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TELEVISION AND SOCIALIZATION ON
PROSOCIAL AND ANTISOCIAL BEHAVIOR

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ON PROSOCIAL AND ANTISOCIAL BEHAVIOR

By

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ABSTRACT

TELEVISION AND SOCIALIZATION
ON PROSOCIAL AND ANTISOCIAL BEHAVIOR

By

M. Mark Miller

This research examined effects of television exposure and identification with television characters on children's performance of prosocial and antisocial behaviors. The prosocial behaviors considered were altruism, affection, and self-expression; the antisocial behaviors considered were verbal aggression and physical aggression.

Past research concerning effects of television on children focused on the impact of specific televised behaviors on performance of the same behaviors. While this research considered such direct linkages, attention was also paid to "crossed effects," i.e., effects of prosocial television on antisocial behavior, and of antisocial television on prosocial behavior.

Reasoning from mediational-stimulus contiguity theory, 14 hypotheses were derived concerning direct effects, crossed effects, and interaction effects of television exposure and of identification with television characters.

A questionnaire was administered to 721 fourth, sixth, and eighth graders to gather data on their exposure to 15 selected television programs, their identification with 16 selected television characters, and their own performance of specific social behaviors.

Multiple-item indexes were constructed as indicators of the respondents' performance of the specific behaviors. Data derived from

content analysis of the selected programs and of the programs in which the selected characters appeared were used to weight the exposure and identification measured to form indexes.

All indexes were related to sex and grade and the effects of these variables were statistically controlled in the subsequent analysis. Modest, but positive and significant, correlations were found between exposure to and performance of each of the specific behaviors supporting the direct effects hypotheses. However, contrary to the crossed effects hypotheses, positive correlations were found between prosocial exposure and antisocial behavior and antisocial exposure and prosocial behavior.

The direct effects hypotheses for identification were supported only with reference to expression and physical aggression. The crossed effects hypotheses for identification were not supported with the appropriate correlations being either positive or non-significant.

Tests of the interaction hypotheses revealed that the antisocial exposure-behavior correlations were lowest when prosocial exposure was high. However, the prosocial exposure-behavior correlations were not systematically affected by levels of antisocial exposure. Prosocial and antisocial identification did not alter one another's effects.

It was hypothesized that identification with characters who performed specific types of behavior would enhance the effects of exposure to the same behavior. The highest prosocial exposure-behavior correlations did occur at the highest levels of prosocial identification; however, the relationship was markedly curvilinear. The exposure-

behavior correlations were relatively high at the lowest levels of identification, and were near zero at middle levels of identification. The interactions of antisocial exposure and identification were less systematic with the highest exposure-behavior correlations occurring at moderately high levels of identification for verbal aggression, and at lowest levels of identification for physical aggression.

The findings suggest multiple processes may account for the effects of both exposure and identification. Television exposure appears to lead not only to imitation, but also to heightened arousal which, in turn, increases levels of all behaviors. Identification appears to operate through one process among children who want to be like television characters and through a distinctly different process among children who deny wanting to be like television characters.

ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

Much of the concern about the effects of television centers on the proposition that children will imitate televised behavior. Scant attention has been paid to the possibility that imitation of one type of behavior would reduce enactment of other types of behavior. If television increases the likelihood of antisocial behavior in any specific context, it probably simultaneously decreases the likelihood of prosocial behavior in the same context. This research focuses on such "crossed effects," that is, the effects of prosocial television on antisocial behavior and of antisocial television on prosocial behavior. Both exposure to television and identification with television characters are considered as predictors of social behavior.

Most of the research on children and television has examined antisocial effects. In general, this research supports the conclusion that televised violence can lead to antisocial behavior in children. Comstock, et al., (1975) after surveying some 30 reviews of research in the area, concluded that scholars agree that ". . . under at least some circumstances, viewing of violence increases the likelihood of some form of subsequent aggression . . ." (p. 30).

On the other hand, some research supports the conclusion that television can affect such prosocial behaviors as helping, task persistence, delay of gratification, and cooperation (e.g., Stein and Friedrich, 1973), Friedrich and Stein, 1975; Sprafkin, et al., 1975; Rubinstein, et al., 1975).

Under public pressure generated in light of such findings, the television industry has begun to change its programming. The changes include "santizing" the violence portrayed, introducing family hour and family-oriented programs, and inserting prosocial content in the Saturday morning schedule. These changes apparently have not resulted in an appreciable decline in the number of violent acts portrayed on television (Gerbner, et al., 1976); however, they may have caused a qualitative difference in the nature and intensity of such portrayals. A recent content analysis that considered both pro- and antisocial behavior reported that a substantial number of both kinds of acts are aired on television (Greenberg, et al., 1977).

Given that television viewing can enhance the likelihood of both pro- and antisocial behavior in children, and that both types of content are readily available, discerning the effects of the current configuration of television is problematic. Among the possibilities that arise are (1) the medium concurrently teaches both types of behavior to all children; (2) because of differences in television use among children, the medium instills prosocial behavior in some

children and antisocial behavior in other children, and (3) exposure to both types of television content causes potential effects to cancel out (e.g., because television shows characters resolving conflict both through violence and through reasoned discourse, the medium provides little information on which is the "best" course of action, and, therefore, has little impact on children's behavior). This research examines such possibilities.

Theoretic Perspective

Numerous theoretic explanations have been offered for the phenomenon of learning through observation of others' behavior (e.g., Miller and Dollard, 1941; Skinner, 1953, 1957; Mowrer, 1960; Bandura, 1965, 1971). The major differences in these theories center on the number of necessary and sufficient conditions for observational learning. As an historical progression, these theories move from mechanistic explanations based on drive reduction and conditioning to more complex explanations incorporating cognitive, mediational processes.

Miller and Dollard's theory, which is based on Hullian psychology, relies heavily on the concept of drive. Drive is defined as any strong stimulus that impels the organism to act. Drives, which are internally generated, may be primary (based on biological needs for such things as food, rest, or sex) or secondary (socially modified or obscured

primary drives). In the general Hullian paradigm, stimulus cues stimulate internal responses or drives that impel the individual to an external response. Rewards, which are conceived as drive-reducing behavioral outcomes, determine whether a response will be repeated. If a response is unrewarded, it is less likely to be repeated in the presence of the original cue.

Miller and Dollard describe several processes of social influence; however, only one--matched-dependent behavior--is particularly germaine. In matched-dependent learning, the model's response to a particular stimulus cue serves as a cue for the observer who then matches the models's behavior. The rewards accruing to the observer's matching behavior determines whether the observer will again respond by matching the model's behavior. This process, then, accounts more for learning to imitate than it does for learning through imitation.

It is clear that Miller and Dollard's theory posits several necessary conditions for observational learning. These include a drive state, observation of modeled behavior, internal mediation processes linking the modeled cues and drive, overt behavior, and reward for behavior.

Skinner's theory is very similar to Miller and Dollard's. The major difference is that Skinner drops all reference to drive and internal mediation processes. This is accomplished through a tautological definition of reward

as any behavioral outcome that increases the likelihood of repeated behavior in the presence of the same stimulus cues.

Skinner is more explicit than Miller and Dollard concerning the origin of first imitative responses. Skinner holds that first imitations are chance occurrences which derive subsequent reinforcement. Through a series of successive approximations in which increasingly rigorous criteria are established for administration of reinforcement, the observer comes to reproduce modeled behavior more accurately.

Skinner also stresses the role of higher order conditioning in which cues take on behavior modifying properties through contiguity with previous response producing cues. After generalized imitative behavior has been developed through consistent reward, higher order conditioning can be evoked as an explanation for increasingly complex instances of imitative behavior. Skinner's theory, like Miller and Dollard's, then is primarily a theory of learning to imitate.

Skinner's theory posits as necessary conditions for learning: observation of modeled behavior, performance of behavior, and reinforcement for behavior. Cognitive or mediational processes are eliminated from consideration as explanations for behavior.

Mowrer (1960), on the other hand, stresses the role of internally generated stimuli. Beginning with the assumption of a positive relationship between the model and the observer, Mowrer posits that activities of the model become associated

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with reinforcing consequences to the observer. When this reinforcing link between the behavior and pleasurable internal states becomes strong enough, observers may generate these desired outcomes by reproducing the behavior. In short, the observer comes to imitate behavior because performance of the behavior has come to be associated with "feeling good."

Mowrer distinguishes two processes of observational learning which differ basically in terms of the directness of reinforcement to the observer. The first process relies on direct reinforcement of an observer by a model and has little direct application to learning from television. However, the second process, "empathetic" learning, is directly relevant. In empathetic learning, the model's behavior is overtly reinforced and the observer is assumed to be able to vicariously experience these rewards. Therefore, the likelihood of the observer reproducing the modeled behavior in the presence of similar stimulus cues is heightened. This occurs because the observer seeks the same rewards as the model received.

By relying on cognitive processes, Mowrer diminishes the number of conditions assumed to be necessary for observational learning. All that Mowrer's theory requires is observation of modeled behavior from which rewarding consequences can be derived by the observer. Since the rewarding consequences may be derived either from pleasurable internal states of the observer or from cognitive inferences by the

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observer, neither performance of the behavior by the observer nor externally administered reward to the observer are required for observational learning.

Bandura (1965 , 1971) eliminates reward, either to the model or to the observer as a necessary condition for observational learning. Bandura distinguishes acquisition of cognitive responses from performance or overt enactment of behavior. Further, he defines learning in terms of the acquisition process. In his own experimental work (e.g., Bandura, 1965), he demonstrated that external rewards to the model and/or to the observer are not essential for acquisition. In this study, observers in non-reward conditions were able to reproduce modeled behavior when strong incentives were offered for them to do so. It should be noted that experiments like the one cited do not preclude the possibility that observers inferred reinforcing consequences for imitation, and thus, do not contradict Mowrer's formulation. Also, Bandura holds that continued patterns of performance are determined by reinforcement. In this regard, his formulation is very similar to that of Skinner who is interested only in overt enactment of behavior.

Bandura's theory is clearly data based and incorporates all variables and propositions for which there is strong empirical support. Thus, Bandura recognizes a wide range of variables as facilitators of observational learning including motivation, attention, performance ability, cognitive

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processes, and reward to both the model and the observer. Because of this empirical eclecticism, it is the most general and probably the most accepted contemporary formulation. For that reason it was chosen as the guide for this research and is outlined in more detail below.

Bandura frequently writes under the label of "Social Learning Theory" by which he apparently means to encompass the entire set of perspectives discussed above. Bandura's specific formulation is usually termed "Mediational-Stimulus Contiguity Theory."

The central proposition of this theory is that, ". . . during the period of exposure, modeling stimuli elicit in observing subjects configurations and sequences of sensory experience which . . . become centrally integrated and structured into perceptual responses" (1965, p. 10). That is, through observation individuals develop cognitive representations of responses associated with specific stimuli. These stimuli can then serve as cues for the cognitive representations of the responses. Thus, when the observer is placed in a behavioral field containing the cues, they elicit the cognitive responses which may be translated into behavior.

Television provides children with the opportunity to observe a wide range of behaviors. To the degree that these behaviors are consistently performed in the contexts of other stimulus cues, it is possible for observers to develop

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associations between the behaviors and the cues. While the existence of behavior and contiguous stimuli are necessary for the development of cognitive associations, they are not sufficient. Bandura posits two necessary subprocesses for this development--attention and retention.

Attention Processes

Exposure to modeling stimuli is insufficient for development of cognitive associations unless the stimuli are attended to and registered at the sensory level. Attention is governed by several factors including incentive conditions, observer characteristics, and properties of the modeling stimuli. Television drama is designed to attract maximal audiences, and Bandura assumes that televised models are intrinsically interesting enough to attract attention.

Attention may be directed by purely physical properties such as size and intensity. However, the distinctiveness of model attributes has been shown to be more important. Among these attributes are competence, status, age sex, race, and attractiveness (summarized in Bandura, 1969, p. 138).

Bandura himself eschews the term "identification" on the grounds that it generally has no meaning distinct from that encompassed in the more general term, observational learning. In this research identification has a distinctive meaning and is defined as conscious approval of a specific individual as an appropriate model for one's own behavior. This general definition is meant to encompass a myriad of

factors that have been shown to focus attention and facilitate observational learning. These factors include model attributes indicating that the model's behavior generally derives reward (e.g., status, power, and prestige). It also includes relational states between model attributes and observer attributes indicating that the model is similar to the observer, and, therefore, similar consequences will accrue to the behavior of both (e.g., similarity in sex, age, or race).

Retention Processes

Retention processes are essential to contiguity theory because there may be considerable time elapsed between the observation of modeling cues and the occasions which the observer finds appropriate for enactment of modeled behavior. Covert rehearsal and verbal coding of behavior sequences have been found to facilitate retention. There is ample evidence linking television viewing to various attitudes and behaviors including not only various social behaviors but also such diverse phenomena as beliefs about crime (Dominick, 1974) and perceptions of sex roles (Miller and Reeves, 1975). Therefore, it is reasonable to assume that televised behavior is simple enough and repetitive enough for cognitive representations of behavior and contiguous cues to be easily retained.

Bandura distinguishes the above processes which govern acquisition of cognitive responses from those which govern performance. Performance, Bandura states, is governed by

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motoric reproduction processes and by reinforcement/motivational processes.

Motoric Reproduction Processes

Under this rubric Bandura simply calls attention to the fact that observers must possess the requisite physical skills to reproduce modeled behavior.

Reinforcement/Motivational Processes

Bandura's theory emphasizes cognitive processes involving inferences about the reward value of performance. No single proposition of the theory has received more support than the one stating that overt reinforcement accrued to the model increases the likelihood of imitation. In general, the theory posits that if models are reinforced for behavior, observers will reason that they would be similarly reinforced for similar behavior in similar situations.

In addition to obvious inferences based on overt reinforcement, it has been found that children can infer the consequences of behavior from a wide variety of cues including verbal labels, emotional responses of the model, attributes of the model that indicate power and prestige, and the observer's own emotional and physiological states.

Bandura classifies the behavioral effects of observational learning into three categories depending on (1) the degree to which the outcome behaviors already exist in the observer's behavioral repertoire, and (2) the degree to which

the outcome behaviors are socially sanctioned.

Modeling Effects

Modeling effects occur when the observer acquires a new response pattern through observation of a highly novel behavior. Component parts of the novel response are assumed to already exist in the observer's repertoire, but the performance is in a new combination or sequence.

Inhibitory/Disinhibitory Effects

When observation of the consequences of a model's behavior results in modification of an observer's performance of a negatively sanctioned behavior, inhibitory/disinhibitory effects are said to have occurred. Inhibitory effects result from punishment to the model's behavior strengthening the observer's cognitive association between performance and negative consequences. Disinhibitory effects result from either lack of punishment or even reinforcement to the model's behavior, weakening the observer's association between performance and negative consequences.

