*	--
Father Violence Viewing(Content)	.46@	.46@	.54&	.56&	- .54&	- .25
Father Violence Viewing(Subjective)	.42#	.43#	.54&	.56&	- .55&	- .24
Mother Violence Viewing(Content)	.56&	.59*	.62*	.61*	- .65*	- .56&
Mother Violence Viewing(Subjective)	.54&	.58*	.58*	.61*	- .68*	- .50&

#p < .05 @p < .01 &p < .005 *p < .001

yielded a significant positive coefficient of .68 ($p < .0001$) for content method and .74 ($p < .0001$) for subjective method. Thus, there were positive correlations between child's and parent's violence viewing. In addition, there was a correlation between lower socieoeconomic status and increases in violence viewing for all members of the family.

Table 62 presents PPMC coefficients between child's violence viewing, parent's violence viewing, and socieoeconomic status with physical aggression scores on the Conflict Tactics Scales. There were significant positive coefficients between child's violence viewing with mother's physical aggression towards the child ($p < .05$), child's total physical aggression score ($p < .05$), parents total physical aggression ($p < .05$), and family's total physical aggression ($p < .05$); significant positive coefficients between mother's violence viewing with mother's physical aggression towards the child ($p < .05$), father's physical aggression towards the child ($p < .05$), parent's total physical aggression ($p < .05$), and family's total physical aggression ($p < .05$); significant positive coefficients between father's violence viewing with father's physical aggression towards the child ($p < .05$), parents total physical aggression ($p < .05$), and family total physical aggression ($p < .05$). In addition, there were significant

TABLE 62

Pearson Product Moment Correlation Coefficients Between Child's Violence Viewing, Parents Violence Viewing and Socioeconomic Status With Physical Aggression Scores on the Conflict Tactics Scale

	Child's Violence Viewing (Content)	Child's Violence Viewing (Subjective)	Mother's Violence Viewing (Content)	Mother's Violence Viewing (Subjective)	Father's Violence Viewing (Content)	Father's Violence Viewing (Subjective)	Socioeconomic Status
Mother's Physical Aggression to Child	.37#	.36#	.35#	.33#	.24	.21	- .51&
Father's Physical Aggression to Child	.23	.18	.47&	.41#	.38#	.35#	- .24
Marital Physical Aggression	.25	.21	- .03	.01	.23	.19	- .30
Child's Total Physical Aggression	-.41#	.40#	.23	.27	.30	.30	- .34#
Parent's Total Physical Aggression	.33#	.33#	.37#	.35#	.37#	.34#	- .44@
Family Total Physical Aggression	.42#	.39#	.34#	.35#	.37#	.35#	- .42#

#p < .05 @p < .01 &p < .005

negative coefficients between socieoeconomic status with mother's physical aggression towards the child ($p < .005$), child's total physical aggression ($p < .05$), parent's total physical aggression ($p < .01$), and family total physical aggression ($p < .05$). In general, there were positive correlations between television violence viewing and family aggressiveness. In addition, lower socieoeconomic status was related to both television violence viewing and family aggressiveness.

3. Latency to Seek Help in the Presence of Real Life Violence

Table 63 presents mean latency of bell ringing in seconds for each condition of violence viewing and sex. Mean latency for the high violence viewing group was 349.53 seconds and for the low violence viewing group it was 318.50 seconds. Mean latency of response for males and females were 328.62 and 339.44 respectively. An ANOVA for latency of response to the scene of real life violence, bell ringing (see Table 64), yielded no reliable effects. However, differences in latency for violence viewing groups did approach a reliable effect ($p < .057$).

Two children, a male in the low violence viewing group and a female in the high violence viewing group never rang

TABLE 63

Mean Latency of Bell Ringing in Seconds for Each Condition of Violence Viewing and Sex

	High Violence Viewing	Low Violence Viewing
Males	344.10	314.55
Females	355.56	323.33

TABLE 64

Analysis of Variance for Latency of Bell Ringing

Source	df	SS	F
Group	1	9379.49	3.88
Sex	1	986.66	<1
Group x Sex	1	17.23	<1
Error	35	84601.85	--

the bell in the experimental situation. It was possible that these two children did not understand their responsibility in the situation or did not respond for any of a variety of reasons. Therefore, the latency data from these two children were removed and the remaining data set was reanalyzed.

Table 65 presents mean latency of bell ringing in seconds for each condition of violence viewing and sex for the subsample of 37 subjects. Mean latency for the high violence viewing group was 344.78 seconds and for the low violence viewing group it was 312.37. Mean latency of response for males and females were 323.30 and 333.82 seconds respectively. An ANOVA for latency of response to the scene of real life violence, bell ringing (see Table 66), yielded a reliable effect for group ($p < .05$). Thus, when the two children who did not respond were removed from the analysis, children in the high violence viewing group took reliably longer to ring the bell than children in the low violence viewing group.

Correlations between latency of bell ringing with children's violence viewing, parent's violence viewing, socieoeconomic status, physical aggression expectations, subscales of the AML, and physical aggression scores of the Conflict Tactics Scales were computed for the total sample

TABLE 65

Mean Latency of Bell Ringing in Seconds for Each Condition of Violence Viewing and Sex for Thirty-seven Subjects.

	High Violence Viewing	Low Violence Viewing
Males	344.10	302.50
Females	345.63	323.33

TABLE 66

Analysis of Variance for Latency of Bell Ringing for the Thirty-seven Subjects

Source	df	SS	F
Group	1	9708.79	5.21#
Sex	1	1211.40	<1
Group x Sex	1	854.85	<1
Error	33	61541.28	--

#p <.05

TABLE 66A

Mean Latency of Bell Ringing for Each Violence Viewing Group

High	Low
344.78	312.37

(n = 39) and for the subsample (n =37). For the 39 subjects, PPMC (see Table 67) yielded significant positive coefficients between latency of response with mother's violence viewing ($p < .05$). The correlation between latency of response and child's violence viewing approached a significant positive coefficient ($p < .06$). Violence viewing accounted for approximately 9% of the variance of response latency. For the 37 subject sample, PPMC (see Table 68) yielded significant positive coefficients between latency of response with both child's violence viewing and mother's violence viewing (ps < .05). Child's violence viewing accounted for approximately 12% of the variance of response latency.

Although no variables other than violence viewing yielded significant positive coefficients with latency, stepwise regressions were employed for exploratory purposes. Stepwise procedures are useful when there are many independent variables or measures and it suggests which variables should be included in a regression model. Variables included in the stepwise procedures (both forward and backward were employed) were violence viewing (child), aggressiveness, learning difficulties, physical aggression expectations, socieoeconomic status, physical aggression scores form the Conflict Tactics Scales. (Mother's violence

TABLE 67

Pearson Product Moment Correlation Coefficients Between Latency of Bell Ringing with Child's Violence Viewing Parents Violence Viewing, Socieoeconomic Status, Physical Aggression Expectations, Subscales of the AML and Physical Aggression Indexes of the Conflect Tactics Scales for all 39 Subjects

	Latency		Latency
Violence Viewing (Content)	.30	Moodiness (Preassignment)	-.03
Violence Viewing (Subjective)	.31	Moodiness (Postassignment)	.17
Mother's Viewing (Content)	.36#	Learning (Preassignment)	.09
Mother's Viewing (Subjective)	.37#	Learning (Postassignment)	.06
Father's Viewing (Content)	.20	Mother's Aggression To Child	.18
Father's Viewing (Subjective)	.20	Father's Aggression To Child	.19
Socieoeconomic Status	.23	Marital Physical Aggression	- .01
Physical Aggression Expectation	.05	Child Total Aggression	.09
Aggressiveness (Preassignment)	- .09	Parents Total Aggression	.11
Aggressiveness (Postassignment)	- .02	Family Total Aggression	.11

#$p < .05$

TABLE 68

Pearson Product Moment Correlation Coefficients Between Latency of Bell Ringing with Child's Violence Viewing Parents Violence Viewing, Socieoeconomic Status, Physical Aggression Expectations, Subscales of the AML and Physical Aggression Indexes of the Conflect Tactics Scales for 37 Subjects

	Latency		Latency
Violence Viewing (Content)	.35	Moodiness (Preassignment)	-.08
Violence Viewing (Subjective)	.35	Moodiness (Postassignment)	.10
Mother's Viewing (Content)	.34	Learning (Preassignment)	.05
Mother's Viewing (Subjective)	.37	Learning (Postassignment)	.01
Father's Viewing (Content)	.13	Mother's Aggression To Child	.01
Father's Viewing (Subjective)	.14	Father's Aggression To Child	.01
Socieoeconomic Status	.21	Marital Physical Aggression	-.02
Physical Aggression Expectation	.02	Child Total Aggression	.16
Aggressiveness (Preassignment)	- .05	Parents Total Aggression	.03
Aggressiveness (Postassignment)	- .01	Family Total Aggression	.12

viewing was not included in these procedures as its relationship to child's latency of response does not yield a straightforward causal interpretation.) In sum, stepwise procedures yielded a reliable effect for only violence viewing for the 37 subject sample ($p < .05$). Stepwise procedures suggested that no variables other than violence viewing should be included in a regresssion model.

4. Descriptive Analysis of Latency Data

Figure one shows cumulative percentage of bell ringing responses made for each violence viewing group at critical intervals of time ($n = 39$) and also provides a timeline of events for the film. Cumulative percentage of responses made at each critical interval, except for the first and last interval, were lower for the high violence viewing group than for the low violence viewing group. However, prior to the apparent camera crash and subsequent loss of video, only 50% and 30% of subjects in the low and high violence viewing groups respectively rang the bell (see Figure 1). Nearly 45% of all children responded during the 10 second interval after the camera crashes and loss of video and before the loss of audio. Therefore, most children did not respond until a "true emergency" actually occurred. Thus, it is possible that differences in groups