Response Facilitation Effects

Response facilitation effects occur when the behavior elicited already exists in the observer's repertoire, and modeling stimuli serve as informative cues that conditions are appropriate for performance. These effects are distinguished from modeling effects in that novel behaviors are not involved and from inhibitory/disinhibitory effects in that

negative social sanctions are not involved.

The focus of this research is on pro- and antisocial behaviors which for the most part probably already exist in children's behavioral repertoires. Thus, concern here is centered on inhibitory/disinhibitory effects and response facilitation effects. In general, it is argued that the vast array of models provided by television can affect children's perceptions of the appropriateness of specific classes of behavior and thus their rates of performance of those behaviors. This section provides a theoretic framework for explanation of the effects of television on children and allows for derivation of the specific hypotheses offered below.

Definition of Pro- and Antisocial Behavior

The concepts of pro- and antisocial behavior are central to this research both with regard to the predictor variables concerning television content and with regard to the criterion variables concerning children's behavior patterns. This section defines these concepts in a general way that can be applied to both sets of variables.

Prosocial Behavior

In any particular situation involving interactions among persons there exists a wide range of possible behaviors. Behaviors that create closeness between the person involved and thus are socially approved can be labeled prosocial.

To be more specific, prosocial behaviors include those acts which can be presumed to be beneficial to their recipient and which may in turn elicit reciprocal benefits to the actor. Prosocial behaviors may be divided into several distinct categories, three of which are used in this research:

Altruism. Altruism refers either to acts of giving physical objects to others or to acts of assistance to others (except where the other's goals are illicit). Some authors restrict the concept to situations in which the individual acts without hope of reciprocation (e.g., Bryan and London, 1970; Krebs, 1970). This restriction is not used here.

Affection. Affection refers to displays of positive affect toward others. Affectionate behaviors may be either verbal (e.g., "I love you,") or physical acts (e.g., a hug, or a kiss).

Explanation of Feelings. Expression of feelings consists of verbal statements which are made in attempts to affect positive outcomes. They include attempts to increase understanding, or to resolve strife.

Several other behaviors such as cooperation, obedience to rules, delay of gratification, task persistence, and control of other's antisocial behavior have been considered under the prosocial rubric. These behaviors are not considered in this research because content analysis reveals that they occur with relatively low frequency in television drama (Greenberg, et al., 1977).

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Antisocial Behavior

Behaviors that create or extend interpersonal distance and thus are socially disapproved can be labeled antisocial. Antisocial behaviors include those acts which can be assumed to be harmful to their recipient and which may in turn elicit harmful responses to the actor. Categories of antisocial behavior used in this research include:

Physical Aggression. Physical aggression refers to acts that result in damage or injury to other persons. Physical aggression included such acts as hitting, shooting, stabbing, and throwing objects at other persons or threatening such acts.

Verbal Aggression. Verbal aggression refers to symbolic acts that result in psychological damage to other persons or hold them up to social opprobrium. These include insults, threats, acts of rejection, and general hostility.

Several other behaviors such as abridgment of privacy, deceit, theft, and destruction of property are often considered to be antisocial. Again, these behaviors are not considered because they occur infrequently on television (Greenberg, et al., 1977).

The above definitions distinguish pro- and antisocial behavior on the basis of their outcomes rather than upon the motivational states of the persons performing them. Definition in terms of motivation or personality properties of individuals would imply persistent pro- and/or antisocial

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behavior patterns across situations. It is assumed here that such persistent patterns do not necessarily exist and that an individual may be prosocial in one situation and antisocial in another.

It should be stressed that the definitions refer to performance of behavior rather than to knowledge of how to perform behavior. If television teaches children the principles of building Molotov cocktails, it is not of concern here unless they act on that knowledge and construct such devices.

Specification of Variables and Hypotheses

This section defines the variables of concern to this research and describes relationships among them. The variables are considered in three distinct classes: (1) criterion variables concerning children's patterns of pro- and antisocial behavior; (2) predictor variables indicative of children's involvement with pro- and antisocial television, and (3) demographic variables--grade and sex--used as statistical controls.

The variables and their interrelationships are described here at a general theoretical level. Methods of operationalizing variables and subjecting hypotheses to statistical tests are discussed in Chapters II and III.

Hypotheses concerning main effects of predictor variables are offered first followed by hypotheses concerning

interactions among them. Relationships among the demographic variables and the predictor and criterion variables are generally well documented. These relationships necessitate use of the demographic variables as statistical controls. However, no formal hypotheses are offered concerning the demographic variables in order to limit the scope of this research and to focus on the substantively more interesting television variables.

Exposure to Televised Behavior

There is abundant evidence that exposure to a specific behavior can lead to performance of that behavior. Experiments have documented this relationship across an extremely broad range of behaviors including courage, aggression, altruism, affection, and self-criticism (for a summary, see Lesser, 1975). Survey research has focused primarily on television and aggression; however, the evidence from such research is consistent with the proposition that exposure to behavior is associated with performance of that behavior (for summaries, see Baker and Ball, 1969; Chaffee, 1972; Liebert, et al., 1973). Field studies of the effects of exposure to prosocial television are rare; however, Stein and Friedrich (1973) and Friedrich and Stein (1975) have found such effects.

The theoretic rationale given for such findings generally is that behavioral cues contained in specific situations evoke cognitive responses acquired through exposure to television. If that exposure has been dominated by prosocial

behavior, the likelihood is increased that a prosocial response will be evoked and performed. Thus, it is straightforward to hypothesize that:

H_1: Exposure to televised prosocial behavior will be positively associated with performance of prosocial behavior, and,

H_2: Exposure to televised antisocial behavior will be positively associated with performance of antisocial behavior.

The above hypotheses essentially replicate past research and are not of central concern here. However, they are necessary precursors to other hypotheses offered below.

Hypotheses 1 and 2 are entirely plausible when considered separately; however, problems arise when they are considered simultaneously. Because most television programs contain both types of content, heavy exposure to television implies heavy exposure to both pro- and antisocial behavior. Thus, uncritical acceptance of Hypotheses 1 and 2 leads to the conclusion that heavy television viewers perform both more prosocial behavior and more antisocial behavior. This seems unlikely if for no other reason than that television viewing takes time from other activities. Thus, heavy television viewers would have less time for any social activities and could be expected to manifest less behavior of both types than would light viewers.

In addition to the direct effects hypothesized above, it is likely that television has indirect effects on children's behavior which operate on their tendencies to choose

among behavioral alternatives (cf., Liefer and Roberts, 1972). Children exposed primarily to prosocial content may learn to associate specific cues with prosocial behavior while children exposed primarily to antisocial content may learn to associate similar cues with antisocial behavior. Thus, when faced with interpersonal conflict, for example, some children may attempt resolution through prosocial reasoned discourse while others may turn to verbal aggression (cf., Roloff, 1975).

If television exposure increases the likelihood of one behavior in response to specific cues, it must simultaneously decrease the likelihood of other behaviors in response to the same cues. Therefore, increasing the likelihood of prosocial behavior must decrease the likelihood of antisocial behavior and vice versa. This reasoning leads to the hypotheses that:

H_3: Exposure to televised prosocial behavior will be negatively associated with performance of antisocial behavior, and,

H_4: Exposure to televised antisocial behavior will be negatively associated with performance of prosocial behavior.

These crossed variations of Hypotheses 1 and 2 have rarely been considered in past research. A review of research reveals only one study that considered crossed effects, a field experiment by Stein and Friedrich (1973). These researchers established baseline rates of pro- and antisocial behavior through observation of pre-schoolers at play. They

then exposed one group to a prosocial television program and another to an antisocial program. On subsequent observation, they found decreases in task persistence and rule obedience among children exposed to antisocial television along with direct effects of both pro- and antisocial television. Prosocial effects were primarily among children from low socioeconomic status families and children of high intelligence. Antisocial effects were confined to children with high baseline scores in aggression.

Another possibility that comes from consideration of Hypotheses 1 and 2 is that mixed viewing of pro- and antisocial television causes potential effect to cancel out. Friedrich and Stein used relatively pure pro- and antisocial stimuli and did not consider this possibility. Mixed viewing is probably the rule in natural settings so this possibility must be considered. It is discussed in a later section concerning interaction hypotheses.

Identification with Televised Behavior Models

Researchers often assume that children's affective relationships with television characters are key predictors of the medium's impact on social behavior (cf., Weiss, 1969). Several laboratory researchers have linked observers' perceived closeness to models with their recall or replication of observed behavior (e.g., Maccoby and Wilson, 1957; Tannenbaum and Gaer, 1965; Rosekranz, 1967). Similar findings have been reported with reference to broadcast television

characters (W. Miller, 1968, 1975; Meyer, 1973; Donohue, 1975; Greenberg, et al., 1976). It should be noted that the studies dealing with broadcast television characters dealt with children's perceptions of behavioral similarity rather than with behavior considered separately from such characters. Greenberg, et al., asked children about their desires to model; the other researchers cited above compared children's responses to hypothetical situations to their perceptions of what television characters would do in the same situations.

The affective relationships observers have with models are generally discussed under the rubric of identification. However, this term has been used in so many different contexts with different meanings that several researchers have advocated its abolition (e.g., Bandura, 1962; Sanford, 1955). While the term is too useful to abolish, it is necessary to define its use in any specific context.

In this research identification is defined as a conscious approval of a specific individual as an appropriate model for one's own behavior. It is assumed that the individuals with whom the person identifies possess qualities desired by the person, and that the identifying person reasons that by imitating the model he/she will come to possess the same qualities.

Television characters obviously possess desirable qualities in differing degrees. Thus, some characters, more

than others, will command attention, facilitate retention, and enhance the likelihood of inferences concerning the reinforcement value of behaviors. Thus, identification should have direct effects on behavior:

H_5: Identification with televised models will be positively associated with performance of prosocial behavior to the degree that the models perform prosocial behavior, and,

H_6: Identification with televised antisocial models will be positively associated with performance of antisocial behavior to the degree that the models perform antisocial behavior.

Because different characters may respond to specific situations in different ways, identification with them leads to development of differing cognitive associations between behaviors and stimulus cues. Inasmuch as these associations are systematic with reference to pro- and antisocial behavior, differential identification should lead to differential response proclivities. This reasoning, like that offered for Hypotheses 3 and 4, leads to crossed variations of Hypotheses 5 and 6:

H_7: Identification with televised models will be negatively associated with performance of antisocial behavior to the degree that the models perform prosocial behavior, and,

H_8: Identification with televised models will be negatively associated with performance of prosocial behavior to the degree that the models perform antisocial behavior.

While behavior type itself may be a criterion for children's choices of televised behavior models, several researchers have shown that other factors such as model's physical strength and physical attractiveness are related to such choices (Reeves and Miller, 1976; Reeves and Greenberg, 1977). Therefore, children might simultaneously identify with both pro- and antisocial models. The ramifications of this possibility are considered under discussion of interaction hypotheses.

Interaction Hypotheses

An interaction occurs when the effect of one predictor variable on a criterion variable is different for different values of another predictor variable (cf., Winer, 1971; Namboodiri, et al., 1975). There are numerous possibilities for interactions among variables. These include enhancer effects in which the impact of one predictor is increased at high levels of another variable, depressor effects in which the impact of one predictor is decreased at high levels of another variable, and curvilinear effects. Because of this wide range of possibilities, it is incumbent on the researcher hypothesizing interactions to specify both their nature and to offer rationales for their existence.

This section specifies several interactions of the predictor variables defined above, prosocial exposure, antisocial exposure, prosocial identification, and antisocial identification. With four predictor variables and two classes

of criterion variables, there are 22 possible interactions. (The operational variables described in Chapter II include even more variables and, therefore, more interactions.) To limit the scope of this analysis, only two-way interactions are considered. Further, because some interactions are unlikely to exist to any appreciable degree, they are excluded. For example, it is unlikely that prosocial exposure and antisocial identification co-occur at high levels or interact in important ways. These limitations are consistent with the recommendations of methodologists who note that some interactions may lack substantive interest, may be difficult to interpret, and that their inclusion decreases statistical power and increases the possibility of errors of inference.

Prosocial Exposure with Antisocial Exposure

Low levels of exposure to pro- and antisocial television would be expected to have minimal effects on social behavior. High levels of exposure to both types of content would not be expected to allow for development of consistent patterns of association between stimulus cues and social behavior. Therefore, minimal effects would be expected at high levels of exposure to both pro- and antisocial content. However, when one type of exposure is at a high level and the other at a low level, the exposure at a high level is free to operate and to allow development of consistent associations between specific stimulus cues and behaviors. Therefore:

H_9: Exposure to prosocial television will suppress the effects of antisocial exposure on antisocial behavior, and,

H_{10}: Exposure to antisocial television will suppress the effects of prosocial television on prosocial behavior.

Prosocial Identification with Antisocial Identification

The rationale for the interaction of these variables is analogous to that offered for Hypotheses 9 and 10.

H_{11}: Identification with televised models who perform prosocial behavior will suppress the effects of identification with televised models on antisocial behavior attributable to the degree to which the latter perform antisocial behavior, and,

H_{12}: Identification with television models who perform antisocial behavior will suppress the effects of identification with televised models on prosocial behavior attributable to the degree to which the latter perform prosocial behavior.

Exposure with Identification

Since exposure to televised behavior models is necessary for identification with those models and identification should lead to repeated exposure, these variables should be highly related. Also, it can be argued that the main effects of identification should be minimal. It is unlikely that high identification would affect observers' behavior if the observers have not had substantial exposure to the model. Without such exposure, the observers would lack sufficient knowledge of modeled behavior to duplicate it. On the other

hand, heavy exposure and high identification with a specific type of behavior should allow for the development of strong, consistent associations between stimulus cues and behavior. Therefore:

H_{13}: Identification with television models will enhance the effects of prosocial exposure on prosocial behavior to the degree that the models perform prosocial behavior, and,

H_{14}: Identification with television models will enhance the effects of antisocial exposure on antisocial behavior to the degree that the models perform antisocial behavior.

Demographic Variables

Demographic variables--age and sex--are included in this research not because they are of substantive interest, but because they are known to be related to the central variables of concern. Therefore, failure to include these variables could lead to obvious misinterpretations of the data. The relationships between prosocial television exposure and prosocial behavior, for example, could be overestimated if the effects of sex on both variables were not considered.

The demographic variables are clearly causally prior to the other variables in the sense that they cannot be taken as the results of television use or social behavior. Rather, the causal chain must be construed to operate in the direction of age and sex affecting the other variables. The substantive and methodological ramifications of this causal priority are discussed below.

Sex. Sex is a major predictor of social behavior. Maccoby and Jacklin (1974), after a comprehensive review of the literature on psychological sex differences, state: "The sex difference in aggression has been observed in all cultures in which the relevant behavior has been observed" (p. 352). While conventional wisdom holds that girls are more nurturant and altruistic than boys, Maccoby and Jacklin conclude that there is little evidence to support this assertion. The overall finding, they state, is one of sex similarity for these prosocial behaviors.