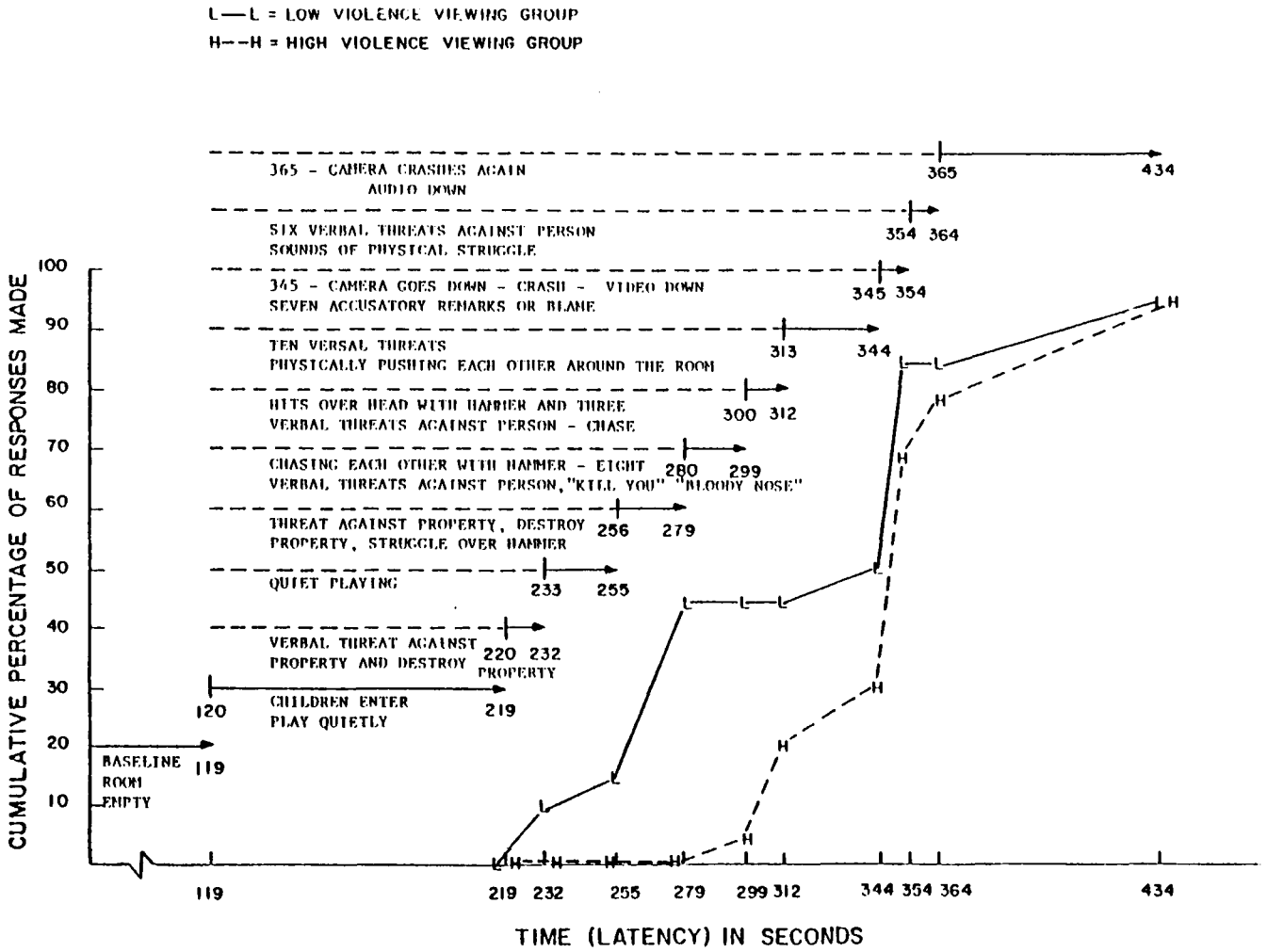

Figure 1. Cumulative percentage of responses made for each violence viewing group at critical intervals in time.

may be due to a few children who rang the bell on either or both ends of the latency continuum.

Figure 2 shows latency scores for each subject in the high and low violence viewing groups. Indeed, the difference in the two distributions appears to be mostly due to three children in the low violence viewing group who responded fairly early, after a single verbal threat against property and the subsequent aggressive destruction of that property.

The power of the filmed stimulus to evoke a response from children appears to be at least comparable to Drabman and Thomas (1974) film. Although times can not be directly compared, the mean response in the series of studies conducted by Drabman and Thomas occurred approximately when the camera went down with subsequent loss of video. In the present study, overall mean response time occurred 12 seconds prior to the camera crashing (n = 39).

5. Psychophysiological Data

Due to multiple failures in the machinery, data for electrodermal activity was not scored. Heart activity data was scored in terms of beats per minute for each of the following time intervals; 1. Baseline period-viewing of the empty room, 2. Prefight period-from the time the children

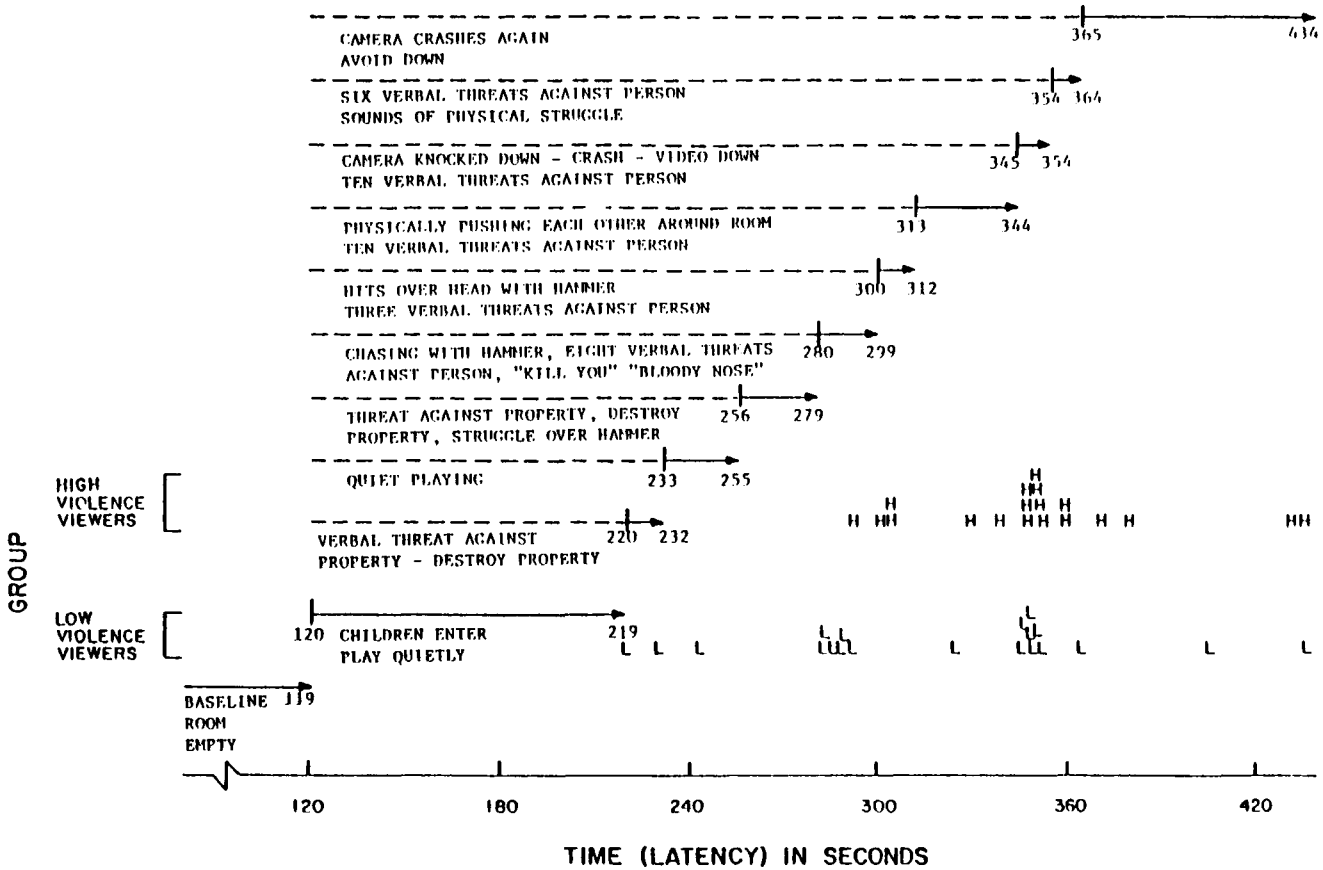

Figure 2. Latency scores for each subject in the high and low violence viewing groups.

entered the room in the film to just prior to the first hostile sequence, 3. Postfight period-from the first hostile sequence until the child rang the bell, 4. Total period-combined prefight and postfight periods, 5. Last twenty seconds prior to bell ringing, 6. Last sixty seconds prior to bell ringing.

Heart rate data was analyzed by two methods. Traditionally, increases and decreases in heart rate have been viewed as analogous to increases and decreases in arousal (Zillman, 1982). Therefore, the simple difference in heart rates between each interval and the baseline was assessed. However, it has also been demonstrated that some individuals will show decreases in heart rates under arousing conditions (Stern, Ray, & Davis, 1982). Therefore, difference scores that disregarded the direction of the difference (positive or negative) between each interval and the baseline were also computed.

Mean heart rates for the subject sample of 39 for baseline, prefight, postfight, total, last twenty seconds, and last sixty seconds were 82.06, 82.09, 85.01, 83.71, 89.32, and 88.11 respectively. T-test comparisons between each period's heart rate with the baseline heart rate (see Table 69) yielded reliable effects for postfight ($p < .005$), total ($p < .05$), last twenty seconds ($p < .005$), and last

TABLE 69

T-Tests Comparing Each Heart Rate Interval with the Baseline Interval for Subject Sample of 39

Interval	Mean	T
Baseline	82.06	----
Prefight	82.09	<1
Postfight	85.01	3.17&
Total	83.71	2.11#
Last Twenty	89.32	4.19&
Last Sixty	88.11	4.32*

#p < .05 & p < .005 * p < .0001

sixty seconds ($p < .0001$). Mean heart rates for the subject sample of 37 for baseline, prefight, postfight, total, last twenty seconds, and last sixty seconds were 83.22, 83.16, 86.14, 84.79, 89.32, and 88.11 respectively. T-test comparisons between each period's heart rate with the baseline heart rate (see Table 70) yielded reliable effects for postfight ($p < .01$), last twenty seconds ($p < .005$), and last sixty seconds ($p < .0001$). Therefore, for the subject samples of 39 and 37, heart rates did not reliably change after the children on the film entered the scene initially, but did reliably increase after the children on the film began to be verbally and physically hostile. Thus, it appears that increases in heart rate occurred to the fight situation, and not just to viewing the children.

Mean difference scores for the subject sample of 39 for prefight, postfight, total, last twenty seconds, and last sixty seconds were 2.82, 5.15, 3.77, 7.34, and 6.69 respectively. T-tests for difference scores (see Table 71) yielded reliable effects for prefight, postfight, total, last twenty seconds, and last sixty seconds (all ps < .0001). Mean difference scores for the subject sample of 37 for prefight, postfight, total, last twenty seconds, and last sixty seconds were 2.88, 5.22, 3.81, 7.34, and 6.69 respectively. T-tests for difference scores (see Table 72)

TABLE 70

T-Tests Comparing Each Heart Rate Interval with the Baseline Interval for Subject Sample of 37

Interval	Mean	T
Baseline	83.22	----
Prefight	83.16	<1
Postfight	86.14	2.97#
Total	84.79	1.92
Last Twenty	89.32	4.19&
Last Sixty	88.11	4.32*

#$p < .01$ & $p < .005$ * $p < .0001$

TABLE 71

T-Tests for Difference Scores for Subject Sample of 39

	Mean	T
Prefight-Baseline	2.82	6.44*
Postfight-Baseline	5.15	6.21*
Total-Baseline	3.77	6.80*
Last Twenty-Baseline	7.33	5.60*
Last Sixty-Baseline	6.69	5.76*

*$p < .0001$

TABLE 72

T-Tests for Difference Scores for Subject Sample of 37

	Mean	T
Prefight-Baseline	2.88	6.30*
Postfight-Baseline	5.22	5.97*
Total-Baseline	3.81	6.55*
Last Twenty-Baseline	7.34	5.60*
Last Sixty-Baseline	6.69	5.76*

*$p < .0001$

yielded reliable effects for prefight, postfight, total, last twenty seconds, and last sixty seconds (all ps < .0001). Therefore, when disregarding the direction of change, heart rates for each period were reliably different from the baseline.

An ANOVA for each subject sample (n = 39, n =37) for each interval of time for heart rate (see Tables 73-78) and difference scores (see Tables 79-83) yielded no reliable effects for group, sex, or the interaction of group and sex. (Although there were no reliable differences for heart rate and difference scores for baseline performance, Analysis of Covariance procedures for each interval with baseline score as the covariate were employed for exploratory purposes. Analysis of Covariance yielded no reliable effect for any of the intervals for either group or sex.) In addition, a PPMC between latency and violence viewing with heart rate and difference scores for each interval (see Tables 84-85) yielded no significant coefficients. In sum, heart rate activity was not found to be related to violence viewing habits or latency of bell ringing.