Sex differences in television program preferences and exposure patterns are apparent in children as young as four years old (Lyle and Hoffman, 1972). These differences seem to continue throughout adult life (Israel and Robinson, 1972). In general, studies of sex differences in program exposure show that males view more television aggression than females.

Similar differences have been found in children's choices of television characters as role models. Several researchers have reported that children have strong preferences for models of their own sex. This has been reported in experiments (Maccoby and Wilson, 1957; Sprafkin, et al., 1975), and in surveys (Miller and Reeves, 1976; Reeves and Miller, 1976; Greenberg, et al., 1976).

Given that the majority of violent television characters are male (Gerbner, 1972), it is reasonable to assume

that boys will identify more frequently with violent models than will girls. Two researchers (Meyer, 1973; Donohue, 1975) explicitly report that boys are more likely to choose violent television models as "favorite characters."

Conversely, content analysists have noted that female characters on television are more likely to be nurturant and affectionate than male characters (Busby, 1975; Tedesco, 1974). Thus, girls would be expected to identify with prosocial models more frequently than boys; however, there are no data available on children's choices of prosocial models.

Given that sex is related to children's social behavior and to their television use, it is obvious that the variable must be included in research attempting to link television and social behavior. Otherwise, there is danger of imputing a causal relationship between television use and social behavior when observed correlations between them could be accounted for solely by their mutual dependence on a causally prior variable--sex.

Age. The relationships between age and other variables in this research are far less clear than are the relationships with sex. While there is substantial evidence that children's moral judgments change dramatically as they mature (Piaget, 1948; Kohlberg, 1964), it is not clear how these cognitive shifts affect behavior. Knowledge that one child's behavior is governed by external constraints and another child's, by internalized moral standards does not necessarily

mean that different predictions can be made about their behavior.

It is reasonable to assume that children's interpretations and use of televised information shifts with cognitive developmental stage; however, these shifts have not been well documented (cf., Roberts, 1973).

Relationships between age and television exposure are well documented (Roberts, 1973), but the implications of these patterns are unclear. Young children are heavy viewers of Saturday morning programs which now contain both highly prosocial and highly antisocial content. As children grow older, their Saturday morning viewing decreases and they turn more to adult programs. These programs are also quite mixed in content. Children's total television viewing increases throughout their elementary school years and begins to decline as they approach adolescence (Schramm, et al., 1961; Roberts, 1973).

The effects of age on children's patterns of identification with television characters apparently have not been investigated. Reeves (1976), in a study of children's general perceptions of television characters found that younger children tend to discriminate characters on the basis of physical attributes (e.g., strength and attractiveness while older children depend more on behavioral attributes (e.g., activity). From Reeves' study, it might be inferred that older children would base their identification patterns more

on the social valence of model behavior than would younger children; however, there are no data bearing directly on this point.

It is clear from the above discussion that age could have an important impact on the relationship between television use and social behavior. However, its inclusion in this research should be viewed as exploratory.

Summary

The purpose of this research is to link children's use of television with their patterns of pro- and antisocial behavior. Reasoning from mediational-stimulus contiguity theory, hypotheses were offered relating four predictor variables--exposure to prosocial television, exposure to antisocial television, identification with prosocial television models, and identification with antisocial television models--to performance of pro- and antisocial behavior. Both main effects and interactions among the predictors were considered. Reasons for inclusion of age and sex as control variables were discussed.

CHAPTER II

DATA COLLECTION AND INDEX CONSTRUCTION

The data for this research come from the Project CASTLE Social Behaviors Questionnaire and the content analysis of pro- and antisocial behavior on television. The data can be categorized into five distinct sets: (1) demographic characteristics of the questionnaire respondents, (2) children's reports of their own social behavior, (3) children's reports of their exposure to selected television programs, (4) children's reports of their identification with selected television characters, and (5) descriptions of social behaviors portrayed on television focusing on the selected programs and characters. This chapter describes procedures of data collection and index construction, and examines relationships among the indexes and control variables.

Questionnaire Data

The CASTLE Social Behaviors Questionnaire (see Appendix A) was administered to 721 fourth, sixth, and eighth graders in the Spring of 1976. The instrument was administered to all respondents in their home classrooms at school. Research assistants read the entire questionnaire to the fourth graders, and older children completed them

alone. Research assistants were available to help any children who had problems.

The sample included every child in the grades surveyed who attended school on the days the questionnaire was administered. The school systems of Haslett, Michigan, and Verona, Wisconsin, participated in the survey. These schools offered a fair mix of rural and urban children from middle and lower socioeconomic strata.

The sample included 345 boys and 376 girls. By grade, there were 227 fourth graders, 268 sixth graders, and 226 eighth graders.

Children's Social Behavior Variables

The children's social behavior variables were assessed with items of three distinct types: (1) hypothetical situation items which asked children to imagine themselves in specific situations and to indicate their probable responses, (2) behavior report items which asked children to indicate the frequencies of specific behaviors in the past week, and (3) contingent report items which asked children to indicate their responses to real-life situations as they occur.

The differing types of items were used to "surround" the constructs being measured by offering differential response constraints. The hypothetical situation items were designed to tap response proclivities independently from the frequency with which children find themselves in specific response situations; the behavior report items, to tap both

the frequency of specific response situations and behavior in those situations; and the contingent report items, to tap actual behavior in real-life situations regardless of the frequency of those situations.

The differing types of items allowed for repeated questions on the same behavior to increase index reliability. This also increased variation in the questionnaire and served to minimize specific types of response bias (e.g., "yes" bias). All items offered closed response categories and none forced choice among behavior types.

Five social behavior indexes were constructed by summing all items, regardless of type, designed to tap each of the following behaviors: altruism, affection, self-expression, verbal aggression, and physical aggression.* Under this procedure individual items contribute to the overall index in proportion to their standard deviations and their average correlations with other items. Inspection of the standard deviations and correlations within each index reveals that they are generally of the same order of magnitude (see Appendix B, Tables B1 to B5 Contingent report and behavior report items tend to have larger variance and therefore are weighted more heavily. Since these items are

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*Content analysis had revealed that these behaviors occur on television with sufficient frequency to believe that they might affect children's behavior (Greenberg, et al., 1977).

probably the better indicators of performance, this weighting is not undesirable. Descriptive statistics and reliabilities for each of the indexes are shown in Table 2.1.

The index reliabilities, which ranged from .59 to .83, were judged to be adequate for this research. An effort was made to assess the validity of the self-report items through collection of data from subsamples of Wisconsin repondent's classmates and mothers. Classmate data were collected on 252 respondents and mother data on 293 respondents. The behavior types selected for validation were altruism, verbal aggression, and physical aggression.

To validate the altruism items, classmates were asked to nominate respondents who "help" others and who "share" with others. The number of nominations for each respondent were summed and these sums were correlated with the individual altruism items. The average correlation between the sum and the individual items was .13. (Individual item-sum correlations are reported in Appendix B). The respondent's mothers were asked selected hypothetical situation items. These items were modifications of the hypothetical items asked of children asking for the mother's assessment of how their children would behave in the posed situations. The average item-to-item correlation between the mother's and children's responses was .11. The average correlation between mother assessments and peer nomination concerning altruism was .08.

The validation procedure for the verbal aggression and the physical aggression items was the same as for the altruism items. For verbal aggression, children were asked to nominate respondents who "say mean things." The average correlation of the sum of these nominations was .07. The correlation between the mothers' assessments of children's responses to selected hypothetical situations and children's responses to the same situations was .05. The average correlation between mother assessments and peer nomination concerning verbal aggression was .06.

For physical aggression, classmates were asked to nominate respondents who "hurt" others. The average correlation between the sums of these nominations and the items was .18. The correlation between mothers' assessments of children's responses to physical aggression situations and the children's responses to the same situations was .05. The average correlation between mother assessments and peer nomination concerning physical aggression was .16.

The validity correlations are extremely low and do not allow for a high level of confidence in the self-report behavior indexes. However, the classmate and mother measures used in the validation procedures are probably subject to error. The classmate nomination technique is based on a single question of unknown reliability and may be invalid because of numerous social pressures. Further, the nomination procedure results in highly skewed data with the majority

of children receiving no nominations. This skewness probably deflates the validity correlations. Mothers are certainly under pressure to show that their children have socially desirable characteristics which may lead to invalidity in their assessments of respondents' behavior. Thus, the low validity correlations may result either from low validity of the self-report items or from low reliability and validity of the classmate and mother measures.

The validity analysis failed to demonstrate that the self-report measures are a valid assessment of the respondent's social behaviors. On the other hand, because of problems with the criterion measures used in the validation procedure, it cannot be said that the procedure demonstrates invalidity. Given the face validity of the self-report measures and their acceptable reliability levels, it was decided to use these measures in subsequent analysis. However, it should be kept in mind that the validity of the procedures has not been demonstrated.

Altruism Index. This index included 10 items covering such behaviors as helping, sharing, and doing favors.

Affection Index. This index included five items covering such behaviors as hugging, kissing, and verbal expressions of affection.

Self-Expression Index. This index included seven items covering various expressions of individuals' emotional states.

Table 2.1. Descriptive Statistics and Reliabilities for Children's Social Behavior Indexes

	Mean	Standard Deviation	Reliability
Prosocial Indexes			
Altruism	27.00	4.94	.75
Affection	12.16	3.22	.59
Self-Expression	15.18	3.61	.69
Antisocial Indexes			
Verbal Aggression	18.29	4.09	.70
Physical Aggression	18.54	5.44	.83

Verbal Aggression Index. This index included eight items covering such behaviors as yelling or screaming at others and "saying mean things."

Physical Aggression Index. This index included nine items covering such behaviors as hitting, pushing, kicking and fighting.

The index reliabilities, which range from .59 to .83, were judged to be adequate for this research. No formal validity analysis was performed on these indexes; however, the pattern of correlations among them lends some credence to the procedures (see Table 2.2). The correlations are moderately high and positive within the prosocial class and quite high and positive within the antisocial class. Correlations between the two classes are moderate and negative.

Table 2.2. Correlations Among Children's Behavior Indexes

	1	2	3	4	5
1. Altruism	-----				
2. Affection	.54	-----			
3. Expressiveness	.50	.50	-----		
4. Verbal Aggression	-.18	-.13	-.08	-----	
5. Physical Aggression	-.35	-.23	-.26	.69	-----

Television Exposure Variables

The CASTLE Questionnaire contained a list of 29 television programs selected to maximize the range of behaviors portrayed on them. The respondents were asked to indicate their frequencies of viewing each of these shows. The response categories were: every week, most weeks, some weeks, never. These categories were assigned code values of 3, 2, 1, and 0, respectively.

From this list, 15 shows were chosen for this analysis. Descriptive statistics for viewing of these shows are listed in Table 2.3. Use of all the shows listed in the questionnaire was precluded by the fact that several of them contained characters used for the identification variables. Inclusion of these shows would have confounded the analysis by having individual characters' behavior included in both the exposure index and the identification index. Thus, the shortened list was used to assure operational independence between the two sets of indexes.

Table 2.3. Levels of Exposure to Selected Programs

Program	Percent who report watching* . . . every week	most weeks	some weeks	never	mean	sd.**
Bob Newhart	20	27	28	25	1.42	1.07
Bugs Bunny	30	13	35	27	1.50	1.18
Fat Albert	23	32	22	24	1.46	1.08
Good Times	10	18	45	27	1.10	0.91
Happy Days	54	25	17	04	2.30	0.89
Hong Kong Phooey	12	11	29	47	0.87	1.03
Kojak	05	15	44	36	0.89	0.84
Little House on the Praire	14	17	38	31	1.14	1.00
Pink Panther	28	25	19	28	1.47	1.16
Rhoda	15	22	40	24	1.26	0.98
The Rockford Files	14	23	37	27	1.23	0.99
The Rookies	09	15	45	32	1.01	0.90
Sanford and Son	13	17	42	28	1.14	1.07
Shazam	18	16	30	36	1.16	1.10
Starsky and Hutch	24	12	21	40	1.16	1.22

*Percentages may not add to 100 because of rounding error.

**Means and standard deviations were calculated by scoring every week "3," most weeks "2," some weeks "1," and never "1."

The final list included five Saturday morning shows (Bugs Bunny, Fat Albert, Hong Kong Phooey, Pink Panther, and Shazam), five situation comedies (Bob Newhart, Good Times, Happy Days, Rhoda, and Sanford and Son), four action-adventure shows (Kojak, The Rockford Files, The Rookies, and Starsky and Hutch), and one family drama (Little House on the Prairie).

Captain Marvel from the Shazam show had been included on the list of characters for the identification index; however, this portrayal is ambiguous. This occurs because Captain Marel and his alter ego, Billy Batson, are played by different actors, so it would be unclear what identification with Captain Marvel might mean to children. Characters from Little House on the Prairie were also on the identification list; however, it was decided to balance the program types on the program and character lists by shifting this program to the exposure indexes. Therefore, Captain Marvel from Shazam and Laura Ingalls and Charles Ingalls from Little House on the Prairie were excluded from the identification indexes and the shows were included in the exposure indexes.

Character Identification Variables

After the above exclusions, 16 characters remained for the identification index. These included six characters from action-adventure shows (Steve Austin of the Six Million Dollar Man, Pepper Anderson of Police Woman, Hondo of SWAT

Dixie McCall of Emergency, Steve McGarrett of Hawaii 5-0, and Jaime Sommers of the Bionic Woman), seven from situation comedies (Ed Brown from Chico and the Man, LaVern DeFazio of LaVern and Shirley, Margaret Hoolahan of MASH, George Jefferson of the Jeffersons, Gabe Kotter of Welcome Back Kotter, and Mike Stivak of All in the Family), two from family dramas (John-Boy Walton and Olivia Walton of the Waltons) and one from Saturday morning shows (Isis of the Shazam/Isis Hour).

The respondents indicated their degree of identification with those characters by circling the name of those they "want to be like," drawing a line through the names of those they "do not want to be like," and disregarding the names of those toward whom they are neutral or "don't care." These responses were coded 1, -1, and 0, respectively. Identification frequencies and descriptive statistics for these responses are shown in Table 2.4.

It should be noted that the measure apparently tapped disidentification more than identification. While all the characters received at least some endorsements, only three more endorsements than rejections--Steve Austin, Gabe Kotter, and Jaime Sommers. Thus, it cannot be said that these television characters were, in general, accepted as behavior models by the respondents.

Table 2.4. Levels of Identification with Selected Television Characters

Character	Percent who* . . . disidentify	are neutral	identify	mean	sd.**
Steve Austin	36	13	51	0.14	0.92
Pepper Anderson	54	20	26	-0.27	0.85
Ed Brown	64	19	16	-0.49	0.75
Lavern DeFazio	68	16	16	-0.52	0.76
Hondo	45	23	32	-0.13	0.87
Margaret Hoolahan	70	19	11	-0.59	0.68
Isis	57	16	26	-0.31	0.86
George Jefferson	73	16	10	-0.63	0.62
Gabe Kotter	33	16	51	0.17	0.90
Dixie McCall	61	19	19	-0.42	0.79
Steve McGarrett	57	20	23	-0.34	0.83
Mary Richards	60	16	24	-0.37	0.84
Jaime Sommers	41	14	45	0.04	0.93
Mike Stivak	70	18	11	-0.60	0.68
Olivia Walton	67	18	14	-0.53	0.73
John Boy Walton	67	16	16	-0.51	0.76

*Percentages may not add to 100 because of rounding error.

**Means and standard deviations were computed by scoring identify "1," neutral "0," and disidentify "-1."

Content Analysis Data

The television behavior profiles for this research are based on the Project CASTLE content analysis of pro- and antisocial behavior. Greenberg, et al., (1977) describe the procedures and results of this analysis in detail. Therefore, the procedures are only outlined here and only results germaine to this research are reported. Specifically, interest here lies with the frequencies of social behaviors portrayed on the selected shows listed in Table 2.3 and by the selected characters listed in Table 2.4.

One episode of each of the selected programs was video taped during the fall of 1975 for subsequent analysis by trained undergraduate coders. Essentially the analysis procedure consisted of counting instances of specific behaviors that occurred during each episode.* The procedures required coders to categorize occurrences of social behavior and to record the identify of the character who performed them. This allowed for development of behavior profiles both for entire programs and for specific characters.

Frequencies and rates of the behaviors selected for this research from the overall CASTLE content analysis are

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*The coders also evaluated the motives, consequences, and intensities of each act; however, these data are not used in this research.

reported in Table 2.5. All the selected behaviors occur frequently and, together, they comprise the majority of these social behaviors on television.

The content analysis procedures required coders to understand the conceptualizations of the behaviors and to agree on criteria for distinguishing among them. To achieve these goals, coders were provided with extensive training. Coders were asked to study training manuals which defined each of the variables for one week prior to the actual training sessions. During the training sessions, coders were shown videotaped instances of the specific behaviors which were discussed with the researchers until it was clear that coders understood the conceptualizations. Practice and discussion continued until the coders reached acceptable levels of reliability.

During the actual coding, nearly 40 percent of all programs were viewed by at least two coders and agreement between them was monitored. The percentage of agreement between coders ranged from 76 to 100 percent. Coders were able to categorize and distinguish among the behavior types with a high degree of reliability.

For this analysis, the frequencies of each of the behaviors were summed across each of the selected programs and the selected characters. This procedure provided the behavior profiles for programs and characters shown in Tables 2.6 and 2.7.

Table 2.5. Frequencies and Rates of Selected Social Behaviors for a Composite Week of Television Drama*

	Frequency in Week	Percent of Class	Rate per Hour
Antisocial Behaviors			
Verbal Aggression	1,629	62	23.78
Physical Aggression**	828	32	12.08
Total Coded***	2,620	94	
Prosocial Behaviors			
Altruism	915	27	13.50
Affection	528	16	7.70
Expression	921	27	13.10
Total Coded****	3,379	70	

* Adapted from Greenberg et al., 1977. From a sample of 92 fictional television shows representing 68 1/2 hours for a composite week.

** Includes only behavior of interest to this research, e.g., hitting, shoving, shooting, stabbing.

*** Includes behavior not of interest to this research, e.g., bombing, arson, rape.

**** Includes behavior not of interest to this research, e.g., reparation, delay of gratification, control of others' bad behavior.

Table 2.6. Behavior Profiles for Selected Television Programs

Program	Frequency of Behavior per Episode				
	Altruism	Affection	Expression	Verbal Aggression	Physical Aggression
Bob Newhart	1	13	10	3	1
Bugs Bunny	6	7	1	31	52
Fat Albert	5	0	7	19	3
Good Times	3	18	2	7	6
Happy Days	6	6	3	23	15
Hong Kong Phooey	10	1	4	9	24
Kojak	9	1	2	7	10
Little House on the Prairie	15	14	1	12	5
Pink Panther	3	2	0	1	18
Rhoda	11	11	12	14	2
Rockford Files	5	0	7	11	9
The Rookies	12	9	6	21	29
Sanford and Son	7	8	1	16	2
Starsky and Hutch	28	5	32	26	19
Shazam	17	0	3	8	5

Table 2.7. Behavior Profiles for Selected Television Characters

Character	Frequency of Behavior per Episode				
	Altruism	Affection	Expression	Verbal Aggression	Physical Aggression
Mike Stivak	0	0	0	2	0
Margaret Hoolahan	1	4	0	4	0
Steve McGarrett	2	0	1	8	4
Isis	5	0	0	0	0
Hondo	3	0	1	8	6
Mary Richards	0	1	1	0	0
Dixie McCall	1	0	0	0	0
Olivia Walton	0	0	4	1	0
John Boy Walton	0	0	1	1	0
Ed Brown	1	0	2	13	2
Pepper Anderson	1	0	5	2	2
George Jefferson	3	11	2	12	2
Steve Austin	3	0	0	2	0
Gabe Kotter	8	1	2	7	2
Lavern Defazio	4	1	6	11	2
Jaime Sommers	5	4	1	0	4

Combined Indexes

The predictor variables for this research are indexes constructed by combining information from the television behavior profiles with questionnaire responses concerning exposure to television and identification with television characters. This section describes methods of construction of these indexes and provides statistics concerning them and their interrelations.

Exposure-Behavior Indexes

The five exposure-behavior indexes were constructed by multiplying the frequency of each specific behavior for each show by each child's exposure to that show.* These products were summed across the selected programs to form the indexes. Thus, a child who watches several shows with a high frequency of physical aggression, for example, received a high physical aggression exposure score. Another child who watched fewer shows or who watched shows containing less physical aggression would receive a lower physical aggression exposure score. Because these indexes reflect differential weightings of the same exposure behavior, they are highly intercorrelated. Ramifications of these intercorrelations are discussed in the data analysis section of the next chapter. Descriptive statistics and intercorrelations for

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*The CASTLE content analysis data included coding of intensity of each act; however, these data were not used because the coding scheme was not comparable across behavior types.

these indexes are shown in Table 2.8.

Table 2.8. Descriptive Statistics and Correlations for Exposure-Behavior Variables

Variable	mean	sd	1	2	3	4	5
1. Altruism	145.91	53.63	-----				
2. Affection	110.92	40.79	.69	-----			
3. Expression	109.71	48.27	.88	.57	-----		
4. Verbal Aggression	260.26	89.45	.86	.67	.74	-----	
5. Physical Aggression	280.99	114.69	.81	.56	.62	.91	-----

Identification-Behavior Indexes

Similar procedures were used to combine information from the televised behavior profiles for characters with information of the children's identification with those characters. The altruism identification index, for example, was formed by multiplying the frequency of altruistic behavior for each character by each child's level of identification with that character and summing across characters. It should be recalled that rejection of a character as a behavior model was coded as minus one; therefore, these indexes may take on negative values. In fact, the means of all five identification indexes are less than zero. Like the exposure indexes, the identification indexes are highly intercorrelated. Table 9 provides descriptive statistics and correlations for these indexes.

Table 2.9. Descriptive Statistics and Correlations for Identification-Behavior Variables

Variable	mean	sd.	1	2	3	4	5
1. Altruism	-6.26	16.05	-----				
2. Affection	-9.81	10.33	.71	-----			
3. Expression	-9.74	11.23	.78	.70	-----		
4. Verbal Aggression	-24.31	28.84	.80	.67	.73	-----	
5. Physical Aggression	-5.41	10.62	.86	.63	.71	.88	-----

The use of characters for the identification indexes appearing in the programs used for the exposure indexes apparently minimized the correlations between the two types of variables as shown in Table 2.10.

Relationships Among Indexes and Control Variables

Although no formal hypotheses were offered, Chapter I noted that grade and sex were expected to be related to both the predictor variables and criterion variables in this research. Therefore, it was necessary to test for such relationships to determine if sex and grade should be used as control variables.

To examine these relationships, F statistics were computed for each of the indexes by each of the control variables. This section reports the results of the analysis.

Table 2.10. Correlations Among Exposure and Identification Variables

	Identification Variables				
Exposure Variables	Altruism	Affection	Expression	Verbal Aggression	Physical Aggression
Altruism	.16	.10	.10	.17	.18
Affection	.14	.16	.16	.11	.09
Expression	.12	.10	.06	.12	.12
Verbal Aggression	.19	.12	.06	.22	.21
Physical Aggression	.17	.08	.03	.20	.22

Relationships with Sex

Sex was expected to be a major determinant of social behavior patterns, exposure to television, and identification with television characters. Girls were generally expected to have higher scores on the prosocial indexes, and boys, higher values on the antisocial indexes.

Criterion Variables by Sex. F statistics for these variables by sex are shown in Table 2.15. All differences are significant beyond the .001 probability level and the pattern is completely consistent with expectation. Girls report more prosocial behavior, and boys, more antisocial behavior.

Table 2.11. F Statistics for Criterion Variables by Sex

Variable		Boys N=345	Girls N=376	F(1, 719)
Altruism	$\bar{X}$	25.64	28.24	53.13***
	sd.	5.01	4.56	
Affection	$\bar{X}$	11.37	12.88	42.09***
	sd.	3.13	3.14	
Expression	$\bar{X}$	14.30	15.97	40.49***
	sd.	4.20	3.53	
Verbal Aggression	$\bar{X}$	1906	17.60	23.66***
	sd.	4.20	3.85	
Physical Aggression	$\bar{X}$	21.07	16.26	174.22***
	sd.	4.99	4.76	

***$p < .001$

Exposure Variables by Sex. F statistics for these relationships are shown in Table 2.12. All differences are significant at the .05 probability level or beyond; however, in four of the five cases, boys' mean exposure is higher than girls. The one index on which girls have a higher mean than boys--affection--is, as expected a prosocial behavior. Also as expected, boys are markedly higher in their exposure to antisocial behavior than girls are.

Table 2.12. F Statistics for Exposure Variables by Sex

Variable		Boys N=345	Girls N=376	F(1, 719)
Altruism	$\bar{X}$	152.62	139.76	10.38**
	sd.	55.20	51.93	
Affection	$\bar{X}$	115.20	124.25	8.95**
	sd.	40.74	40.40	
Expression	$\bar{X}$	113.75	106.11	4.51*
	sd.	48.84	47.51	
Verbal Aggression	$\bar{X}$	278.75	243.30	29.38***
	sd.	90.46	85.45	
Physical Aggression	$\bar{X}$	310.52	253.89	46.62***
	sd.	116.50	106.15	

*p < .05
**p < .01
***p < .001

Identification Variables by Sex. F statistics for these relationships are shown in Table 2.13. It should be noted in reading the table that all means are less than zero. Therefore, higher absolute values indicate lower identification. All mean differences are significant beyond the .05

probability level, and the pattern is consistent with expectation. Girls identify more with prosocial characters, and boys, more with antisocial characters.

Table 2.13. F Statistics for Identification Variables by Sex

Variable		Boys N=345	Girls N=376	F(1, 719)
Altruism	$\bar{X}$	-7.83	-4.82	6.40*
	sd.	15.84	16.13	
Affection	$\bar{X}$	-11.70	-8.00	22.91***
	sd.	11.26	9.04	
Expression	$\bar{X}$	-13.24	-6.54	70.14***
	sd.	10.25	11.14	
Verbal Aggression	$\bar{X}$	-17.71	-30.36	36.34***
	sd.	29.32	27.05	
Physical Aggression	$\bar{X}$	-4.20	-6.52	8.66**
	sd.	11.50	9.60	

*p < .05
***p < .001

Relationships with Grade

While it was difficult to determine precisely what the relationships between grade and the other variables in this research would be like, there is ample evidence to suggest that such relationships exist. Indeed, the analysis shown below reveals several complex patterns.

Criterion Variables by Grade. F statistics, including Scheffe tests for post hoc comparisons, for these relationships are shown in Table 2.14. In general, antisocial behavior appears to increase with age. Fourth graders report significantly less verbal and physical aggression than sixth

Table 2.14. F Statistics for Criterion Variables by Grade

Variable		4th N=227	6th N=268	8th N=226	F(2, 718)	Scheffe[a]
Altruism	$\bar{X}$	26.81	27.72	26.30	5.30**	(8 4)(8 6)
	sd.	5.55	4.57	4.64		
Affection	$\bar{X}$	13.10	12.26	11.09	23.63***	
	sd.	3.24	3.09	3.04		
Expression	$\bar{X}$	15.27	15.22	15.02	.33	(4 6 8)
	sd.	3.48	3.72	3.62		
Verbal Aggression	$\bar{X}$	16.88	18.60	19.38	23.81***	(6 8)
	sd.	3.83	4.05	3.98		
Physical Aggression	$\bar{X}$	17.45	18.78	19.42	7.94***	(6 8)
	sd.	5.45	5.21	5.50		

[a]Numbers in parentheses indicate grades not significantly different at the .05 level.

** $p < .01$

*** $p < .001$

and eighth graders. While sixth and eighth graders are not significantly different in their reports of antisocial behavior, eighth graders' means are slightly higher for both variables. On the other hand, reports of affection decline with age and each successive class reports significantly less of the behavior. For altruism and expression the relationships are curvilinear with sixth graders reporting the highest levels. However, the differences are significant only for altruism.

Exposure Variables by Grade. F statistics, including Scheffe tests for post hoc comparisons, for these relationships are shown in Table 2.15. Eighth graders are exposed significantly less to antisocial behavior than are fourth

Table 2.15. F Statistics for Exposure Variables by Grade

Variables		4th N=227	6th N=268	8th N=226	F(2, 718)	Scheffe[a]
Altruism	$\bar{X}$	142.07	152.78	141.61	3.48*	(4 6 8)
	sd.	52.49	58.32	48.90		
Affection	$\bar{X}$	119.20	126.19	113.21	6.35**	(4 8)(4 6)
	sd.	40.81	41.56	38.85		
Expression	$\bar{X}$	99.07	112.93	116.73	8.69**	
	sd.	46.15	51.41	44.76		
Verbal Aggression	$\bar{X}$	270.26	272.32	235.92	12.61***	(4 6)
	sd.	83.37	93.95	82.28		
Physical Aggression	$\bar{X}$	300.39	298.75	240.43	21.78***	(4 6)
	sd.	106.24	121.51	104.06		

[a]Numbers in parentheses indicate grades not significantly different at the .05 level.

*p < .05

**p < .01

***p < .001

and sixth graders whose means are only trivially different. Exposure to self-expression increases with age and each successive grade has a higher mean than the one preceding it. Although the overall F ratio is significant for altruism, the highly conservative Scheffe test shows no significant differences between any of the grades. For affection, sixth graders are significantly higher than eighth graders but not significantly higher than fourth graders. Fourth and eighth graders are not significantly different for affection.