TABLE 73

Analysis of Variance for Baseline Period for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	44.91	<1
Sex	1	294.83	2.13
Group x Sex	1	63.54	0.46
Error	35	4854.75	--
Sample = 37			
Group	1	55.22	<1
Sex	1	291.84	2.44
Group x Sex	1	0.79	<1
Error	33	3942.36	--

TABLE 74

Analysis of Variance for Prefight Period for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	13.58	<1
Sex	1	258.75	2.00
Group x Sex	1	18.47	<1
Error	35	4521.80	--
Sample = 37			
Group	1	16.02	<1
Sex	1	270.48	2.41
Group x Sex	1	5.68	<1
Error	33	3699.82	--

TABLE 75

Analysis of Variance for Postfight Period for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	3.98	<1
Sex	1	399.28	3.38
Group x Sex	1	1.10	<1
Error	34	4033.94	--
Sample = 37			
Group	1	2.25	<1
Sex	1	429.50	3.69
Group x Sex	1	38.69	<1
Error	32	3094.02	--

TABLE 76

Analysis of Variance for Combined Prefight and Postfight (Total) Period for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	2.12	<1
Sex	1	340.94	2.81
Group x Sex	1	1.22	<1
Error	35	4249.98	--
Sample = 37			
Group	1	3.22	<1
Sex	1	358.58	3.44
Group x Sex	1	33.88	<1
Error	33	3346.27	--

TABLE 77

Analysis of Variance for Last Twenty Seconds Period for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	10.47	<1
Sex	1	448.90	3.23
Group x Sex	1	169.26	1.22
Error	33	4581.48	--
Sample = 37			
Group	1	10.472	<1
Sex	1	448.90	3.23
Group x Sex	1	169.26	1.22
Error	33	4581.48	--

TABLE 78

Analysis of Variance for Last Sixty Seconds Period for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	7.11	<1
Sex	1	408.36	3.64
Group x Sex	1	114.40	1.02
Error	32	3605.67	--
Sample = 37			
Group	1	7.11	<1
Sex	1	408.36	3.64
Group x Sex	1	114.40	1.02
Error	32	3605.67	--

TABLE 79

Analysis of Variance for Difference Score of Prefight Baseline for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	2.35	<1
Sex	1	20.94	2.91
Group x Sex	1	0.92	<1
Error	35	252.14	--
Sample = 37			
Group	1	1.48	<1
Sex	1	23.99	3.33
Group x Sex	1	2.16	<1
Error	33	271.63	--

TABLE 80

Analysis of Variance for Difference Score of Postfight Baseline for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	10.11	<1
Sex	1	0.49	<1
Group x Sex	1	3.57	<1
Error	32	954.32	--
Sample = 37			
Group	1	12.02	<1
Sex	1	1.29	<1
Group x Sex	1	5.83	<1
Error	32	945.32	--

TABLE 81

Analysis of Variance for Difference Score of Combined Pre and Postfight (Total) Baseline for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	3.26	<1
Sex	1	13.11	1.06
Group x Sex	1	5.13	<1
Error	35	433.40	--
Sample = 37			
Group	1	4.51	<1
Sex	1	16.90	1.32
Group x Sex	1	7.30	<1
Error	33	423.31	--

TABLE 82

Analysis of Variance for Difference Score for Last Twenty Seconds-Baseline for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	24.08	<1
Sex	1	18.39	<1
Group x Sex	1	80.39	1.23
Error	33	2163.17	--
Sample = 37			
Group	1	24.08	<1
Sex	1	18.39	<1
Group x Sex	1	80.39	1.23
Error	33	2163.17	--

TABLE 83

Analysis of Variance for Difference Score for Last Sixry Seconds-Baseline for Subject Samples of 39 and 37

Source	df	SS	F
Sample = 39			
Group	1	64.27	1.33
Sex	1	40.33	<1
Group x Sex	1	49.72	1.03
Error	32	1547.51	--
Sample = 37			
Group	1	64.27	1.33
Sex	1	40.33	<1
Group x Sex	1	49.72	1.03
Error	32	1547.51	--

TABLE 84

Pearson Product Moment Correlation Coefficients Between the Variables of Latency, and Violence Viewing with Heart Rate Intervals for Sample of 39 Subjects

		Preassignment		Postassignment	
	Latency	Violence Viewing (Content)	Violence Viewing (Subjective)	Violence Viewing (Content)	Violence Viewing (Subjective)
Baseline	- .24	- .02	.01	- .19	- .18
Prefight	- .27	- .01	.02	- .19	- .18
Postfight	- .16	- .01	.02	- .13	- .16
Total	- .22	- .01	.02	- .17	- .17
Last Twenty	.07	- .06	- .05	- .20	- .21
Last Sixty	.09	.01	.01	- .15	- .16
Prefight-Baseline	- .01	- .06	- .08	- .18	- .12
Postfight-Baseline	- .03	.02	- .03	.02	- .02
Total-Baseline	- .05	.02	- .01	.01	- .02
Last Twenty-Baseline	.05	- .01	- .05	- .01	- .02
Last Sixty-Baseline	.18	.05	.01	.07	.03

TABLE 85

Pearson Product Moment Correlation Coefficients Between the Variables of Time, and Violence Viewing with Heart Rate Intervals for Sample of 37 Subjects

		Preassignment		Postassignment	
	Time	Violence Viewing (Content)	Violence Viewing (Subjective)	Violence Viewing (Content)	Violence Viewing (Subjective)
Baseline	- .05	- .03	.01	- .23	- .20
Prefight	- .09	- .02	.03	- .21	- .20
Postfight	.08	.01	.03	- .16	- .18
Total	- .02	- .01	.02	- .19	- .19
Last Twenty	.07	- .06	- .05	- .20	- .20
Last Sixty	.09	.01	.01	- .15	- .16
Prefight-Baseline	.04	- .06	- .07	- .18	- .11
Postfight-Baseline	.03	.02	- .03	.03	- .01
Total-Baseline	.09	.03	.01	- .01	- .01
Last Twenty-Baseline	.17	- .01	- .05	- .01	- .02
Last Sixty-Baseline	.18	.05	.01	.07	.03

DISCUSSION

A. Study One

Study one was designed to assess the relationship between violence viewing habits and expectations of other's aggression in conflict situations. A large sample of fourth and fifth graders were surveyed on their violence viewing habits with a television frequency form. Children's expectations of other's behavior in conflict situations were assessed with a response hierarchy (Thomas and Drabman, 1978). In addition, the children's level of aggressiveness was assessed through teacher ratings.

1. Relationship Between Violence Viewing and Expectations of Physical Aggression

Results support hypothesis one. Children who normally view a relatively large amount of television violence expected other's to respond aggressively more than children who normally view a relatively smaller amount of television violence. The relationship between violence viewing and expectations of physical aggression derived support from different examinations of the data. When extreme violence

viewing groups were examined, high violence viewers expected reliably more physical aggression responses than low violence viewers. In addition, a significant positive correlation between violence viewing and expectations of physical aggression was found for the combined groups of high and low violence viewers. When the entire sample was examined, a significant positive correlation between violence viewing and expectations of physical aggression was found too. However, multiple regression techniques found that violence viewing was not the only predictor of physical aggression expectations. For extreme groups, violence viewing, sex, and school were predictors of physical aggression expectations; For the entire sample, violence viewing, sex, school, and grade were predictors of physical aggression expectations. Child's own aggression was not found to be related to physical aggression expectations.

Because there were multiple predictors of physical aggression expectations, correlations between violence viewing and expectations of physical aggression were computed for subgroups of school and sex for extreme groups and subgroups of school, sex, and grade for the entire sample. For all subgroups, significant positive correlations between violence viewing and expectations of physical aggression were found. All correlations discussed

tended to be of modest size, ranging from .15 to .37, suggesting that about 4% to about 14% of the variance of physical aggression expectations was accounted for by violence viewing. Thus, the relationship between violence viewing and expectations of physical aggression by other's in conflict situations was found, albeit the relationship was of modest strength.

Thomas and Drabman (1978) found that children who were first exposed to a violent film expected that other children would respond aggressively in conflict situations more often than children who were first exposed to a nonviolent film. Thus, Thomas and Drabman (1978) provided an experimental demonstration of the immediate or short-term effects of violent television portrayals on expectations of other's aggression. Although violence viewing was not the only predictor of aggressive expectations in the present study, it was still found to be positively associated with aggressive expectations for all subgroups. Thus, the current study extends Thomas and Drabman's (1978) findings by suggesting that there exists a relationship between normal violence viewing and expectations of other's aggression.

The finding that children who normally view a relatively large amount of television violence expect

other's to be more violent in conflict situations than children who normally view a relatively smaller amount of television violence is consistent with related data (Gerbner Gross, Signorelli, Morgan, & Jackson-Beeck, 1979). Gerbner and his colleagues, in a series of studies, have consistently found that heavy television viewers perceive the world to be more violent, mean, and selfish than light television viewers (see Hawkins & Pingree for review). Correlations between amount of television viewing with violent perceptions of social reality tend to be of modest strength, often ranging in the teens (Gerbner et al, 1979).

Due to the modesty of the correlations in the present study and from previous work, the meaningfulness of the relationship between violence viewing and expectations/perceptions of social reality can be questioned. Television's contribution to perceptions of social reality is mediated, enhanced, buffered, by powerful personal, social, cultural variables as well as other information sources (Gerbner, et al 1979). Based on the data, it would be a considerable overstatement of the research area to assign preeminence to television as a shaper of culture, and personal beliefs (Hawkins & Pingree, 1982). However, to trivialize television's contribution to people's construction of social reality would also be a

mistake. Measurements of television viewing and individual's beliefs/expectations about the world are extremely crude (Hawkins & Pingree, 1982). Given the crudeness of measurement and all other influences that impinge on the individual, it is remarkable that television has been consistently related to viewer's perceptions of social reality.

However, all of the aforementioned research, except for the Thomas and Drabman (1978) study, was correlational and subject to the problem of directionality and third variable interpretations. For instance, it is possible that apprehensive and fearful individuals may stay at home more and subsequently view more television. The direction of the correlation is then reversed; Violent television viewing no longer produces violent expectations but violent expectations produces more viewing. A third variable, a personality trait of apprehensiveness, may be the cause of exaggerated ideas about danger in society and also the basis for obtaining social gratification vicariously which is the opportunity television provides (Leibert, et al 1982).

The problem of directionality and third variables can not be entirely eliminated in this line of research. Obviously, to argue that television operates in a vacuum, and that individuals are indiscriminate sponges, soaking up

everything they hear or see on television, and hence, that television constructs their social reality, is erroneous. In addition, to argue that the effects of television viewing on perceptions of social reality is nill, and purely due to a third variable or a misinterpretation in the direction of causality is equally erroneous. The concordance of evidence of television's influence on a variety of behaviors supports the position of "some effects" (Surgeon Generals Reports, 1972, 1982).

A middle ground that takes into account both extremes is necessary. The effect of television on perceptions of social reality is clearly not linear. Perceptions of social reality do not change in direct relationship with television viewing time. Individuals are affected by the same environmental input in different ways and in different degrees. There are large individual differences in how children are affected by communication by parents, teachers, peers, so it would be expected that there are large individual differences in how children use and are affected by television (Roberts & Schramm, 1971).

The effect of television on the construction of social reality is a complex interaction between amount of viewing, parental viewing, the messages on television, how the child engages with television, and outside sources of influence

and competing information (Hawkins & Pingree, 1982). The data from studies on the potential prosocial effects of television (see Rushton, 1982 for review) combined with data on the antisocial effects of television (Bandura, 1971, 1973, Surgeon General's Reports, 1972, 1982) suggests that what is learned from television clearly depends on the content of the message (Rushton, 1982). Television messages may be enhanced or attenuated by type of viewing and competing sources of information. That is, individuals may differentially attend to, identify with, be involved with, respond emotionally to, remember, and relate real life experiences to, television's messages (Hawkins & Pingree, 1982; Singer, 1982). In addition, competing sources of influence, information, and life experiences can confirm or disconfirm television's messages.