Some of these findings can be attributed to changes in program preferences with age. Younger children tend to watch relatively simple programs, particularly cartoons,

which stress action over verbal interchange. Therefore, they are less likely to be exposed to self-expression. Cartoons also contain the highest portion of antisocial behavior on television, accounting for younger children's higher exposure to physical and verbal aggression.

Identification Variables with Grade. F statistics, including Scheffe tests, for these relationships are shown in Table 2.16. In general, identification declines with age for all behavior types. Fourth graders have significantly higher means for altruism identification than sixth and eighth graders whose means are not significantly different. For affection, verbal aggression, and physical aggression identification, fourth graders have significantly higher means than the other two groups, while contiguous grades are not significantly different. No significant differences are found for expression although the means tend to decrease while grade increases.

Summary

This chapter described methods of data collection and index construction for operationalization of the variables defined in Chapter I. Indexes of behavior, television exposure, and identification with television characters were constructed for each of the following behavior types: altruism, affection, self-expression, verbal aggression, and physical aggression. The exposure and identification

Table 2.16. F Statistics for Identification Variables by Grade

Variable		4th	6th	8th	F(2, 718)	Scheffe[a]
Altruism	$\bar{X}$	-2.75	-6.31	-9.73	10.98***	(6 8)
	sd.	15.63	16.58	15.10		
Affection	$\bar{X}$	-8.16	-10.16	-11.72	4.72*	(4 6)(6 8)
	sd.	10.79	10.14	9.88		
Expression	$\bar{X}$	-9.11	-9.55	-10.56	0.98	(4 6 8)
	sd.	11.09	11.52	11.01		
Verbal Aggression	$\bar{X}$	-21.08	-24.13	-27.76	3.06*	(4 6)(6 8)
	sd.	28.66	29.81	27.55		
Physical Aggression	$\bar{X}$	-3.90	-5.35	-7.01	4.93**	(4 6)(6 8)
	sd.	10.22	10.84	10.50		

[a]Numbers in parentheses indicate grades not significantly different at the .05 level.

*p < .05

**p < .01

***p < .001

indexes reflect both children's questionnaire responses and a content analysis of televised behavior.

Relationships between the above indexes and demographic variables, grade and sex, were examined. This analysis demonstrated the necessity of controlling the effects of grade and sex to isolate the effects of television on children's social behavior.

CHAPTER III

ANALYSIS AND RESULTS

This chapter begins with a section describing analysis procedures. Results are then presented in five sections that conform to the order in which the hypotheses were presented in Chapter I. These sections are on (1) main effects of television exposure, (2) crossed effects of television exposure, (3) main effects of identification with television characters, (4) crossed effects of identification with television characters, and (5) interaction effects. Findings are simply presented here, and discussion is reserved for Chapter IV.

Analysis Procedures

Before considering specific hypotheses, it is necessary to recall the interrelationships within sets of predictor variables. Correlations within the set of exposure indexes and within the set of identification indexes are quite high--ranging from .56 to .88. Procedures to minimize the correlations between the identification and exposure indexes were successful with the values falling in the teens and 20s.

The high collinearity among predictors makes it likely that if one predictor within a set correlates with a criterion, other predictors in the same set will correlate in the same way. This statistical constraint may account for some of the anomolous findings reported below.

The high collinearity precludes the use of multiple regression statistics to test interaction hypotheses. Therefore, contingent correlation analysis was used to test these propositions.

Under these procedures, the sample is divided into groups on the basis of respondents' scores on one predictor variable. Then correlations between another predictor variable and a criterion variable are computed and compared.

Several problems arise with this analysis procedure the first of which is the question of where to divide the sample. For the exposure indexes, it was decided to make an arbitrary division at the median. Where analysis of the median splits was encouraging, correlations within quartiles were computed to further examine the relationships. For the identification variables, a "natural" division point existed at zero with values above that point indicating identification and those below that point indicating disidentification. Again, where a dichotomy at zero produced encouraging results, relationships were further examined within quartiles. It should be recognized that different divisions of the sample might alter relationships somewhat and thus lead to different

conclusions. This in fact occurs with reference to the median and quartile splits for identification.

A second problem with contingent correlation analysis is that subgroups are obviously smaller than the total sample; therefore higher correlations are needed in subsample to achieve statistical significance. This problem is not severe in these data because even division into quartiles results in subgroups of well over 100 cases.

The most important problem in contingent correlation analysis is that when the predictor on which the divisions are made is correlated with the predictor used to calculate correlations, the variance of the correlation predictor is truncated. This suppresses the relationship between the correlation predictor and the criterion variable. Further, to the degree that the predictors are correlated the mean values of the correlation predictor will be systematically different between the subgroups. That is, the correlations in the high subgroups will tend to be based on moderate to high values of the correlation predictor, while in the low subgroup the correlations will tend to be based on low to moderate values of the correlation predictor. Obviously, this problem becomes more severe when the sample is divided into larger numbers of smaller groups. Therefore, it affects the contingent analysis within quartiles more than it does median splits.

Given the above problems, it is clear that the tests of the interaction hypotheses must be approached with some circumspection. However, given the data available, it appears that contingent correlation analysis offers the best method of testing the interaction proposition.

The last section of Chapter II demonstrates the necessity of controlling the effects of grade and sex to isolate the effect of television on social behavior. Controlling for sex is relatively straightforward. Correlations of interest are partialed for sex which is coded as a dummy variable.

The curvilinear relationships by grade preclude partialing the variable as a single measure. However, this problem can be solved by treating grade as two two-level dummy variables. That is, one variable represents membership in the fourth grade and a second represents membership in the six grade.* A second-order partial on these two dummy variables completely controls the effects of grade on the predictor and criterion variables.

Thus, the basis statistic for tests of the hypotheses are third-order partial correlations--the relationships between predictor and criterion variables controlling for sex and two dummy variables for grade.

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*All the information in a three-level variable is contained in two dichotomies because a third dichotomy would be completely determined by the other two (cf. Cohen and Cohen, 1975).

The main effects Hypotheses (1, 2, 5, and 6) and the crossed Hypotheses (3, 4, 7, and 8) are tested by examining the sign and significance of the appropriate correlations and partial correlations for the entire sample. The interaction Hypotheses (9 through 14) are tested by comparison of the appropriate correlations and partial correlations computed for specific subgroups as described above.

Main Effects of Exposure

This section deals with the proposition that exposure to a specific class of behavior will be positively associated with performance of that behavior (Hypotheses 1 and 2).

Prosocial Exposure

The correlations between prosocial exposure and prosocial behavior indexes are shown in Table 3.1. All three sets of indexes--altruism, affection, and expression--are included. While the correlations are generally low, they are positive and, given the sample size, statistically significant with the exception of the zero-order correlation for expression. All partial correlations are significant although partialing does not dramatically affect the relationships. Thus, Hypothesis 1 is supported.

Antisocial Exposure

The correlations for exposure and antisocial behavior are shown in Table 3.2. These include verbal aggression and

Table 3.1. Correlations Between Prosocial Exposure and Prosocial Behavior

Behavior	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Altruism	.12***	.16***	.11***	.15***
Affection	.14***	.11***	.12***	.10**
Expression	.06	.08*	.07*	.08*

N=721

*p < .05
**p < .01
***p < .001

Table 3.2. Correlations Between Antisocial Exposure and Antisocial Behavior

Behavior	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression	.10**	.07*	.14***	.11**
Physical Aggression	.16***	.06	.20***	.09**

N=721

*p < .05
**p < .01
***p < .001

physical aggression. Again, the correlations are generally positive and significant. However, partialing for sex decreases the correlations and the level for physical aggression falls below that needed for statistical significance.

Partialing for sex reduced the correlation because girls are lower in both aggression exposure and in aggressive behavior. Partialing for grade increases the correlation because younger children are less aggressive but more exposed to aggressive television. The correlations for antisocial exposure and antisocial behavior remain positive and significant after partialing; therefore, Hypothesis 2 is supported.

Crossed Effects of Exposure

Hypothesis 3 states that exposure to prosocial television will be negatively associated with performance of antisocial behavior and Hypothesis 4, that exposure to antisocial television will be negatively associated with performance of prosocial behavior. This section deals with tests of these propositions.

Prosocial Exposure

The correlations between the three prosocial exposure indexes and both of the antisocial behavior indexes are shown in Table 3.3. Contrary to the hypothesis, these correlations are generally positive and significant. Only the correlations between affection exposure and physical and verbal aggression are not significant, but these are far from being significantly negative. Thus, Hypothesis 3 is not supported.

Table 3.3. Correlations Between Prosocial Exposure and Antisocial Behavior

Pair	O-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Altruism with ...				
Verbal Aggression	.11**	.09**	.10**	.09**
Physical Aggression	.15***	.11**	.15***	.11**
Affection with ...				
Verbal Aggression	.01	.03	.02	.04
Physical Aggression	-.02	.03	-.02	.03
Expression with ...				
Verbal Aggression	.12***	.08**	.09**	.08*
Physical Aggression	.15***	.11**	.13***	.11**

N=721

* p < .05
** p < .01
*** p < .001

Antisocial Exposure

The correlations between both antisocial exposure indexes and the three prosocial behavior indexes are shown in Table 3.4. These correlations are positive and significant with two exceptions; the correlations between physical aggression exposure and expression behavior are not significant for the zero-order relationship and when partialed for sex. Partialing for sex generally increases the correlations, and partialing for grade decreases them. Nearly all the correlations in the table are significantly positive regardless of partialing. Thus, Hypothesis 4 is not accepted.

Table 3.4. Correlations Between Antisocial Exposure and Prosocial Behavior

Pair	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression with ...				
Altruism	.11**	.17***	.09**	.16***
Affection	.14***	.19***	.10**	.16***
Expression	.09**	.14***	.08**	.14***
Physical Aggression with ...				
Altruism	.10**	.17***	.08*	.16***
Affection	.13***	.21***	.09**	.16***
Expression	.04	.10**	.04	.10**

N=721

*p < .05
**p < .01
***p < .001

Main Effects for Identification

This section deals with the proposition that identification with characters who perform a specific class of behavior will be positively associated with performance of that behavior (Hypotheses 5 and 6).

Prosocial Identification

The correlations between prosocial identification indexes and prosocial behavior indexes are shown in Table 3.5.

Table 3.5. Correlations Between Prosocial Identification and Prosocial Behavior

Behavior	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Altruism	.08*	.06	.07*	.05
Affection	.11**	.07*	.09**	.05
Expression	.15***	.08*	.15***	.08*

N=721

*p < .05
**p < .01
***p < .001

While the zero-order correlations are positive and significant, only the expression correlation remains significant after partialing for grade and sex. Partialing for sex alone reduces the altruism identification-behavior correlation to a non-significant level. While grade alone has little effect as a control variable, partialing sex in

combination with grade lowers the affection identification-behavior correlation to a nonsignificant level. Thus, Hypotheses 5 is supported marginally, and only with reference to expression.

Antisocial Identification

The correlations between the antisocial identification indexes and the antisocial behavior indexes are shown in Table 3.6. Only the correlations for physical aggression identification and physical aggression behavior are consistently positive, and this relationship is not significant when partialed for sex alone. Partialing for grade increases the correlations slightly and partialing for sex decreases them. Thus, the joint partial of sex and grade leaves the correlation for physical aggression at a significant level. Hypothesis 6 is given marginal support with reference to physical aggression only.

Table 3.6. Correlations Between Antisocial Identification and Antisocial Behavior

Behavior	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression	.026	-.01	.05	.01
Physical Aggression	.10**	.05	.12***	.07*

N=721

*p < .05
**p < .01
***p < .001

Crossed Effects of Identification

Hypothesis 7 states that identification with models who perform prosocial behavior will be negatively associated with performance of antisocial behavior and Hypothesis 8, that identification with models who perform prosocial behavior will be negatively assoicated with performance of prosocial behavior. This section deals with these hypotheses.

Prosocial Identification

Correlations between the three prosocial identification indexes and both antisocial behavior indexes are shown in Table 3.7. Partialing for grade and for sex individually makes all correlations slightly more positive. Grade and sex are only trivially correlated so their effects on the relationship operate largely independently. In fact, when partials are computed for both control variables, the correlations between altruism and affection identification with physical aggression are significant and positive, which contradicts the hypothesis. The zero-order correlations and partial correlations controlling for grade between expression identification and physical and verbal aggression behavior are negative and significant as predicted. However, these correlations disappear when partialing for sex or for grade and sex. Given the overall pattern, Hypothesis 7 is not accepted.

Table 3.7. Correlations Between Prosocial Identification and Antisocial Behavior

Pair	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Altruism with ...				
Verbal Aggression	.00	.04	.05	.06
Physical Aggression	.04	.06	.06	.11**
Affection with ...				
Verbal Aggression	-.02	.01	.01	.05
Physical Aggression	.00	.02	.02	.11**
Expression with ...				
Verbal Aggression	-.08*	-.07*	-.07*	-.02
Physical Aggression	-.13***	.00	-.13**	.00

N=721

* $p < .05$
** $p < .01$
*** $p < .001$

Antisocial Identification

The correlations between the antisocial identification indexes and the prosocial behavior indexes are shown in Table 3.8. Contrary to the hypothesis, all these correlations are positive. The correlations of both aggression identification indexes with altruism and expression behavior are positive and significant when partialed for sex and for sex and grade. Thus, Hypothesis 8 is not accepted.

Table 3.8. Correlations Between Antisocial Identification and Prosocial Behavior

Pair	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression with ...				
Altruism	.02	.08*	.01	.08*
Affection	.02	.08	.00	.05
Expression	.06	.09**	.05	.09**
Physical Aggression with ...				
Altruism	.06	.09**	.05	.09**
Affection	.03	.06	.01	.03
Expression	.04	.07*	.04	.07*

N=721

*p < .05
**p < .01
***p < .001

Interaction Effects

The analyses for interaction effects are discussed in the order in which they were presented as hypotheses in Chapter I. That is: (1) prosocial exposure mitigating the effects of antisocial exposure on antisocial behavior, (2) antisocial exposure mitigating the effects of prosocial exposure on prosocial behavior, (3) prosocial identification mitigating the effects of antisocial identification (4) antisocial identification mitigating the effects of prosocial identification, (5) prosocial identification enhancing the effects of prosocial exposure on prosocial behavior, and (6) antisocial identification enhancing the effects of antisocial exposure on antisocial behavior.

Prosocial Exposure on Antisocial Exposure Effects

Hypothesis 9 states that the relationship between antisocial exposure and antisocial behavior will be suppressed by high levels of prosocial exposure. Contingent correlations for testing this hypothesis are shown in Table 3.9. The values in the table are the correlations between the antisocial exposure indexes and the antisocial behavior indexes within subgroups of respondents who are high or low in prosocial exposure. The high group includes those respondents who are above the median in a particular class of prosocial exposure, and the low group includes those below the median. Bracketed pairs of correlations are different at the .05 level of significance.