Commercial television messages tend to be biased, stereotyped, distorted, and picture society as a violent, mean, and selfish world (Gerbner et al, 1979). As noted previously, correlations between television viewing and perceptions of the world as it is reflected on television do exist but are of modest strength. If we are to assume that the direction of causality is that television viewing distorts perceptions of social reality, the modesty of the correlations can be viewed in part as attributable to type

of viewing and disconfirming outside messages. Even if we are to assume that the direction of the relationship is that expectations of social reality causes violence viewing or that a third variable is operating, the television messages may still be potent as they may confirm an already existing negative view of the world. Increased television viewing for already apprehensive individuals may amplify and validate a distorted view of the world. Gerbner, Gross, Morgan, and Signorelli (1980) found for even those individuals who are most likely to report being fearful of violence in society, low income urban dwellers, there still exists an association between amount of television viewing and perceptions of violence. Thus, television may shape, alter, or validate preexisting perceptions of the world.

2. Demographics and Violence Viewing

The finding that male children reported viewing more violent television than female children is consistent with previous data (Roberts & Schramm, 1971). It was also found that children in the county reported viewing more television violence than children in the town. The town/county distinction can be viewed as a crude estimate of social class. Family's in the town tend to be of a higher socieoeconomic level than their more rural neighbors. It

has been previously documented that children from lower socieoeconomic backgrounds tend to view more television than children of higher socieoeconomic backgrounds (Comstock, 1980; Gerbner, et al, 1982; Roberts & Schramm, 1971; Singer & Singer, 1980).

3. Demographics and Expectations of Physical Aggression

Thomas and Drabman (1978) suggest that males and older children may choose aggressive alternatives on the expectations measure more often than females and younger children due to the possibility of having a more aggressive primary reference group. The finding that fifth graders expected more physical aggression responses than fourth graders is consistent with Thomas and Drabman's (1978) data for fifth and third graders. Males expected more physical aggression responses than females in the current study but not in the previous data (Thomas & Drabman, 1978). Perhaps, the relatively small sample size in the Thomas & Drabman (1978) study (n = 40) was insufficient to tease out differences between the sexes on physical aggression expectations. In addition, children in the county expected relatively more physical aggression expectations than children in the town. Children in the county may choose aggressive alternatives more frequently on the expectations

measure due to a more violent home atmosphere. It has been documented that lower socieoeconomic families tend to be more violent than middle or higher socieoeconomic families (see Steinmetz, 1974, for review).

4. Relationship Between Aggressiveness with Expectations and Violence Viewing

There were no significant correlations between any of the subscales on the AML with any of the subscales on the expectations measure. Thus, teacher rated aggressiveness was not related to expectations of physical aggressiveness in others. The absence of a relationship between aggressiveness and physical aggression expectations suggests that subjects may have been truly responding to what they were asked, how they felt other's would behave, and not how they themselves would behave.

The finding that there was a correlation between violence viewing and aggressiveness for boys but not for girls is consistent with some of the literature (Lefkowitz, et al, 1977). However, the majority of the literature suggests that the correlation exists for both sexes (see Surgeon General's reports 1972, 1982 for reviews). The relationship between violence viewing and aggressiveness was not the major focus of the current study and the reason for the differences between the sexes for this correlation is not clear.

B. Study Two

The present study was designed to assess the relationships between violence viewing habits, latency to seek help in the presence of real life aggression, and physiological arousal to real life aggression. Based on a television frequency survey, children were divided into two extreme groups, high and low violence viewers. All children were monitored during exposure to a scene of real life aggression, and latency to seek adult help was also measured.

One hypothesis was supported, one was partially supported, and two were not supported. Hypothesis three was supported. The finding that male children did not differ from female children in their latency to seek help is consistent with previous research (Drabman & Thomas, 1974, 1976; Thomas & Drabman, 1975). Hypothesis two was partially supported. When two children who never sought help in the presence of real life aggression were removed from statistical procedures, the high violence viewers took longer to seek help in the presence of real life aggression than the low violence viewers. In addition, there was a significant positive correlation between violence viewing and latency to seek help. However, when the two children who never sought help in the presence of real life

aggression are included in the statistical procedures, violence viewing group differences in latency as well as the correlation between violence viewing and latency only approached a statistically significant level. Hypothesis four and five were not supported: Children in the high violence viewing group were not any less physiologically aroused in the presence of real life aggression than children in the low violence viewing group. A negative correlation between level of arousal and speed of seeking help in the presence of real life violence was not found.

1. Violence Viewing and Latency to Seek Help in the Presence of Real Life Aggression

The Drabman and Thomas series of studies (Drabman & Thomas, 1974, 1976; Thomas & Drabman, 1975) provided an experimental demonstration of the immediate or short-term effects of violent television programming on latency to seek help in the presence of real life aggression. That is, children took longer to seek help in the presence of real life aggression when previously exposed to a violent television excerpt. However, there was no evidence from these studies whether or not violent television portrayals lead to a cumulative or long-term effect on tolerance to real life aggression. If there is a long-term effect, then it would be expected that children who normally view a

relatively large amount of television violence should take longer to seek help in the presence of real life violence than children who normally view a relatively smaller amount of television violence. The current study was an attempt to assess the relationship between normal television viewing habits and latency to seek help in the presence of real life aggression.

The current study found a modest correlation between violence viewing and latency to seek help and modest differences in latency between the high and low violence viewing groups. In addition, latency was not attributable to any of the potential third variables under study, including aggression, socieoeconomic status, and levels of family violence. However, differences in latency between the two violence viewing groups appear attributable to the performance of three subjects who responded fairly quickly. Thus, to conclude that the current study provides a clear demonstration of the existence of the relationship between normal violence viewing habits and latency to seek help in the presence of real life violence does not seem to be warranted. The current study suggests that the relationship may exist, that it may be modest, and that replication of the procedures with a larger sample size appears needed. Further correlational studies between normal violence

viewing and latency to seek help should also assess other potential third variable influences.

2. Physiological Aspects

To preface the discussion on the physiological aspects of the study, mention must be given to the "real" loss of the electrodermal activity data. In recent years, it has been commonly noted that the use of single indices of physiological arousal is not recommended and that multiple indices and the examination of the pattern of physiological responses is recommended (Cacioppo & Petty, 1983; Greenfield & Sternbach, 1972). This concern grew in part due to to findings that demonstrated that measures of autonomic activity may be desynchronous (Greenfield & Sternbach, 1972; Stern, Ray, & Davis, 1982). Thus, changes in arousal may not be detectable with a single physiological measure.

The finding that there were no differences in heart rates between high and low violence viewers in the presence of filmed aggression is inconsistent with previous data (Cline, Croft, & Courrier, 1973; Thomas, Lippincott, Horton, & Drabman, 1977). The inconsistency between the present data and previous data may reflect differences in the sophistication and type of physiological measures employed, and/or the nature of the stimuli presented, and/or the

instructions given to the subject. Cline et al, (1973) employed skin conductance and blood pulse volume amplitude, and subjects viewed a boxing film. Thomas et al, (1973) employed skin conductance and subjects viewed a scene of real life violence that they felt was actually occurring in a nearby area, but subjects were not instructed to do anything but watch. In the present study, heart rate was measured and subjects viewed a scene of real life violence that they felt was occurring in an nearby room, and were instructed to summon the experimenter if there was trouble. Different response measures along with different instructions and stimulus materials make it difficult to make direct comparisons between the three studies. Essentially, the three studies are asking very different questions but all are interested in the nature of the relationship between violence viewing and physiological responses to real life aggression.

Notwithstanding the fact that a single measure of arousal was employed in the current study, the findings do challenge previous assumptions about the relationship between violence viewing and arousal. It has been hypothesised that violent portrayals on television may gradually blunt (i.e., "desensitize") physiological/emotional responses to subsequent displays of

aggression both in television and in real life (Goranson, 1970; Thomas & Drabman, 1975). Cline, et al, (1973) demonstrated that heavy television viewers were significantly less aroused to a violent film than light television viewers. Although this study may demonstrate that heavy television viewers may be physiologically desensitized to subsequent scenes of filmed or televised violence, it should not be assumed that desensitization to television stimuli generalizes or transfers to similar stimuli in real life. Thomas, et al, (1977) demonstrated that viewing a violent film attenuated arousal to a subsequent scene of real life violence. In addition, although this study suggested that violent portrayals on television may temporarily desensitize an individual to real life violence, it should not be assumed that violent portrayals on television lead to a cumulative effect of physiological desensitization. It is difficult to see how one-time exposure to fictional violence can simulate the presumed habituation of excitatory reactions as the result of seemingly continual repeated exposure (Zillman, 1982).

The current study suggests that heavy violence viewers may not be physiologically desensitized to subsequent displays of aggression in real life. However, the current data is limited by a single physiological measure of

autonomic activity and under conditions were the subjects were instructed to respond. Further research will need to vary physiological indices, stimulus conditions, and instructions to the subjects.

The research on media effects on excitatory habituation is scarce and rudimentary (Zillman, 1982). Besides violent stimuli, erotic stimuli have been employed in the field of excitatory habituation. Massive exposure to erotic stimuli has been shown to decrease autonomic responsiveness to subsequent novel erotic stimuli (Howard, Reifler, & Leiptzin, 1971; Reifler, Howard, Lipton, & Widman, 1971; Zillman & Bryant, 1980). However, discontinuation of massive exposure to erotic stimuli has been demonstrated to lead to a return to autonomic responsiveness to pretreatment levels (Zillman & Bryant, 1980). Although a desensitization effect to erotic stimuli has been demonstrated, there is no evidence that it generalizes and leads to a decrease in sexual responsiveness in real life (Zillman, 1982). Conclusions on excitatory habituation of erotic and violent stimuli are extremely tentative and can, only be regarded as working hypotheses.

3. Findings Related to Explanatory Mechanisms

Thomas and Drabman (1975) suggested two explanations, cognitive desensitization and physiological desensitization, for the finding that children who were first exposed to a violent film take longer to seek help in the presence of real life aggression than children who were first exposed to a nonviolent film (Drabman & Thomas, 1974, 1976; Thomas & Drabman, 1975). They state, "Exposure to media violence may increase viewer's subsequent toleration of aggression by conveying the impression that such behaviors are normative, by making real life aggression seem trivial in comparison to the more extreme violence presented in the media, and/or by reducing viewer's emotional reactivity to subsequent scenes of violence" (Thomas & Drabman, 1975, p. 237). In support of their explanations, it has been demonstrated that children who were first exposed to a violent film expected other's to behave more aggressively (Thomas & Drabman, 1978) and were less physiologically reactive to a scene of real life violence (Thomas, et al, 1977) than children who were first exposed to a nonviolent film. However, these demonstrations provide only an indirect assessment of the relationship between explanatory variables and the behavior of interest. Latency to respond to real life aggression was not assessed in either study (Thomas & Drabman, 1978; Thomas, et al, 1977).

The present study has attempted to directly assess the extent to which toleration of aggression, latency of response to real life aggression, could be predicted from expectations of physical aggression and/or level of physiological arousal. The finding that neither physical aggression expectations nor physiological arousal was significantly correlated with latency to seek help is inconsistent with Thomas and Drabman's (1975) explanatory hypotheses. Before discarding Thomas and Drabman's (1975) explanatory hypotheses, and to corroborate findings from the present study, further research varying measures of normative expectations of behavior and physiological arousal will need to be performed.

4. Other Correlational Analyses

Correlational analyses between the variables of violence viewing, socieoeconomic status, and levels of family violence are consistent with previous research. To briefly outline, in the present study the following correlations were found; correlations of violence viewing between all members of the family (Roberts & Schramm, 1971; Singer, 1983), correlation between violence viewing and lower socieoeconomic status (National Commission on the Cure and Prevention of Violence, 1969; Roberts & Schramm, 1971;

Singer, 1983), correlations between family violence and lower socieoeconomic status (see Steinmetz, 1974, for review), correlations between violence viewing and family violence (Singer, 1983). Thus, consistent with previous data, heavy violence viewing in the child is often in the context of heavy violence viewing in the home, lower socieoeconomic status, and use of physical force in the family. However, neither socieoeconomic status nor measures of family violence were related to the key dependent measures in study two, latency to respond.

C. Considerations on Age of Subjects, Stimulus Materials and Competing Explanations

Future research assessing the relationships between violence viewing, tolerance to, and physiological responses to real life violence should also vary the age of subjects. The nature of the relationships between those variables in children of various ages is truly unknown. For instance, it is possible that physiological desensitization (excitatory habituation) may develop fairly slowly over time. Thus, due to more years of exposure, older children who are heavy viewers may show physiological desensitization to scenes of real life violence while younger children may not.

Future studies should also vary the nature of the stimulus materials. For example, in both the Drabman and

Thomas series of studies and in the current study, the female child was more aggressive than the male. The variables of violence viewing and sex of subject may become more or less important given the characteristics of the aggressor in the film and the nature of the aggression.

Future studies should assess competing explanations. For instance, measures of prosocial behavior or attitudes in the family can be obtained. It is possible that family prosocial behavior or attitudes may be a greater predictor of latency to seek help in the presence of real life violence than violence viewing. In addition, it may be possible that normally prosocial children who are also heavy viewers may take longer to seek help in the presence of real life violence than normally prosocial children who are light violence viewers.

D. The Nature of Television Research

Research on television effects has taken two major tracks. Experimental laboratory studies have attempted to assess short term effects of television while correlational field studies have attempted to assess the long term cumulative effects of television. In the experimental paradigm, children are usually first exposed to an aggressive or prosocial film and then placed in a similar

situation, in a similar context, with similar stimuli to that of the film. The measure is whether or not and to what degree the child performs the behaviors modeled on the film. Experimental demonstrations of the prosocial effects (see Rushton, 1982, for review) and antisocial effects (Bandura, 1971, 1973,) have been so powerful that the television industry (Milvasky, et al, 1982) does not challenge these results.

Correlational studies attempt to assess the more interesting and important question, do television effects demonstrated in the short-term experimental studies accumulate and generalize to day-to-day behavior? Correlational studies obtain measures of television viewing and the specific behaviors of interest, usually aggressiveness. However, correlational studies are always open to third variable interpretations and challenges to the direction of the causal inference. Recent longitudinal, cross lagged panel designs, that employ multiple regression and partial correlation techniques, and include measures of potential third variable influences are clearly an improvement over simple correlational studies (Singer & Singer, 1980, 1981; Singer, 1982, 1983). Although these studies eliminate some of the potential third variables and make conclusions about the direction of the relationship

stronger, third variable and directionality challenges can still be made.

Among the more sophisticated studies, correlations between television violence viewing and behavior, particularly observed aggression, continue to be small (i.e., Singer, 1980). The modesty of the correlations may represent the true nature of the relationship. The correlations may be small due in part to the discrepancy between the model's characteristics on television and the subjects characteristics. Characters on television, especially those performing violence, tend to be adults (Hawkins & Pingree, 1982), while the subjects under study tend to be children. In the clinical treatment literature, behavior change has been found to be related to the similarity between the model and the subject (Bandura, 1977). Perhaps, if the models performing violence on television were children, the correlations between violence viewing and aggression would be higher.

The modesty of the correlations may also represent the absence of a truly adequate test of the relationship. The range of situations and stimuli available to the characters on television is discrepant from the child's range of situations and stimuli, and vastly discrepant from the test situation of all studies. Characters on television are

involved in plots of intrigue and suspense, and have available an assortment of weapons and gadgets. Children's concerns and available stimuli are somewhat limited in comparison, and test stimuli and test situations are at most only mock representations of the real thing (a toy gun). Thus, the test situation, be it classroom observations, playground observations, or paper and pencil tests, is quite different from the situation and stimuli on television. Correlations may be modest because a direct test of what is learned from television can not be made. Perhaps, if the children were put in a situation of international intrigue and had available an assortment of weapons, correlations would be higher!

E. Summary

It was found that children who normally view a relatively large amount of television violence expected others to be physically aggressive in conflict situations more than children who normally view a relatively smaller amount of television violence. In addition, it was found that children who normally view a relatively large amount of television violence took longer to seek help in the presence of real life aggression than children who normally view a relatively smaller amount of television violence. However,

the relationship between violence viewing and latency to seek help may be attributable to the performance of a relatively small number of subjects. Thus, it is recommended that replication of the procedures employing a larger sample size be performed to further assess the relationship between violence viewing and toleration to real life aggression. Finally, there was no relationship found between violence viewing and heart rate responses to the scene of real life aggression. Subsequent studies will need to vary indices of physiological arousal.

REFERENCES

Andison, F. S. TV violence and viewer aggression: A cumulation of study results 1956-1976. Public Opinion Quarterly, 1977, 41, 314-331.

Atkin, C. "Effects of Television Advertising on Children First Year Experimental Evidence," Report #1, Michigan State University, 1975. (a)

Bandura, A. "What TV Violence Can Do To Your Child." Look, October 22, 1963, 46-52.

Bandura, A. Influence of models' reinforcement contingencies on the acquisition of imitative responses. Journal of Personality and Social Psychology, 1965, I, 589-595.

Bandura, A. Social Learning Theory. Englewood Cliffs, New Jersey: Prentice Hall, 1977.

Bandura, A., Ross, D., & Ross, S. A. Transmission of aggression through imitation of aggressive models. Journal of Abnormal and Social Psychology, 1961, 63, 575-582.

Belson, W. A. Television violence and the adolescent boy. Hampshire, England: Saxon House, 1978.

Berger, S. Conditioning through vicarious instigation Psychological Review, 1962, 69, 405-456.

Berkowitz, L. Aggression: A social psychological analysis. New York: McGraw-Hill, 1962.

Bogart, L. Warning, the Surgeon General has determined that TV violence is moderately dangerous to your child's mental health. Public Opinion Quarterly, 1972, 36, 491-521.

Bogatz, G. A., & Ball, S. The second year of Sesame Street:A continuing evaluation. Princeton, N.J.:Educational Testing Service, 1972.

Cacioppo, J. T. & Petty, R. E. Social Psychophysiology. New York:Guilford, 1983.

Cantor, M. G. Prime-time television: Content and control. Beverly Hills:Sage Publications, 1980.

Cline, V. B., Croft, R. G., & Courrier, S. Desensitization of children to television violence. Journal of Personality and Social Psychology, 1973, 27, 360-365.

Comstock, G. Television in America, Beverly Hills:Sage, 1980.

Comstock, G. A., & Rubinstein, E. A. (Eds.). Television and social behavior (Vol. 1). Media content and control. Washington:U.S. Government Printing Office, 1972.(a)

Comstock, G. A., & Rubinstein, E. A. (Eds.). Television and social behavior (Vol. 3). Television and adolescent aggressiveness. Washington:U.S. Government Printing Office, 1972. (b)

Comstock, G. A., Rubinstein, E. A. & Murray, J. P. (Eds.). Television and social behavior (Vol. 5). Television's effects: Further explorations. Washington:U.S. Government Printing Office, 1972.

Davidson, E. S., Yasuna, A., & Tower, A. The effects of television cartoons on sex-role stereotyping in young girls. Child Development, 1979, 50, 597-600.

Dominick, J. R., & Greenberg, B. S. Attitudes toward violence: The interaction of television exposure, family attitudes, and social class. In G. A. Comstock & E. A. Rubinstein (Eds.), Television and social behavior (Vol. 3). Television and adolescent aggressiveness. Washington:U.S. Government Printing Office, 1972.

Doob, A. N., & Macdonald, G. E. Television viewing and fear of victimization: Is the relationship casual? Journal of Personality and Social Psychology, 1979, 37, 170-179.

Drabman, R. S., & Thomas, M. H. Does media violence increase children's toleration of real-life aggression? Developmental Psychology, 1974, 10, 418-421.

Drabman, R. S., & Thomas, M. H. Does watching violence on television cause apathy? Pediatrics, 1976, 57, 329-331.

Eron, L. D., & Huesmann, L. R. Adolescent aggression and television. Annals of the New York Academy of Sciences, 1980, 347, 319-33 (a)

Eron, L. D., & Huesmann, L. R. Integrating field and laboratory investigations of televised violence and aggression. Paper presented at the meeting of the American Psychological Association. Montreal, 1980.(b)

Eysenck, H. J., & Nias, D. K. B. Sex, violence, and the media. London:Maurice Temple Smith, 1978.

Fox, W., & Philliber, W. Television viewing and the perception of affluence. Sociological Quarterly, 1978, 19, 103-112.

Frueh, T., & McGhee, P. E. Traditional sex role development and amount of time spent watching television. Developmental Psychology, 1975, II,(1), 109.

Geen, R. G. Observing violence in the mass media:Implications of basic research. In R. G. Geen & E. D. O'Neal (Eds.), Perspectives on aggression. New York:Academic Press, 1976.

Gerbner, G., & Gross, L. P. Violence profile no. 5:Trends in network television drama and viewer conceptions of social reality. Unpublished manuscript. Annenberg School of Communications, University of Pennsylvania, 1973.

Gerbner, G., & Gross, L. P. Violence profile no. 6:Trends in network television drama and viewer conceptions of social reality, 1967-1973. Unpublished manuscript. Annenberg School of Communications, University of Pennsyvlania, 1974.

Gerbner, G., & Gross, L. Living with television: The violence profile. Journal of Communication, 1976, 26(2), 173-199.

Gerbner, G., & Gross, L. The violent face of television and its lessons. In E. Palmer and A. Dorr (Eds.), Children and the faces of television, New York:Academic Press, 1980.

Gerbner, G., Gross, L., Eleey, M. F., Jackson-Beeck, M., Jeffries-Fox, S., & Signorielli, N. Violence profile no. 8:Trends in network television drama and viewer conceptions of social reality, 1967-1976. Philadelphia:Annenberg School of Communications, University of Pennsylvania, 1977. (a)

Gerbner, G., Gross, L., Signorielli, N., Morgan, M., & Jackson-Beeck, M. Violence profile no. 10:Trends in network television drama and viewer conceptions of social reality. Philadelphia:Annenberg School of Communications, University of Pennsylvania, 1979.(a)

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. On Wober's "Televised violence and paranoid perception:The view from Great Britain" Public Opinion Quarterly, 1979, 43, 123-124.(b)

Gerbner, G., Gross, L., Signorielli, N., & Morgan, M. Aging with television:Images on television drama and conceptions of social reality, Journal of Communication, 1980, 30(1), 37-47.(a)

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. The "main-streaming" of America:Violence profile no. 11. Journal of Communication, 1980, 30(3), 10-29.(b)

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. Some additional comments on cultivation analysis. Public Opinion Quarterly, 1980, 44, 408-411.(c)

Gerbner, G., Gross. L., Morgan, M., & Signorielli, N. A curious journey into the scary world of Paul Hirsch. Communication Research, 1981, 8, 39-72.

Goranson, R. E. Media violence and aggressive behavior:A review of experimental research. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 5). New York:Academic Press, 1970.

Graves, S. B. How to encourage positive racial attitudes. Paper presented at the Society for Research in Child Development, 1975, Denver, Colorado.

Greenberg, B. S., & Gordon, T. F. Perceptions of violence in TV programs:Critics and the public. In G. A. Comstock & E. A. Rubinstein (Eds.), Television and social behavior, Vol. 1, Media content and control. Washington, D.C.:Government Printing Office, 1972a, 244-258.

Hartmann, D. P., & Gelfand, D. M. Motivational variables affecting performance of vicariously learned responses. Paper presented at Western Psychological Association Meeting, Vancouver, British Columbia, June 1969.

Hawkins, R. P. and S. Pingree. "Television's Influence on Social Reality." In D. Pearl, L. Bouthilet, and J. Lazar (Eds.) Television and Behavior:Ten Years of Scientific Progress and Implications for the Eighties, Vol. 2. Washington, D.C.:U.S. Government Printing Office, 1982.