Table 3.9. Contingent Correlations Between Antisocial Exposure and Antisocial Behavior Within High and Low Prosocial Exposure Groups

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression				
High Altruism (366)@	.00	-.02	.06	.03
Low Altruism (355)	.13*	.11*	.19***	.16***
Physical Aggression				
High Altruism (366)	.09*	-.03	.13*	.00
Low Altruism (355)	.14**	.06	.19***	.11*
Verbal Aggression				
High Affection (361)	.08	.02	.12*	.07
Low Affection (360)	.11*	.06	.14**	.10*
Physical Aggression				
High Affection (361)	.18**	.10	.21***	.05
Low Affection	.18*	.07	.21***	.10*

@Numbers in parentheses indicate N for group. Bracketed pairs of correlations are significantly different at the .05 level.

*p < .05

**p < .01

***p < .001

Table 3.9 (cont'd.)

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression				
High Expression (354)	-.01	-.05	.05	.01
Low Expression (367)	.11**	.09*	.17**	.15**
Physical Aggression				
High Expression (354)	.05	-.06	.11**	-.02
Low Expression (367)	.15**	.06	.19***	.09*

Bracketed pairs of correlations are significantly different at the .05 level.

* $p < .05$

** $p < .01$

*** $p < .001$

In general, the pattern of correlations is consistent with the hypothesis. Correlations between antisocial exposure and antisocial behvior are consistently higher when prosocial exposure is low. The altruism subgroup correlations between verbal aggression exposure and verbal aggression behavior are significantly different regardless of partialing for grade and sex. The expression subgroup correlations for both physical and verbal aggression are significantly different only when partialed for both grade and sex.

Given the overall pattern of correlations, and that three of six replications reveal significant differences for

median splits, it was decided to examine the correlations within prosocial exposure quartiles. These correlations are shown in Table 3.9A.

The verbal aggression exposure-behavior correlations within altruism exposure quartiles reveal a clear pattern. Consistent with the hypothesis that prosocial exposure suppresses the effects of antisocial exposure, the correlations are consistently lowest in the highest altruism exposure quartile. The highest quartile correlation is significantly lower than the lowest quartile when partialing for sex significantly lower than the second quartile when partialing for grade, and significantly lower than the second and third quartiles when partialing for both grade and sex.

The physical aggression exposure-behavior correlations within altruism quartiles are significantly different only when partialing for grade. Partialing for grade, the correlation in the highest quartile is significantly lower than the correlations in the first and second quartiles. While this is congruent with the hypothesis, the rest of the correlations do not generally conform to the expected pattern.

The verbal aggression and physical aggression exposure-behavior correlations within affection exposure quartiles clearly do not conform to the hypothesis. The highest correlations in this set occur in the third quartile and there are no significant differences between quartiles.

Tables 3.9 and 3.9A reveal that differing levels of exposure to each of the prosocial behaviors affects the

Table 3.9A. Contingent Correlations Between Antisocial Exposure and Antisocial Behavior Within Prosocial Exposure Quartiles

Variable	Quartile Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Verbal Aggression	Altruism				
	lowest N=178	.09	(.06)	.13*	.11
	lower N=176	.09	.04	(.21**)	(.16*)
	higher N=188	.09	.08	.18**	(.17*)
	highest N=179	-.09	[-.15]	[-.04]	[-.09]
Physical Aggression	Altruism				
	lowest N=178	.12	.04	(.15*)	.08
	lower N=176	.06	-.07	(.15*)	.00
	higher N=188	.02	-.10	.07	-.05
	highest N=179	.11	-.02	[-.15*]	.01

Correlations in parentheses are significantly different from correlations in brackets in the same column.

* $p < .05$

** $p < .01$

Table 3.9A (cont'd.)

Variable	Quartile Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Verbal Aggression	Affection				
	lowest N=181	.14*	.09	.15*	.09
	lower N=181	.07	.02	.14*	.09
	higher N=177	.20**	.13*	.24***	.18*
	highest N=182	.00	-.04	.05	.01
Physical Aggression	Affection				
	lowest N=181	.15*	.05	.12*	.07
	lower N=181	.19**	.03	.25***	.09
	higher N=177	.29***	.12	.31***	.15**
	highest N=182	.13*	-.04	.17*	.00

No significant differences appear among quartile correlations.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 3.9A (cont'd.)

Variable	Quartile Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Verbal Aggression	Expression				
	lowest N=181	(.12)	(.07)	(.20**)	(.16*)
	lower N=181	.05	(.04)	.13*	(.13*)
	higher N=180	.00	.00	.11	.10
	highest N=177	[-.11]	[-.20**]	[-.03]	[-.12]
Physical Aggression	Expression				
	lowest N=181	(.17*)	.09	.19**	(.11)
	lower N=181	.09	-.02	.14*	.01
	higher N=180	[-.08]	-.16	.00	[-.09]
	highest N=177	.08	-.06	.14*	-.03

Correlations in parentheses are significantly different from correlations in brackets in the same column.

* $p < .05$

** $p < .01$

antisocial exposure-behavior correlations in parallel ways. To summzarize this relationship, the three prosocial exposure indexes were summed and a median split analysis was performed for overall prosocial exposure. The results of this analysis, shown in Table 3.9B conform to those shown in Tables 3.9 and 3.9A. High levels of prosocial exposure leads to significantly lower verbal aggression exposure-behavior correlations and tend to suppress physical aggression exposure-behavior correlations.

Table 3.9B. Contingent Correlations Between Antisocial Exposure and Antisocial Behavior Within High and Low Overall Prosocial Exposure Groups

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression				
High Prosocial (359)@	[.00	[-.04	[.05	[.01
Low Prosocial (362)	.12**]	.08]	.17***]	.14**]
Physical Aggression				
High Prosocial (359)	.10*	-.03	.16***	.00
Low Prosocial (362)	.16***	.05	.19***	.09

@Numbers in parentheses indicate N for group.
Bracketed pairs of correlations are significantly different at the .05 level.

*p < .05
**p < .01
***p < .001

The overall pattern of correlations are generally consistent with the hypothesis that prosocial exposure mitigates antisocial exposure effects. Hypothesis 9 has at least partial support with altruism and expression exposure significantly suppressing verbal aggression exposure effects, and the composite prosocial exposure tending to suppress all antisocial exposure effects.

Antisocial Exposure on Prosocial Exposure Effects

Hypothesis 10 states that the effect of prosocial exposure on prosocial behavior will be suppressed by high levels of antisocial exposure. The appropriate correlations within median splits for testing this hypothesis are shown in Table 3.10. The overall pattern of correlations is quite mixed. Contrary to the hypothesis, high exposure to verbal aggression appears to enhance the correlation between exposure to expressive behavior and performance of expressive behavior. Comparatively large differences are consistent for this relationship and they are statistically significant for the zero-order correlation and partialing for grade alone. Partialing for sex suppresses the correlations and the differences.

On the other hand, exposure to physical aggression clearly suppresses the correlation between exposure to affection and performance of that behavior. Differences between the high and low physical aggression exposure groups are statistically significant regardless of partialing.

Table 3.10. Contingent Correlations Between Prosocial Exposure and Prosocial Behavior Within High and Low Antisocial Exposure Groups

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Altruism				
High Verbal Aggression (362)@	.09*	.10*	.09*	.10*
Low Verbal Aggression (359)	.09*	.11*	.10*	.10*
Affection				
High Verbal Aggression (362)	.12*	.08	.10*	.06
Low Verbal Aggression (359)	.10*	.05	.12**	.06
Expression				
High Verbal Aggression (362)	[.15**	.09*	[.15**	.09*
Low Verbal Aggression	[-.01	-.01	[.01	-.01

@Numbers in parentheses indicate N for group.
Bracketed pairs of correlations are significantly different at the .05 level.

*p < .05
**p < .01
***p < .001

Table 3.10 (cont'd.)

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Altruism				
High Physical Aggression (356)	.08	.07	.08	.06
Low Physical Aggression (365)	.11*	.10*	.10*	.10*
Affection				
High Physical Aggression (356)	[.02	[-.05	[.01	[-.05
Low Physical Aggression (365)	.19***]	.13**]	.19***]	.14**]
Expression				
High Physical Aggression (356)	.02	.01	.04	.02
Low Physical Aggression (365)	.04	.04	.05	.04

Bracketed pairs of correlations are significantly different at the .05 level.

* $p < .05$

** $p < .01$

*** $p < .001$

Given the mixed pattern of correlation, no overall statement can be made concerning acceptance or rejection of Hypothesis 10. It seems that, in general, antisocial exposure has little impact on the relationship between prosocial exposure and prosocial behavior; however, in specific cases it may either enhance or suppress the relationship. Because of the ambiguity concerning the hypothesis, it was decided not to examine the relationships within quartiles of antisocial exposure.

Prosocial Identification on Antisocial Identification Effects

Hypothesis 11 states that the relationship between antisocial identification and antisocial behavior will be suppressed by high levels of prosocial identification. The contingent correlations for testing this relationship within median splits are shown in Table 3.11. In general these correlations are insignificant and have no particular pattern. The only significant differences in the correlations between high and low subgroups run counter to the hypothesis. That is, the 0-order correlations and the correlations partialed for grade are significantly higher at high levels of physical aggression identification. Therefore, Hypothesis 11 is not supported.

Antisocial Identification on Prosocial Identification Effects

The contingent correlations for testing the hypothesized suppression effects of antisocial identification on the

Table 3.11. Contingent Correlations Between Antisocial Identification and Antisocial Behavior Within High and Low Prosocial Identification Groups

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression				
High Altruism (268)@	.09	.00	.08	.00
Low Altruism	.03	-.01	.05	.00
Physical Aggression				
High Altruism (268)	[.25***	.07	[.24***	.08
Low Altruism (449)	[.06	.00	[.08	.00
Verbal Aggression				
High Affection (159)	-.03	-.03	.07	.01
Low Affection (562)	.02	.00	.05	.02
Physical Aggression				
High Affection (159)	.02	-.01	.03	.01
Low Affection (562)	.05	.03	.08	.02

Bracketed pairs of correlations are significantly different at the .05 level.

@ Numbers in parentheses indicare N for group.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 3.11 (cont'd.)

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Verbal Aggression				
High Expression (181)	.07	-.03	.11	.03
Low Expression (540)	.05	-.01	.08	.02
Physical Aggression				
High Expression (181)	.25***	.10	.29***	.13*
Low Expression	.12*	.04	.14*	.06

Bracketed pairs of correlations are significantly different at the .05 level.

* p < .05

** p < .01

*** p < .001

relationship between prosocial identification and prosocial behavior are shown in Table 3.12. Since no significant differences appear between high and low antisocial identification subgroups, Hypothesis 12 is not accepted.

Prosocial Identification on Prosocial Exposure Effects

Hypothesis 13 states that prosocial identification will enhance the effects of prosocial exposure on prosocial behavior. The contingent correlations for testing this relationship are shown in Table 3.13. For affection and altruism,

Table 3.12. Contingent Correlations Between Prosocial Identification and Prosocial Behavior Within High and Low Antisocial Identification Groups

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Altruism				
High Verbal Aggression (180)@	.15*	.11	.08	.09
Low Verbal Aggression (541)	.07*	.01	.08	.02
Affection				
High Verbal Aggression	.14*	.12	.13*	.11
Low Verbal Aggression	.13**	.02	.11**	-.01
Expression				
High Verbal Aggression	.17**	.10	.18**	.12
Low Verbal Aggression	.21***	.10**	.21**	.10**
Altruism				
High Physical Aggression (276)	.05	.00	.04	-.02
Low Physical Aggression (445)	.07	-.01	.08	.00

@Numbers in parentheses indicate N for group.

*p < .05

**p < .01

***p < .001

Table 3.12 (cont'd.)

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Affection				
High Physical Aggression (276)	.12*	.09	.12*	.09
Low Physical Aggression (445)	.16***	.05	.14**	.04
Expression				
High Physical Aggression (356)	.00	.00	.03	.06
Low Physical Aggression (365)	.08	.09	.10	.10

*p < .05
**p < .01
***p < .001

the correlations are significantly higher in the high identification groups for the zero-order and at all levels of partialing. For expression, the differences are clearly in the right direction.

Because of this encouraging result, it was decided to test the relationship using median splits rather than splits at the breaking points of positive and negative identification. The results of this analysis are shown in Table

Table 3.13. Contingent Correlations Between Prosocial Exposure and Prosocial Behavior Within High and Low Prosocial Identification Groups

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Altruism				
High Altruism (268)@	[.21***	[.25***	[.21***	[.25***
Low Altruism (449)	[.02	[.02	[.01	[.09
Affection				
High Affection (159)	[.26***	[.26***	[.24***	[.24***
Low Affection (562)	[.10*	[.06	[.09	[.05
Expression				
High Expression (181)	.12**	.16***	.17***	.17***
Low Expression (540)	.03	.04	.04	.05

@Numbers in parentheses indicate N for group.
Bracketed pairs of correlations are significantly different at the .05 level.

* $p < .05$
** $p < .01$
*** $p < .001$

3.13A. In general, the correlations in this table are lower than those in Table 3.13. Significant differences occur for expression when the correlation is not partialed and when it is partialed for both grade and sex. The only other significant difference occurs for affection when partialed for grade alone. This result is not surprising in light of the analysis by identification quartiles shown below.

The correlations within identification quartiles for testing Hypothesis 13 are shown in Table 3.13B. There is marked curvilinearity in the exposure-behavior correlations within identification quartiles. The correlations are highest in the highest and lowest identification quartiles.

For alutrium and affection, the correlation in the highest identification quartiles are consistently significantly higher than the correlations in the second quartile. The lowest quartile is significantly higher than the second quartile for altruism when partialing for grade, and for affection when partialing for sex. The only significant difference in the correlations for expression occurs between the highest quartile and the second quartile when partialed for grade and sex; however, the overall pattern for expression similar to those for altruism and affection.

Hypothesis 13 is supported in the sense that the prosocial behavior-exposure correlations are strongest at the highest levels of prosocial identification. However, this support is highly qualified by the finding that the

Table 3.13A. Contingent Correlations Between Prosocial Exposure and Prosocial Behavior Within High and Low Prosocial Identification Median Groups

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Altruism				
High Altruism (368)@	.13**	.18***	.13**	.17***
Low Altruism (353)	.10*	.13**	.09*	.12**
Affection				
High Affection (315)	.15**	.13**	.15**	.13**
Low Affection (406)	.09*	.08	.07	.06
Expression				
High Expression (327)	.11*	.12*	.12*	.13**
Low Expression (394)	.00	.02	.02	.00

@Numbers in parentheses indicate N for group
Bracketed pairs of correlations are significantly different at the .05 level of significance.