Hearold, S. L. Meta-analysis of the effects of television on social behavior, Unpublished doctoral dissertation, University of Colorado, 1979.

Hollingshead, A. B., & Redlich, F. C., Two Factor Index of Social Position New Haven, 1957.

Howard, J. L., Reifler, L. B. & Liptzin, M. B. Effects of exposure to Pornography. In Technical Report of the Commission on Obscenity and Pornography (vol. 8). Washington:U.S. Government Printing Office, 1971.

Huesmann, L. R., Eron, L. D., Klein, R., Brice, P., & Fischer, P. Mitigating the imitation of aggressive behaviors. Technical Report, Department of Psychology, University of Illinois at Chicago Circle, 1981.

Huesmann, L. R., Fischer, P. F., Eron, L. D., Mermelstein, R., Kaplan-Shain, E., & Morikawa, S. Children's sex role preference, sex of television model, and imitation of aggressive behaviors. Paper presented at the meeting of the

International Society for Research on Aggression, Washington, D.C., September 1978.

Hughes, M. The fruits of cultivation analysis. A re-examination of the effects of television watching on fear of victimization, alienation, and the approval of violence. Public Opinion Quarterly, 1980, 44, 287-303.

Johnson, N. How to talk back to your television set. Boston:Little, Brown, & Co., 1967.

Latane, B., & Darley, J. M. The Unresponsive Bystander:Why Doesn't He Help, New York:Appleton Crofts, 1970.

Lazarus, R., & Alfert, E. The short-circuiting of threat. Journal of Abnormal and Social Psychology, 1964, 69, 195-205.

Lazarus, R, Speisman, J. C., Mordkoff, A. M., & Davison, L. A. Psychological Monographs, 1962, 76, (34, Whole No. 533).

Lefkowitz, M. M., Eron, L. D., Walder, L. O., & Huesmann, L. R. Television violence and child aggression:A followup study. In G. A. Comstock and E. A. Rubinstein (Eds.), Television and social behavior. Vol. III:Television and adolescent aggressiveness. Washington, D.C.:U.S. Government Printing Office, 1972, 35-135.

Leifer, A. D., & Roberts, D. F. Children's response to television violence. In J. P. Murray, E. A. Rubinstein, & G. A. Comstock (Eds.), Television and social behavior Vol. 2:Television and social learning. Washington, D.C.:United States Government Printing Office, 1972.

Liebert, R. M., Sprafkin, J. N. & Davidson, E. S. The Early Window: Effects of Television on Children and Youth New York:Pergamon Press, 1982.

Lovaas, O. I. Effect of exposure to symbolic aggression on aggressive behavior. Child Development, 1961, 32, 37-44.

McCarthy, E. D., Langner, T. S., Gersten, J. C., Eisenberg, J. G., & Orzeck, L. Violence and behavior disorders. Journal of Communication, 1975, 25(4), 71-85.

McLeod, J. M., Atkin, C. K., & Chaffee, S. H. Adolescents, parents, and television use:Adolescent self-report measures from Maryland and Wisconsin samples. In G. A. Comstock and E. A. Rubinstein (Eds.), Television and social behavior. Vol. III:Television and adolescent aggressiveness. Washington, D.C.:U.S. Government Printing Office, 1972a, 173-238.

McNeil, J. C. Feminism, feminity, and television series:A content analysis. Journal of Broadcasting, 1975, 19 (3), 259-271.

Merriam, E. We're teaching our children that violence is fun. Ladies Home Journal, October 1964, 44, 49, 52. Reprinted in O. Larsen (Ed.), Violence in the mass media. New York:Harper & Row, 1968, 40-47.

Milavsky, J. R., Kesslr, R., Stipp, H., Rubens, W. S. Television and aggression: Results of a panel study. Chapter in Television and behavior:Ten years of scientific progress and implications for the 80's Washington, D.C.:U.S. Government Printing Office, 1982.

Miller, M. M., & Reeves, B. Linking dramatic TV content to children's occupational sex-role stereotypes. Journal of Broadcasting, 1976, 20, 35-50.

Murray, J. P. , Rubinstein, E. A., & Comstock, G. A. (Eds.) Television and social behavior (Vol. 2). Television and social learning. Washington:U.S. Government Printing Office, 1972.

Nelson, J. P., Gelfand, D. M., & Hartmann, D. P. Children's aggression following competition and exposure to an aggressive model. Child Development, 1969, 40, 1085-1097.

Osborn, D. K. & Endsley, R. C. Emotional reactions of young children to TV violence. Child Development, 1971, 42, 321-331.

Pearl, D., Bouthilet, L., & Lazar, J. Television and Behavior:Ten Years of Scientific Progress and Implications for the Eighties. Washington D.C.:U.S. Government Printing Office, 1982.

Reifler, C. B., Howard, J., Lipton, M. B., & Widmann, D. E. Pornography:An experimental Study of effects. American Journal of Psychiatry, 1971, 128, 575-582.

Roberts, D. F., & Schramm, W. Children's Learning from the mass media. In W. Schramm (Ed.) The Process and Effects of Mass Communication, Urbana, Illinois:University of Illinois Press, 1971.

Roberts, D. F., Herold, C., Hornby, M., King, S., Sterne, D., Whiteley, S., & Silverman, T. Earth's a big blue marble:A report on the impact of a children's television series on children's opinions. Manuscript, Stanford University, 1974.

Rosenkrans, M. A., & Hartup, W. W. Imitative influences of consistent and inconsistent response consequences to a model on aggressive behavior in children. Journal of Personality and Social Psychology, 1967, 7, 429-434.

Robinson, J. P. Television's impact on everyday life:Some cross-national evidence. In E. A. Rubinstein, G. A.

Comstock, and J. P. Murray (Eds.), Television and social behavior. Vol. IV:Television in day-to-day life:Patterns of use. Washington, D.C.:U.S. Government Printing Office, 1972, 410-431.

Rubinstein, E. A. Introductory Comments. In D. Pearl, L. Bouthilet, and J. Lazar (Eds.) Television and Behavior. Washington D.C.:U.S. Government Printing Office, 1982.

Rubinstein, E. A., Comstock, G. A., & Murray, J. P. (Eds.), Television and social behavior (Vol. 4). Television in day-to-day life:Patterns of use. Washington:U.S. Government Printing Office, 1972.

Rushton, J. P. Television and Prosocial Behavior. In D. Pearl, L. Bouthilet, & J. Lazar (Eds.) Television and Behavior. Washington D.C.:U.S. Government Printing Office, 1982.

Ryback, D., & Connel, R. H. Differential racial patterns of school discipline during the broadcasting of "Roots." Psychological Reports, 1978, 42, 514.

Schramm, W., Lyle, J., & Parker, E. B. Television in the lives of our children. Stanford:Stanford University Press, 1961.

Seggar, J. F. Imagery of women in television drama:1974. Journal of Broadcasting. 1975, 19 (3), 273-282.

Singer, J. L. Introductory Comments. In D. Pearl, L. Bouthilet, & J. Lazar (Eds.). Television and Behavior. Washington D.C.:U.S. Government Printing Office, 1982.

Singer, D. G., & Singer, J. L. Television viewing and aggressive behavior in preschool children:A field study. Forensic Psychology and Psychiatry. Annals of the New York Academy of Sciences, 1980.

Singer, J. L., & Singer, D. G. Television viewing, family style and aggressive behavior in preschool children. In M. Green (Ed.), Violence and the family:Psychiatric, sociological, and historical implications. AAAS Symposium 47, Boulder, Colorado:Westview Press, 1980 (b)

Singer, J. L., & Singer, D. G. Television, imagination and aggression:A study of preschoolers. Hillsdale, N.J.:Erlbaum, 1981.

Singer, J. L. & Singer, D. G. Psychologists Look at television: Cognative, Developmental, personality, and Social Policy Implications American Psychologist, 1983 38 (7) 826-843.

Singer, J. L., Singer, D. G. & Rapaczynski, W. S. Family Patterns and Television Viewing as Predictors of Children's Beliefs and Aggression. Journal of Communication, 1984.

Steinberg, C. S. TV Facts. New York:Facts on File, Inc., 1980.

Steinmetz, S. K. Violence in the Family New York:Harper and Row, 1974.

Sternglanz, S. H., & Serbin, L. A. Sex role stereotyping in children's television programs. Developmental Psychology, 1974, 10 (5), 710-715.

Straus, M. A. Leveling, Civility, and Violence in the Family. Journal of Marriage and the Family, 1974 6 (1), 13-21.

Straus, M. A. Measuring Intrafamily Conflict and Violence:The Conflict Tactics (CT) Scales. Journal of Marriage and the Family, 1979, 11 (1), 75-78.

Surgeon General's Scientific Advisory Committee on Television and Social Behavior. Television and growing up:The impact of televised violence. Report to the Surgeon General, United States Public Health Service, Washington:U.S. Government Printing Office, 1972.

Tan, A. S. TV beauty ads and role expectations of adolescent female viewers. Journalism Quarterly 1979, 56, 283-288.

Thomas, M. H., & Drabman, R. S. Toleration of real life aggression as a function of exposure to televised violence and age of subject. Merrill-Palmer Quarterly, 1975, 21, 227-232.

Thomas, M. H., & Drabman, R. S. Effects of Television Violence on Expectations of Other's Aggression. Personality and Social Psychology Bulletin, 1978 4 (1), 73-76.

Thomas, M. H., Horton, R. W., Lippincott, E. C., & Drabman, R. S. Desensitization to portrayals of real-life aggression as a function of exposure to television violence. Journal of Personality and Social Psychology, 1977, 35, 450-458.

United States Senate, Effects on young people of violence and crime portrayals on television. Part 10, Hearings before the Subcommittee to Investigate Juvenile Delinquency, Committee on the Judiciary, 87th Congress, 1961.

Volgy, T., & Schwarz, J. Television entertainment programming and sociopolitical attitudes. Journalism Quarterly, 1980, 57, 150-155.

Walters, R. H., & Thomas, E. L. Enhancement of punitiveness by visual and audiovisual displays. Canadian Journal of Psychology, 1963, 17, 244-255.

Walters, R. H. & Willows, D. C. Imitative behavior of disturbed and nondisturbed children following exposure to aggressive and nonaggressive models. Child Development, 1968, 39, 79-89.

Williams, T. M. Differential impact of TV on children:A natural experiment in communities with and without TV. Paper presented at the meeting of the International Society for Research on Aggression, Washington, 1978.

Wober, J. M. Televised and paranoid perception:The view from Great Britain. Public Opinion Quarterly, 1978, 42, 315-321.

Zillman, D. Television Viewing and Arousal. In D. Pearl, L. Bouthilet, and J. Lazar (Eds.) Television and Behavior:Ten Years of Scientific Progress and Implications for the Eighties, Vol. 2. Washington D.C.:U.S. Government Printing Office, 1982.

Zillman, D. & Bryant, J. The Effect of Crotica Featuring Sadomagochism and Sestiality on Motivated Inter-male Aggression. Personality and Social Psychology Bulletin, 1981, 7, 153-159.

APPENDICES

Appendix A

Favorite Television Shows

_____	_____	_____
NAME	TEACHER	GRADE

Favorite Television Shows

Please list your 3 favorite television shows.

1. _____

2. _____

3. _____

Appendix B

Television Frequency Form

NAME _____ GRADE _____ TEACHER _____

Television I Watch

I want you to tell me how much you watch different television shows. Here are a list of television shows that are on at night. Next to the name of each show, I want you to circle how much you watch each show. If it is a new show and you have watched it at least once, you can circle how much you plan on watching it.

If you watch a show often (nearly every time it is on), circle OFTEN. If you watch a show some of the time it is on, circle SOMETIMES. If you never watch the television shows, circle NEVER.