*p < .05
**p < .01
***p < .001

Table 3.13B. Contingent Correlations Between Prosocial Exposure and Prosocial Behavior Within Prosocial Identification Quartiles

Variable	Identification Quartile	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Altruism	lowest N=171	.19*	.22*	[.19*]	.21*
	lower N=173	(-.01)	(.03)	(-.05)	(.02)
	higher N=176	.06	.10	.04	.09
	highest N=201	[.20]	].23***	[.21***]	[.24***]
Affection	lowest N=127	.20*	(.20*)	.14	.13
	lower N=267	[-.01	[-.04	[.00]	[.02]
	higher N=132	.11	.09	.05	[.03]
	highest N=195	(.21***)	(.21***)	(.21***)	(.21***)
Expression	lowest N=149	.08	.09	.08	.10
	lower N=178	-.06	-.03	-.06	(-.04)
	higher N=212	.11*	.09	.12*	.11*
	highest N=182	.12	.16	.13	[.17*]

Correlations in parentheses are significantly different from correlations in brackets in the same column.

* p < .05

** p < .01

*** p < .001

correlations are also quite high at the lowest levels of identification.

Antisocial Identification on Antisocial Exposure Effects

Hypothesis 14 states that antisocial identification will enhance the effects of antisocial exposure on antisocial behavior. Table 3.14 reports the appropriate contingent correlations within high and low identification subgroups for testing this hypothesis. No significant differences are found between the high and low identification subgroups. The physical aggression differences are in the expected direction except when partialed for sex alone. The correlations for verbal aggression are very mixed.

The antisocial behavior-exposure correlations within identification quartiles are shown in Table 3.14A. For verbal aggression the highest correlations occur in the third quartile. For physical aggression, the pattern is similar to that revealed by the quartile analysis for Hypothesis 13. That is, the correlations are strongest in the highest and lowest identification quartiles. The difference between these quartiles is significantly different when partialing for sex.

With reference to physical aggression, the same kind of statement can be made for Hypothesis 14 that was made for Hypothesis 13. That is, the highest level of physical aggression identification enhances the effects of physical aggression exposure, but the exposure-behavior correlations

Table 3.14. Contingent Correlations Between Antisocial Exposure and Antisocial Behavior Within High and Low Antisocial Identification Groups

Variable	0-Order Correlation	Partialed for . . . Sex	Grade	Grade and Sex
Verbal Aggression				
High Verbal Aggression (180)	.13	.06	.18**	.12*
Low Verbal Aggression	.09	.07	.07	.13
Physical Aggression				
High Physical Aggression (276)	.21***	.06	.24***	.10*
Low Physical Aggression (445)	.10	.12	.14**	.07

* $p < .05$
** $p < .01$
*** $p < .001$

are also strong at the lowest levels of physical aggression identification. However, even the conditional support for Hypothesis 14 cannot be made with reference to verbal aggression.

Table 3.14A. Contingent Correlations Between Antisocial Exposure and Antisocial Behavior Within Quartiles of Antisocial Identification

Variable	Identification Quartile	0-Order Correlation	Partialed for . . . Sex	Grade	Sex and Grade
Verbal Aggression					
	lowest N=176	.05	.05	.08	.05
	lower N=178	.04	.02	.07	.05
	higher N=187	.17**	.15*	.20**	.17**
	highest N=180	.13*	.06	.18**	.12
Physical Aggression					
	lowest N=166	.20**	.15*	.26***	.20*
	lower N=168	.05	(-.03)	.08	-.02
	higher N=215	.15*	.06	.18**	.09
	highest N=172	.17*	[.19**]	.19**	.07

Correlations in parentheses are significantly different from correlations in brackets in the same column.

* $p < .05$

** $p < .01$

*** $p < .001$

CHAPTER IV

SUMMARY AND DISCUSSION

This chapter begins with a summary of the research conducted and then turns to discussion of the findings and their implications. Discussion is considered in three sections: (1) theoretical implications, (2) methodological issues, and (3) policy implications.

Summary

This research investigated effects of television exposure and identification with television characters on children's pro- and antisocial behaviors. The prosocial behaviors considered were altruism, affection, and self-expression; the antisocial behaviors, verbal aggression, and physical aggression.

Past research concerning effects of television on children focused on the impact of specific televised behaviors on performance of parallel behaviors. While this research considered such direct effects, attention was also paid to "crossed effects," i.e., effects of prosocial television on antisocial behaviors, and of antisocial television on prosocial behaviors.

The theoretical rationale for this research, derived from mediational-stimulus contiguity theory, held that television operates on cognitive associations between stimulus cues and specific behaviors. Generally stated, the theory holds that by watching television children develop associations between situational cues and the behaviors performed in their presence. Subsequently, when placed in an environment containing the cues, the likelihood of performing the behaviors is increased. Using this rationale, 14 hypotheses were derived concerning direct effects, crossed effects and interaction effects of exposure and identification.

A questionnaire was administered to 721 fourth, sixth, and eighth graders to gather data on their exposure to 15 selected television programs, their identification with 16 selected television characters, and their own performance of specific social behaviors.

Multiple-item indexes were constructed as indicators of the respondents' performance of the selected behaviors. The measures of exposure and identification were weighted on the basis of content analysis data and summed to form indexes. The exposure and identification indexes were highly intercorrelated indicating that children do not base the television use decisions on the types of behavior portrayed in programs or performed by characters.

All indexes were related to grade and sex and the effects of these variables were statistically controlled in

subsequent analysis. Modest, but positive and significant, correlations were found between exposure and performance of each of the specific behaviors supporting the direct effects hypotheses. However, contrary to the crossed-effects hypotheses, positive correlations of the same order of magnitude were found between prosocial exposure and antisocial behavior, and antisocial exposure and prosocial behavior.

The direct effects hypotheses for identification were supported only with reference to expression and physical aggression. Positive correlations were found between prosocial identification and exposure when effects of sex were not controlled. The crossed effects hypotheses for identification were not supported with the correlations between prosocial identification and antisocial behavior, and antisocial identification and prosocial behavior being either positive or nonsignificant.

Tests of the interaction hypotheses revealed that the antisocial exposure-behavior correlations were lowest when prosocial exposure was high. However, the prosocial exposure behavior correlations were not systematically affected by levels of antisocial exposure. Prosocial and antisocial identification did not alter one another's effects.

It was hypothesized that identification with characters who performed specific types of behavior would enhance the effects of exposure to the same behaviors. The highest prosocial exposure-behavior correlations did occur at the

highest levels of prosocial identification; however, the relationship was markedly curvilinear. The exposure-behavior correlations were relatively high at the lowest levels of identification and were near zero at middle levels of identification.

The interactions of antisocial exposure and identification were less systematic with the highest exposure-behavior correlations occurring at moderately high levels of identification for verbal aggression, and at the lowest levels of identification for physical aggression.

The findings suggest the multiple processes may account for the effects of both exposure and identification. Television exposure appears to lead not only to imitation, but also to heightened arousal, which, in turn increases levels of all behaviors. Identification appears to operate through one process among children who want to be like television characters and through a distinctly different process among children who deny wanting to be like television characters.

Theoretic Implications

The theoretic perspective developed in Chapter I holds that consistent exposure to specific televised behaviors (or identification with characters who perform such behaviors) leads to cognitive associations between those behaviors and stimulus cues. Therefore, when placed in a behavioral field

containing the cues, the likelihood of the child's performing the behavior is increased. Further, if the likelihood of performance of one behavior is increased, the likelihood of performance of other behaviors is decreased.

The indexes of exposure to and identification with specific behaviors used in this research were highly intercorrelated. These intercorrelations made tests of the theoretic hypotheses difficult. Because children's exposure to and identification with specific social behaviors is quite mixed, they do not view or identify with the behaviors consistently in the context of other behavior cues. If children see some television characters responding to a situation with prosocial behavior and others responding to a similar situation wth antisocial behavior, then cognitive associations between the cues and either of the behaviors could not develop. Without the development of such associations, children's performance of behavior could not be substantially affected.

The tests for Hypothesis 1, which states that there will be a positive association between exposure to prosocial television and performance of prosocial behavior, and Hypothesis 2, which states that there will be a positive association between exposure to antisocial television and performance of antisocial behavior, can be interpreted as being supportive of the theoretical perspective. Given highly mixed viewing patterns, only minimal effects of exposure

would be expected. Therefore, the low, but positive and significant, correlations between exposure and behavior could mean that exposure leads to associations between situational cues and specific behaviors which in turn increase the likelihood of performance of the behaviors.

However, the tests of the crossed effects of exposure, Hypotheses 3 and 4, call this theoretic interpretation into question. Hypothesis 3 states that exposure to prosocial television will be negatively associated with performance of antisocial behavior, and Hypothesis 4, that exposure to antisocial television will be negatively associated with performance of prosocial behavior. These hypotheses are based on the reasoning that television fosters cognitive associations between specific cues and specific behaviors. Therefore, television exposure to any specific behavior should increase the likelihood of performance of that behavior. Further, it is assumed that increasing the likelihood of one behavior in any specific stituation necessarily decreases the likelihood of performance of any other behavior in the same situation. If the support of Hypotheses 1 and 2 is due to operation of development of cognitive associations, Hypotheses 3 and 4 should be supported. This is not the case. Altruism and expression exposure are both positively correlated with verbal and physical aggression, and physical aggression and verbal aggression exposure positively correlated with all of the prosocial behaviors.

One possible explanation for these findings is that the assumption that performance of one behavior precludes performance of another behavior is false. While the assumption is reasonable when behavior is constrained by specific situations in specific times, such constraints do not necessarily operate across situations and time. The data gathering procedure used here did not impose such constraints and the social behavior indexes were constructed by summing responses across situations. The correlations between prosocial behavior and antisocial behavior indexes were moderately negative, not strongly negative as the assumption suggests. Thus, it remains possible that children develop cognitive associations for all kinds of behaviors by watching television, and that they perform those behaviors in differing situations across time. In this case, the positive correlations for the crossed hypotheses could be interpreted as artifacts of the high correlations between the various exposure indexes. That is, physical aggression exposure correlates with expressive behavior because physical aggression exposure is highly correlated with altruism exposure.

Another possible explanation for the finding that exposure to all types of behavior is positively associated with performance of all types of behavior is what has been termed the arousal model of media effects (Zillmann, 1971; Tannenbaum, 1972; Watt and Krull, 1977). This model holds that exposure to media can lead to generalized emotional arousal

which in turn increases levels of subsequent behavior. This subsequent arousal does not necessarily correspond to the stimulus behavior that produced the arousal. For example arousal produced by exposure to erotic behavior could lead to higher levels of antisocial behavior.

The exposure measures used in this research are weighted heavily in proportion to the number of acts performed in the specific shows. Thus, the more dynamic a show was in terms of its raw number of acts, the more it contributed to the exposure index. If such dynamism heightens arousal, and arousal leads to increased rates of behavior, a pattern of findings like those reported here might be expected.

The correlations between antisocial exposure and prosocial behavior were generally more consistent and stronger than the correlations between prosocial exposure and antisocial behavior. This finding can be interpreted in light of arousal theory. The theory holds that any behavior can reduce television stimulated arousal. However, it can be assumed that antisocial behaviors are negatively sanctioned while prosocial behaviors are positively sanctioned. Therefore, children would find prosocial behavior the more easily taken avenue for arousal reduction. Also, it seems likely that antisocial exposure is more arousal producing and, therefore, is more likely to stimulate behavior. Under these assumptions the crossed effects for antisocial exposure would be expected to be stronger than those for prosocial exposure,

as is reported here.

It should be noted that the arousal model explanation and the mediational-stimulus explanation for effects of exposure are not theoretically contradictory. In fact, Watt and Krull (1977), using completely independent measures of arousing properties of television shows and their content, found support for simultaneous operation of both theoretical processes.

Hypothesis 5 states that identification with televisioned models who perform prosocial behavior will be positively associated with performance of prosocial behavior. Hypothesis 6 states that identification with televised models who perform antisocial behavior will be positively associated with performance of antisocial behavior.

Hypotheses 5 and 6 are given qualified support. With the effects of sex and grade controlled, the identification behavior correlations for expression and physical aggression were positive and significant. The correlations for all prosocial behaviors and for physical aggression were relatively high when sex was not used as a control variable. An implication of the findings here may be that television is reinforcing sex-role stereotypes. That is, if children generally choose same-sex television role models and the chosen characters are sex-stereotyped (with females manifesting more prosocial behavior and males, more physical aggression) then sex stereotypes would be reinforced. To suggest that

television leads to sex stereotyping is, of course, not new. However, given the paucity of hard data making a direct linkage, this implication of the present research is worth noting.

The lack of support for the hypotheses concerning direct effects of identification is inconsistent with the research cited in Chapter I. This inconsistency might be accounted for by several differences between the present research and past research. The experimental research cited was generally confined to studies of a single model and a single behavior while this research used competing models and competing behaviors. In experimental research then, cognitive associations between stimulus cues and behaviors could be easily developed. But in the present research such cues and behaviors were quite mixed precluding the development of such associations and thus having minimal effects on performance of behavior. Therefore, it may not be surprising that the findings here are inconsistent with laboratory research.

Experimental research also held levels of exposure constant while the present research allowed such levels to vary freely. The tests of Hypotheses 13 and 14 in this research reveal complex interactions between identification and exposure. This suggests that the effects of identification may be dependent on exposure. It can be argued that identification could not lead to imitation unless the observers are exposed to models sufficiently enough to know the behavior to be imitated. The argument, which was noted in

Chapter I, might account for some of the findings concerning identification in this research. The point effects of exposure and identification are considered further in the discussion of interaction hypotheses.

Another strain of research that dealt with the effects of identification on behavior used broadcast television characters. Past research using television characters were either based on measures of children's "desires to model" the characters (Greenberg, et al., 1976) or on comparisons of children's reports of what they would do in hypothetical situations to perceptions of what television characters would do in the same situation (e.g. W. Miller, 1968). Neither actual character behavior nor children's behavior were directly assessed in these studies. The positive findings of past research and the marginal findings of the present research suggest that children may imagine more similarity between their own idealized behavior and television characters' idealized behavior than there is in fact. If this is the case, it may be that children misperceive character behavior, or misreport their own behavior, or both. Further research would be needed to disentangle these possibilities.

Hypotheses 7 and 8, which deal with crossed effects of identification, reveal a pattern similar to that for crossed effects of exposure. Altruism and affection identification were positively associated with physical aggression behavior; physical aggression and verbal aggression

identification were positively associated with altruism and expression behavior. Again, an arousal theory interpretation can be given to these findings. If identification with television characters leads to arousal, then identification with any behavior would be expected to be associated with all types of behavior.