Sunday

8:00

1) Knight Rider OFTEN SOMETIMES NEVER

2) Hardcastle and McCormick	OFTEN	SOMETIMES	NEVER
3) Alice	OFTEN	SOMETIMES	NEVER
8:30			
4) One Day at a Time	OFTEN	SOMETIMES	NEVER
9:00			
5) The Jeffersons	OFTEN	SOMETIMES	NEVER
6) Johnson City	OFTEN	SOMETIMES	NEVER

Monday

8:00			
7) Scarecrow and Mrs. King	OFTEN	SOMETIMES	NEVER
8) Boone	OFTEN	SOMETIMES	NEVER
9) That's Incredible	OFTEN	SOMETIMES	NEVER
9:00			
10) After MASH	OFTEN	SOMETIMES	NEVER
11) Monday Night Football	OFTEN	SOMETIMES	NEVER
10:00			
12) Emerald Point N.A.S.	OFTEN	SOMETIMES	NEVER

Tuesday

8:00

13) The Mississippi OFTEN SOMETIMES NEVER

14) The A-Team OFTEN SOMETIMES NEVER

15) Just Our Luck OFTEN SOMETIMES NEVER

8:30

16) Happy Days OFTEN SOMETIMES NEVER

9:00

17) Calico OFTEN SOMETIMES NEVER

18) Remington Steele OFTEN SOMETIMES NEVER

19) Three's Company OFTEN SOMETIMES NEVER

10:00

20) Bay City Blues OFTEN SOMETIMES NEVER

21) Hart to Hart OFTEN SOMETIMES NEVER

Wednesday

8:00

22) Whiz Kids OFTEN SOMETIMES NEVER

23) The Fall Guy OFTEN SOMETIMES NEVER

24) Real People OFTEN SOMETIMES NEVER

9:00

25) Facts of Life OFTEN SOMETIMES NEVER

26) Dynasty OFTEN SOMETIMES NEVER

9:30

27) Family Ties OFTEN SOMETIMES NEVER

10:00

28) St. Elsewhere OFTEN SOMETIMES NEVER

29) Hotel OFTEN SOMETIMES NEVER

Thursday

8:00

30) Magnum P.I. OFTEN SOMETIMES NEVER

31) Gimme a Break OFTEN SOMETIMES NEVER

32) Trauma Center OFTEN SOMETIMES NEVER

8:30

33) Mama's Family OFTEN SOMETIMES NEVER

9:00

34) Simon and Simon OFTEN SOMETIMES NEVER

35) We Got It Made OFTEN SOMETIMES NEVER

36) 9 to 5 OFTEN SOMETIMES NEVER

9:30

37) Its Not Easy OFTEN SOMETIMES NEVER

38) Cheers OFTEN SOMETIMES NEVER

10:00

39) Knots Landing OFTEN SOMETIMES NEVER

40) Hill Street Blues OFTEN SOMETIMES NEVER

Friday

8:00

41) The Dukes of Hazard OFTEN SOMETIMES NEVER

42) Mr. Smith OFTEN SOMETIMES NEVER

43) Benson OFTEN SOMETIMES NEVER

8:30

44) Webster OFTEN SOMETIMES NEVER

9:00

45) Dallas	OFTEN	SOMETIMES	NEVER
46) Manimal	OFTEN	SOMETIMES	NEVER
47) Lottery	OFTEN	SOMETIMES	NEVER

10:00

48) Falcon Crest	OFTEN	SOMETIMES	NEVER
49) For Love and Honor	OFTEN	SOMETIMES	NEVER
50) Matt Houston	OFTEN	SOMETIMES	NEVER

Saturday

8:00

51) Cutter to Houston	OFTEN	SOMETIMES	NEVER
52) Different Strokes	OFTEN	SOMETIMES	NEVER
53) T. J. Hooker	OFTEN	SOMETIMES	NEVER

9:00

54) Rousters	OFTEN	SOMETIMES	NEVER
55) Love Boat	OFTEN	SOMETIMES	NEVER
56) Center Stage	OFTEN	SOMETIMES	NEVER

10:00

57) Yellow Rose OFTEN SOMETIMES NEVER

58) Fantasy Island OFTEN SOMETIMES NEVER

How much do you watch MTV (Music Television)

OFTEN SOMETIMES NEVER

On the average day, how many hours do you watch MTV?

_____

Here are some shows that are on television on Saturday Mornings, or other mornings and afternoons. How much do you watch these shows?

1) Bullwinkle OFTEN SOMETIMES NEVER

2) Bugs Bunny OFTEN SOMETIMES NEVER

3) The Jetsons OFTEN SOMETIMES NEVER

4) The Flintstones OFTEN SOMETIMES NEVER

5) Scooby Doo OFTEN SOMETIMES NEVER

6) Topsy Turvy OFTEN SOMETIMES NEVER

7) Tom and Jerry OFTEN SOMETIMES NEVER

8) Incredible Hulk OFTEN SOMETIMES NEVER

9) Dungeons and Dragons	OFTEN	SOMETIMES	NEVER
10) Pac Man	OFTEN	SOMETIMES	NEVER
11) The Dukes	OFTEN	SOMETIMES	NEVER
12) Six Million Dollar Man	OFTEN	SOMETIMES	NEVER
13) Benji, Zax, and the Alien	OFTEN	SOMETIMES	NEVER
14) Mr. T	OFTEN	SOMETIMES	NEVER
15) Thundarr	OFTEN	SOMETIMES	NEVER
16) Wrestling	OFTEN	SOMETIMES	NEVER
17) Life with Suzie	OFTEN	SOMETIMES	NEVER
18) Battlestar Gallactica	OFTEN	SOMETIMES	NEVER
19) The Waltons	OFTEN	SOMETIMES	NEVER
20) Buck Rogers	OFTEN	SOMETIMES	NEVER
21) Little House on the Prairie	OFTEN	SOMETIMES	NEVER
22) Top Rank Boxing	OFTEN	SOMETIMES	NEVER
23) The Rifleman	OFTEN	SOMETIMES	NEVER
24) Once Upon A Time	OFTEN	SOMETIMES	NEVER
25) Father Knows Best	OFTEN	SOMETIMES	NEVER

26) Popeye and Friends	OFTEN	SOMETIMES	NEVER
27) Gilligans Island	OFTEN	SOMETIMES	NEVER
28) The Brady Bunch	OFTEN	SOMETIMES	NEVER
29) The Misfits	OFTEN	SOMETIMES	NEVER
30) Beverly Hillbillies	OFTEN	SOMETIMES	NEVER

HERE are some shows that were on television within the last year. How much did you watch these shows?

1) Fame	OFTEN	SOMETIMES	NEVER
2) Chips	OFTEN	SOMETIMES	NEVER
3) Too Close for Comfort	OFTEN	SOMETIMES	NEVER
4) I Spy	OFTEN	SOMETIMES	NEVER
5) White Shadow	OFTEN	SOMETIMES	NEVER
6) Task Force	OFTEN	SOMETIMES	NEVER
7) Powers of Mathew Star	OFTEN	SOMETIMES	NEVER
8) Cagney and Lacey	OFTEN	SOMETIMES	NEVER
9) Woody Woodpecker	OFTEN	SOMETIMES	NEVER
10) Kung Fu	OFTEN	SOMETIMES	NEVER

11) Wonder Woman	OFTEN	SOMETIMES	NEVER
12) Bring em Back Alive	OFTEN	SOMETIMES	NEVER
13) The Cadets	OFTEN	SOMETIMES	NEVER
14) Tales of the Gold Monkey	OFTEN	SOMETIMES	NEVER
15) Gloria	OFTEN	SOMETIMES	NEVER
16) Father Murphy	OFTEN	SOMETIMES	NEVER
17) Dueling Swords	OFTEN	SOMETIMES	NEVER

Appendix C

Subjective Ratings of Violence in Television Programs

Weighted Violence Score	Program	Mean Violence Score
10	Top Rank Boxing	9.39
10	Wrestling	9.18
9	A-Team	8.49
9	Hill Street Blues	8.32
9	Rousters	8.00
8	Thundarr	7.63
8	Incredible Hulk	7.50
8	T.J. Hooker	7.41
8	Kung Fu	7.38
7	Football	7.11
7	Fall Guy	7.10
7	Manimal	7.00
7	Cagney and Lacey	6.97
7	Mr. T.	6.97
7	Matt Houston	6.89
7	Dukes of Hazard	6.85

7	Tom and Jerry	6.82
7	Simon and Simon	6.80
7	Dungeons and Dragons	6.75
7	The Rifleman	6.71
7	Chips	6.70
6	Magnum P.I.	6.59
6	Knight Rider	6.57
6	Six Million Dollar Man	6.54
6	Falcon Crest	6.50
6	Dallas	6.45
6	Wonder Woman	6.45
6	Popeye	6.45
6	Dukes	6.40
6	I Spy	6.37
6	Bay City Blues	6.37
6	Battlestar Gallactica	6.36
6	Bring 'em Back Alive	6.33
6	Hardcastle and McCormick	6.33
6	Tales of the Gold Monkey	6.30
6	Love and Honor	6.30
5	Hart to Hart	6.14
5	Bugs Bunny	6.14
5	Woody Woodpecker	6.07
5	Trauma Center	6.00

5	Scarecrow and Mrs. King	6.00
5	Yellow Rose	6.00
5	Dynasty	5.97
5	Buck Rogers	5.83
5	Emerald Point N.A.S.	5.73
5	Knots Landing	5.70
4	The Mississippi	5.39
4	Remington Steele	5.29
4	St. Elsewhere	5.29
4	White Shadow	5.23
4	Powers of Mathew Star	5.15
4	MTV	4.99
4	Flintstones	4.92
3	Bullwinkle	4.63
3	Mama's Family	4.50
3	Fantasy Island	4.35
3	Whiz Kids	4.23
3	Scooby Doo	4.14
2	Pac Man	3.86
2	The Jeffersons	3.76
2	That's Incredible	3.72
2	Gilligan's Island	3.70
2	Beverly Hillbillies	3.59
2	Too Close for Comfort	3.59

2	Boone	3.50
2	Jetsons	3.48
1	Happy Days	3.25
1	Hotel	3.25
1	Benji, Zax, and the Alien	3.20
1	Fame	3.19
1	Gimme A Break	3.17
1	Three's Company	3.07
1	Gloria	3.07
1	Cheers	3.02
1	After MASH	2.94
1	Nine to Five	2.92
1	Alice	2.89
1	One Day At a Time	2.81
1	Father Murphy	2.80
1	Benson	2.76
1	Brady Bunch	2.73
1	Lottery	2.67
1	Different Strokes	2.64
1	Real People	2.63
1	Family Ties	2.61
1	Little House on the Prairie	2.60
1	Love Boat	2.53
1	Mr. Smith	2.47
1	Facts of Life	2.38

1	Waltons	2.37
0	Father Knows Best	1.84
0	Webster	1.46

Appendix D

Extremely Violent Television Programs as Rated by Content Analysis

Thundarr

Bugs Bunny

Mr. T.

A-Team

Tom and Jerry

Fall Guy

Dungeons and Dragons

Popeye

Manimal

Tales of the Gold Monkey

Matt Houston

Bring 'em Back Alive

T.J. Hooker

Rousters

Scarecrow and Mrs. King

Scooby Doo

Dukes of Hazard

Knight Rider

Simon and Simon

Hardcastle and McCormick

Incredible Hulk

Flintstones

Hart to Hart

Magnum P.I.

Battlestar Gallactica

Buck Rogers

Powers of Mathew Star

Whiz Kids

Fantasy Island

Cagney and Lacey

Hill Street Blues

The Dukes

Appendix E

Expectations Hierarchy Conflict Situations

PRACTICE ITEMS

A. A kid is on the corner and wants to cross the street. The sign says "Don't Walk."

   a. Wait for the sign to change
   b. Walk across the street

B. Someone asks a kid which one is best for his health.

   a. An apple
   b. A cigarette

RESPONSE HIERARCHY

1. A kid is walking down the street. Some other kid is mad at him and comes up and hits him.

   A. Hit the other kid
   B. Call the other kid "stupid"
   C. Walk away
   D. Tell a grown-up

2. A kid is standing in line for a drink of water. Another kid comes along and just pushes him out of line.

   A. Push the other kid
   B. Call the other a bad name
   C. Go away
   D. Say "That's Allright"

3. A kid is playing a game with friend. Another kid takes his turn.

   A. Push the other kid
   B. Call the other kid "slob"
   C. Go away
   D. Tell the other kid not to take his turn

4. A kid is playing a game and keeps making mistakes. Another kid starts making fun of him.

   A. Throw something at the other kid
   B. Call the other kid "stupid"
   C. Go someplace else
   D. Say "That's allright"

5. A kid has just finished making something. Another kid comes along and messes it up.

   A. Hit the other kid

B. Call the other kid a bad name

C. Go away

D. Say "That's allright"

6. A kid's friend promised to walk home with him. Then he sees his friend walking home with somebody else.

A. Throw something at the other kid

B. Yell at the other kid

C. Go away

D. Say "That's allright"

7. A kid sees another kid fighting with his bestfriend.

A. Push the other kid

B. Call the other kid a bad name

C. Walk away

D. Tell the teacher

8. A kid just heard that someone he though was his friend has been making up stories behind his back. He sees him after school.

A. Hit the other kid

B. Call the other kid a bad name

C. Walk away

D. Tell the teacher

9. A kid is playing a game and is not doing so well. Another kid starts taking over his plays.

A. Hit the other kid

B. Yell at the other kid

C. Go some place else

D. Tell the teacher

Appendix F

Teacher_____ Date_____ Student_____

A M L
BEHAVIOR RATING SCALE

Observed Behavior	Scale				
	Never (1)	Seldom (2)	Moderately often (3)	Often (4)	Most or all of the time (5)
1. Gets into fights or quarrels with other students	( )	( )	( )	( )	( )
2. Has to be coaxed or forced to work or play with other pupils	( )	( )	( )	( )	( )
3. Is restless	( )	( )	( )	( )	( )
4. Is unhappy or depressed	( )	( )	( )	( )	( )
5. Disrupts class discipline	( )	( )	( )	( )	( )
6. Becomes sick when faced with a difficult school problem or situation	( )	( )	( )	( )	( )
7. Is obstinate	( )	( )	( )	( )	( )
8. Feels hurt when criticized	( )	( )	( )	( )	( )
9. Is impulsive	( )	( )	( )	( )	( )
10. Is moody	( )	( )	( )	( )	( )
11. Has difficulty learning	( )	( )	( )	( )	( )

1	Never	You have literally never observed this behavior in this child.
2	Seldom	You have observed this behavior once or twice in the last 3 months.
3	Moderately often	You have observed this behavior more often than once a month but less than once a week.
4	Often	You have seen this behavior more often than once a week but less often than daily.
5	Most or all of the time	You have seen this behavior with great frequency, averaging once a day or more often.

Appendix G

Consent Form

I _____, freely and voluntarily consent, and give my consent for _____, to participate in a research program entitled "Physiological Responses to Television" to be conduced by Brian Stahl, M.S. and supervised by Richard Winnett, Ph.D. In this project, we are interested in learning how normal television viewing habits affect children's responses to scenes on a television monitor and other tasks. The procedures to be followed have been explained to me and I understand them. They are as follows:

1) I understand that I will be asked to fill out a number of questionnaires which are to be completed at the Psychological Services Center. If my spouse is not present, I understand that they will be asked to complete an additional questionnaire at home which is to be mailed in. I understand that I am free to withdraw my consent at any time.

2) I understand that my child will be physiologically monitored (heart rate and skin response) and that the procedures and equipment employed is safe, not at all

painful, and is not invasive. The equipment will be simply taped to the child. Physiological monitoring will take place under the following conditions: while sitting comfortably, while performing some simple paper and pencil tasks, and while watching scenes on a television monitor. Some of the scenes your child will view are actual excerpts from television programs that have appeared on network television. These scenes are from an action-police program and from an exciting sports event. In addition, your child will view a scene of children playing and fighting, and your child may feel that this scene is real and actually happening. I understand that these procedures are safe and do not cause discomfort. I understand that my child is free to stop the procedures at any point.

3) I understand that I will be reimbursed for my family's time and expense to a maximum of 25 dollars. I understand that I will be reimbursed a sum of 25 dollars if all aspects of the project is completed; child's participation and both spouses questionnaires completed. I understand that if only one parent has completed the forms and the child has completed participation, that I will receive 15 dollars today, and an additional 10 dollars in the mail only after my spouse has completed the additional forms. I understand that if my child fails to complete their part of the

project, that I will be reimbursed 10 dollars for my time and expense.

I understand that all information obtained from my family will be held strictly confidential, that our identity will not be disclosed to anyone, and that the data collected will be coded by number and not attached to the family's name. I also understand that a more detailed explanation of the project and the results of the project will be sent to me when the project is complete. After participation, any further questions can be directed to Brian Stahl or Richard Winett.

_____

Parent or Guardian

_____

Child's Name

., Institutional

Review Board Member, 961-5346

Appendix H

In some families where there are children, they always seem to be having spats, fights, disagreements, or whatever you want to call them; and they use many different ways of trying to settle differences between themselves. I'm going to read you a list of some things that (REFERENT CHILD) might have done when (he/she) had a disagreement with the other (child/children) in the family. For each one, I would like to know how often (REFERENT CHILD) did it in the past year.

	Q. 53 REFERENT CHILD - IN THE PAST YEAR								Q. 54 EVER HAPPENED		
	NEVER	ONCE	TWICE	3-5 TIMES	6-10 TIMES	11-20 TIMES	MORE THAN 20 TIMES	DON'T KNOW	YES	NO	DON'T KNOW
a. Discussed the issue calmly	0	1	2	3	4	5	6	X	1	2	X
b. Got information to back up (his/her) side of things	0	1	2	3	4	5	6	X	1	2	X
c. Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6	X	1	2	X
d. Insulted or swore at the other one	0	1	2	3	4	5	6	X	1	2	X
e. Sulked and/or refused to talk about it	0	1	2	3	4	5	6	X	1	2	X
f. Stomped out of the room or house (or yard)	0	1	2	3	4	5	6	X	1	2	X
g. Cried	0	1	2	3	4	5	6	X	1	2	X
h. Did or said something to spite the other one	0	1	2	3	4	5	6	X	1	2	X
i. Threatened to hit or throw something at the other one	0	1	2	3	4	5	6	X	1	2	X
j. Threw or smashed or hit or kicked something	0	1	2	3	4	5	6	X	1	2	X
k. Threw something at the other one	0	1	2	3	4	5	6	X	1	2	X
l. Pushed, grabbed, or shoved the other one	0	1	2	3	4	5	6	X	1	2	X
m. Slapped or spanked the other one	0	1	2	3	4	5	6	X	1	2	X
n. Kicked, bit, or hit with a fist	0	1	2	3	4	5	6	X	1	2	X
o. Hit or tried to hit with something	0	1	2	3	4	5	6	X	1	2	X
p. Beat up the other one	0	1	2	3	4	5	6	X	1	2	X
q. Threatened with a knife or gun	0	1	2	3	4	5	6	X	1	2	X
r. Used a knife or gun	0	1	2	3	4	5	6	X	1	2	X
s. Other (PROBE):_____	0	1	2	3	4	5	6	X	1	2	X

FOR THOSE ITEMS CIRCLED "NEVER" OR "DON'T KNOW" ON Q. 53, ASK:

54. I'd like you to tell me if, as far as you know, (REFERENT CHILD) ever (ITEM) with the other (child/children) when they had a fight or dispute.

Appendix I

Parents and children use many different ways of trying to settle differences between them. I'm going to read a list of some things that you and (CHILD) might have done when you had a dispute. Still using Card A, I would like you to tell me how often you did it with (CHILD) in the last year.

	Q. 57 RESPONDENT								Q. 58 EVER HAPPENED			Q. 59 CHILD						
	NEVER	ONCE	TWICE	3-5 TIMES	6-10 TIMES	11-20 TIMES	MORE THAN 20 TIMES	DON'T KNOW	YES	NO	DON'T KNOW	NEVER	ONCE	TWICE	3-5 TIMES	6-10 TIMES	11-20 TIMES	MORE THAN 20 TIMES	DON'T KNOW
a. Discussed the issue calmly	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
b. Got information to back up (your/his or her) side of things	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
c. Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
d. Insulted or swore at the other one	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
e. Sulked and/or refused to talk about it	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
f. Stomped out of the room or house (or yard)	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
g. Cried	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
h. Did or said something to spite the other one	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
i. Threatened to hit or throw something at the other one	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
j. Threw or smashed or hit or kicked something	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
k. Threw something at the other one	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
l. Pushed, grabbed, or shoved the other one	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
m. Slapped or spanked the other one	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
n. Kicked, bit, or hit with a fist	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
o. Hit or tried to hit with something	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
p. Beat up the other one	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
q. Threatened with a knife or gun	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
r. Used a knife or gun	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X
s. Other (PROBE):_____	0	1	2	3	4	5	6	X	1	2	X	0	1	2	3	4	5	6	X

FOR EACH ITEM CIRCLED AS "NEVER" OR "DON'T KNOW" ON Q. 57, ASK:

58. When you and (CHILD) have had a disagreement, have you ever (ITEM)?

ASK EVERYONE:

59. Now, let's talk about (CHILD). Tell me how often in the past year when you had a disagreement (he/she) (FIRST ITEM CIRCLED). (RECORD ABOVE)

TAKE BACK CARD A

Appendix J

No matter how well a couple gets along, there are times when they disagree on major decisions, get annoyed about something the other person does, or just have spats or fights because they're in a bad mood or tired or for some other reason. They also use many different ways of trying to settle their differences. I'm going to read a list of some things that you and your (husband/partner) might have done when you had a dispute, and would first like you to tell me for each one how often you did it in the past year.

	Q. 78 RESPONDENT-IN PAST YEAR								Q. 79 HUSBAND/PARTNER-IN PAST YEAR								Q. 80 EVER HAPPENED		
	NEVER	ONCE	TWICE	3-5 TIMES	6-10 TIMES	11-20 TIMES	MORE THAN 20 TIMES	DON'T KNOW	NEVER	ONCE	TWICE	3-5 TIMES	6-10 TIMES	11-20 TIMES	MORE THAN 20 TIMES	DON'T KNOW	YES	NO	DON'T KNOW
a. Discussed the issue calmly	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
b. Got information to back up (your/his) side of things	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
c. Brought in or tried to bring in someone to help settle things	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
d. Insulted or swore at the other one	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
e. Sulked and/or refused to talk about it	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
f. Stomped out of the room or house (or yard)	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
g. Cried	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
h. Did or said something to spite the other one	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
i. Threatened to hit or throw something at the other one	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
j. Threw or smashed or hit or kicked something	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
k. Threw something at the other one	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
l. Pushed, grabbed, or shoved the other one	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
m. Slapped the other one	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
n. Kicked, bit, or hit with a fist	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
o. Hit or tried to hit with something	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
p. Beat up the other one	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
q. Threatened with a knife or gun	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
r. Used a knife or gun	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X
s. Other (PROBE):_____	0	1	2	3	4	5	6	X	0	1	2	3	4	5	6	X	1	2	X

79. And what about your (husband/partner)? Tell me how often he (ITEM) in the past year.

FOR EACH ITEM CIRCLED EITHER "NEVER" OR "DON'T KNOW" FOR BOTH RESPONDENT AND PARTNER, ASK:

80. Did you or your (husband/partner) ever (ITEM)?

IF ANY BRACKETED ITEMS HAPPENED IN PAST YEAR, GO TO NEXT PAGE. IF NO BRACKETED ITEMS IN PAST YEAR, SKIP TO Q. 82.

TAKE BACK CARD A

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