Perhaps the best test of the theoretical rationale offered in Chapter I occurs in Hypotheses 9 and 10. Hypothesis 9 states that high levels of prosocial exposure will suppress the effects of antisocial exposure on antisocial behavior. Hypothesis 10 states that high levels of antisocial exposure will suppress the effects of prosocial exposure on prosocial behavior. The rationale for these hypotheses is that consistent patterns of cognitive association are most likely to develop when consistent patterns of behavior are observed.

Hypothesis 9 received partial support with exposure to altruism an expression clearly suppressing the effects of exposure to verbal aggression, and tending to suppress the effects of exposure to physical aggression. However, exposure to affection does not seem to affect the relationships for either physical or verbal aggression. Perhaps this inconsistency in support for the hypothesis is due to differential substitutability of the behaviors. That is, affection and expression may be possible responses to situations that might evoke either physical or verbal aggression, but it is

difficult to conceive of situations in which either affection or aggression might be performed.

There was little support for Hypothesis 10. Thus, it appears that prosocial exposure may suppress the effects of antisocial exposure on antisocial behavior, but antisocial exposure does not suppress the effects of prosocial exposure on prosocial behavior.

A possible explanation for this set of findings lies in the very definitions of pro- and antisocial behaviors. It will be recalled that prosocial behaviors are defined as acts that are positively valued and antisocial behaviors as those acts that are negatively valued. Therefore, it can be assumed that prosocial acts are likely to be reinforced while antisocial acts are likely to be punished.

Bandura and his followers hold that the consequences that occur when a child first attempts to perform social behavior are critical determinants of subsequent performance. Therefore, children who acquire antisocial behavior via television may have performance of such behavior rapidly extinguished. High exposure to prosocial television would make alternative prosocial behaviors readily available to replace the extinguished behaviors. These prosocial behaviors would be likely to gain reward and, thus, permanently replace the antisocial behaviors. On the other hand, prosocial behaviors acquired via television would be likely to be rewarded. Therefore, there would be little reason to take advantage of the

antisocial behavioral alternatives made available by high exposure to antisocial television.

This interpretation suggests a three-way interaction of prosocial exposure by antisocial exposure by non-television reinforcement contingencies. Prosocial exposure would be expected to suppress the effects of antisocial exposure even more when punishment of antisocial behavior is high, and antisocial exposure to suppress the effects of prosocial exposure even less when reward for prosocial behavior is high. This proposition clearly deserves empirical test.

There is little support for Hypothesis 11, which states that prosocial identification will mitigate the effects of antisocial identification, or for Hypothesis 12, which states that antisocial identification will mitigate the effects of prosocial identification. This is not surprising in light of the findings for direct and crossed effects of identification discussed above. The lack of interactions among the identification variables is further elucidated below in the discussion of the interactions of identification and exposure.

Hypothesis 13 states that high levels of prosocial identification will enhance the effects of prosocial exposure on prosocial behavior. Hypothesis 14 states that high levels of antisocial identification will enhance the effects of antisocial exposure on antisocial behavior.

The data support these hypotheses for the prosocial behaviors and for physical aggression in the sense that the

effects of exposure are highest when identification is highest. However, the data reveal that the relationship is highly curvilinear with the effect of exposure also being quite high when identification is very low.

This curvilinearity suggests that two processes of learning operate with reference to identification as operationalized in this research. Noble (1975) offers a two-process theory which may be relevant.

Noble focuses on children's reactions to television characters during the act of exposure. While watching television some children lose their own identity and vicariously experience the behavior of television characters. This process, which Noble calls identification, leads children to uncritical acceptance of the role of the character. Presumably, role acceptance can lead to subsequent imitation of the character's behavior. Thus, Noble's conception of identification and its consequences are similar to those of identification as used in this research.

Noble's other process, which he calls recognition, operates in a far different manner. Under recognitition, children reject the notion of being like television characters, but see them as being like people they know in real life. Children tend to engage in parasocial interaction with these realistic characters, and through this interaction learn to anticipate patterns of behavior. This learning structures children's understanding of what is appropriate behavior,

and, therefore, affects their performance of behavior.

If processes like those described by Noble operate independently of one another, a pattern of correlations like those found for Hypotheses 13 and 14 would be expected. That is, the identification process would account for the high correlations of high levels of identification as measured here, and the recognition process would account for the high correlations at low levels of identification as measured here.

Methodological Issues

Several methodological issues arose in the conduct of this research which warrant discussion. Probably the most important of these is the questionable validity of the social behavior indexes. While these indexes were of reaonably high reliability (internal consistency), it should be noted that the reliability estimates used are sensitive to systematic measurement error. To the degree that such error exists, the reliability estimates would be inflated. For example, if boys felt more constrained from reporting prosocial behavior than girls, the reliability estimates would be artifically high. In addition to sex difference, systematic error could have been introduced by several other factors including "yes" bias, and social desirability demands.

The validity correlations used to examine the self-report items in the behavior indexes were disappointingly low. However, the mother assessments of social behavior and

the peer nominations used as criterion measures might themselves been invalid. Mothers may not assess their children's behavior accurately for several reasons including demand characteristics, personal biases, and lack of knowledge. Peer nominations may be subject to numerous biases and are clearly skewed with most children receiving no nominations. To the degree that the mother assessments and peer nominations are unreliable or invalid, the validity correlations would be deflated.

Clearly, further efforts need to be made to assess the validity of the measurements of children's social behavior. There are several obvious possibilities. First, teachers could be a valuable source of data because they may be less biased and more knowledgeable than mothers and more discerning than children. Also, children might be asked to evaluate each of their classmates on specific scales. This procedure would yield interval data and could be highly reliable if the mean of all peer evaluations were used as an indicator of social behavior. Finally, the most valid possible method would be to have trained researchers observe samples of each child's behavior. The use of trained observers is, of course, difficult and expensive, but it should be considered in research of this type.

If several of the above procedures were used for each of the behaviors, precise estimates of the reliability and validity of each measurement could be derived through multi-

method-multi-trait techniques (Campbell and Fiske, 1959). Such an analysis might well add considerable credence to research like that presented here.

The exposure and identification indexes used in this research were highly intercorrelated causing major problems in the statistical tests of the hypotheses. These high correlations are probably best interpreted as a substative finding that children's exposure and identification is highly mixed with reference to social behavior. However, several properties of the methods of index construction should be noted.

There is great variability in the numbers of specific acts performed by characters and in programs. Physical aggression, for example, ranges from a high of 52 acts in a single episode of Bugs Bunny to a low of one act in a single episode of the Bob Newhart show. However, across all shows, the numbers of pro- and antisocial acts are approximately equal.

The characters chosen for the identification measures also vary substantially in their frequencies of specific behaviors. Verbal aggression, for example, ranges from a high of 13 acts in a single show for Ed Brown to a low of zero for Mary Richards, Dixie McCall, and Jaime Sommers.

Although there is variability in the frequencies of specific acts with television shows and by television characters, it appears that children do not make their exposure

or identification choices on the basis of frequencies of specific behaviors. Thus, when indexes are formed by summing across programs and characters, they are highly correlated regardless of the behavior types used to weight the exposure or identification measures.

Great variability in the overall number of social acts per program and per character also contributes to the correlations. Regular viewing of Starsky and Hutch, for example, added substantially to four exposure indexes--altruism, expression, verbal aggression, and physical aggression--because there was a high number of all of these kinds of acts in the program. Identification with Mike Stivak, on the other hand, made a minor contribution only to verbal aggression because his only coded act fell in that category.

Careful selection of programs and characters for the exposure and identification indexes might have diminished the correlations among the indexes. Programs and characters used should be roughly equal in their overall levels of behavior to avoid indexes being dominated by those with very high behavior levels. Also, programs and characters should be chosen on the basis of their purity of behavior. It would be easy to choose programs and characters whose behavior is dominantly prosocial; however, almost no regular show or character is dominantly antisocial. Nonetheless, to the degree that they are pure in their prosocial or antisocial behavior, the problem of programs and characters

contributing to both prosocial and antisocial indexes could be minimized.

Another methodological weakness of this research was the fact that the behavior frequency weights used for the exposure and identification indexes were based on content analysis of single episodes of television programs. While the intercoder reliability of the content analysis was adequate for this research, there may have been considerable sampling error because a single episode represents only a small fraction of the behavior portrayed in a program or by a character.

There appears to be considerable variance in the amounts and types of behavior from episode to episode within specific television series. For example, the episode of the $6 Million Dollar Man used in this research contained no physical aggression behavior by Steve Austin. While this program is in the family hour and may be fairly low in physical aggression, it is certain that a zero weight does not appropriately reflect Steve Austin's behavior across the series. The weights for other shows and characters may have been equally inaccurate. The exposure and identification indexes might have been greatly improved (and their relationships with social behaviors enhanced) if the behavior weights had been based on multiple episodes of each program.

Also, the fact that the behavior weights were based on simple frequencies of behavior may have caused problems

in this research. The use of simple frequencies weights each act equally regardless of its intensity or duration. Thus, for example, a vicious verbal attack receives the same weight in the index as a mild tease. Clearly, more intense instances of verbal aggression probably have more impact on children's social behavior. The procedures here did not account for such potential differences. The content analysis procedures did assess the intensity of individual acts, but these data were not used in this research because the intensity coding was based on different scales for each type of coded behavior. These scale differences would have made comparison of associations across behavior types difficult. However, weights based on consistent scales might well have improved the precision of this research and should be considered in the future.

The simple frequency weights also did not account for the consequences of the coded acts to the models who performed them. Mediational-stimulus continguity theory explicitly states that reinforcement of modeled behavior increases imitation while punishment decreases imitation. It is quite possible that many of the acts used in the frequency weights received negative reinforcement and actually should have lowered rather than increased the value of the indexes. Therefore, weights which accounted for the consequences of acts may have greatly increased the precision of this research. Efforts were made in the content analysis to ascertain the

consequences of the coded acts; however, the resultant data were not of sufficient reliability to be useful. When procedures that yield sound data on the consequences of televised behavior are developed, they should be accounted for in exposure and identification indexes like those used in this research.

One of the reasons that identification failed to show marked effects in this research may have been the relatively crude measure used to operationalize the variable. A single, three-level question which asked children whether or not they wanted to be like the characters was used. While it was hoped that this item would capture the full range of character attributes that have been shown to be related to identification, this may not have been the case. Identification is a complex construct and numerous other items might have been used. As examples, items might have asked about perceived similarity to characters and liking of characters. Indexes using items like these could well have detected more systematic effects of identification. The theoretical and methodological problems associated with identification are complex; however, the phenomenon is important enough and the findings here suggestive enough to warrant further investigation.

Policy Implications

The above discussion centers on theoretical implications and methodological issues of this research. However, the findings also have policy implications which are discussed in this section.

First, it should be noted that the findings reported here neither indict nor acquit television as an influence on children's behavior. The relationships between television use and social behavior found in this research are quite modest. While the magnitude of television effects reported here may have been deflated by methodological problems, it cannot be said on the basis of the data reported here that television exposure and identification with television characters are major determinants of children's social behavior.

This research shows that prosocial and antisocial television are roughly equal in their impact on children and that prosocial television mitigates the effects of antisocial television. Therefore, children's viewing of prosocial television is good not only for promoting desirable behaviors, but also for diminishing undesirable behaviors.

The data used here indicate that there is a substantial amount of prosocial behavior portrayed on television. Further, in the 15 programs used here, several were dominated by prosocial content. Assuming that the proportion holds across the entire television schedule, it would be possible for children to watch an ample amount of television

while seeing very little antisocial behavior.

However, the high correlations among the exposure and behavior indexes of the various behavior types indicate that children do not make program or identification choices on the basis of behavior type. (Perhaps it is encouraging that they do not systematically prefer antisocial television.) Thus, it appears that some sort of intervention may be necessary to assure that children have healthy television diets.

Efforts to gain such assurance through legislative or regulatory processes have been unsuccessful largely because restriction of free expression is contrary to the First Amendment. Also, efforts to change programming through public pressure have met with little success. At least content analyses have not detected major declines in the amount of television violence over the past years (Gerbner, 1977). Recent interest shown by the American Medical Association and the National Parent-Teachers Association may still have impact, but there is little evidence of this as yet.

Critics of television have perhaps focused too much on the negative effects of the medium. Generally, critics have tried either to modify television content or to discourage television viewing. If efforts were made to inform parents that prosocial television can promote prosocial behavior and may serve as an antidote to antisocial television, a significant portion of parents might begin to supervise their children's television viewing more closely.

If this supervision resulted in encouragement for watching prosocial programs rather than discouragement of watching television at all, this would be reflected in ratings of specific programs. The networks, which are sensitive to ratings, might then respond by competing for the "prosocial market." This is, of course, an extremely optimistic scenario, but it could be pursued with very little risk and might work where other efforts have apparently failed.

Another policy implication of the current research deals with the prevalence and effects of televised verbal aggression. Much of the criticism of television and a large portion of the research on the medium focuses on "violence," generally what has been termed physical aggression in this research. The data reported here shows that verbal aggression is extremely common and that viewing of this behavior is associated with its performance.

In television content verbal aggression is not necessarily associated with physical aggression. Several situation comedies (e.g., All in the Family, Sanford and Son) are high in verbal aggression, but low in physical aggression. Verbal aggression is the most common behavior in the CBS showcase prosocial program for children, Fat Albert and the Cosby Kids. Gabe Kotter, one of the most chosen television models in this research, is relatively high in his frequency of verbal aggression. Programers and parents should be made

aware of the high frequency of verbal aggression, the fact that it is not necessarily associated with physical aggression, and its possible impact on children's behavior.

Parents should also be advised about the curvilinear interaction of identification with television characters and exposure to television. It may generally be assumed that identification increases exposure effects and that children should be encouraged to aspire to be like prosocial characters and not like antisocial characters. The findings in this research suggest that such encouragement may not have the desired effects because both strong acceptance and strong rejection of televised role models appear to lead to learning from television. The findings here do not allow for a clear recommendation concerning how parents should approach their children's identification with television characters. However, it is clear that the area should be approached with some circumspection.

Conclusion

In the introduction to this research, it was noted that some past research has shown that use of prosocial television can increase prosocial behavior while other past research has shown that use of antisocial television can increase antisocial behavior. However, since both types of behavior are frequently portrayed on television, it is difficult to predict the overall impact of the medium on the

basis of past research. Three possibilities were outlined in the introduction: (1) the medium could concurrently teach both types of behavior to all children; (2) because of differences in television use patterns, the medium could teach prosocial behavior to some children and antisocial behavior to others, and (3) use of both types of content could cause potential effects to cancel out. In light of the findings reported here, what can now be said about these possibilities?

First, it appears that the medium may teach both prosocial and antisocial behavior to all children. The data show that children's exposure to the specific behaviors examined is positively associated with performance of those same behaviors supporting this contention. However, the finding that exposure to any behavior is positively associated with performance of any behavior calls this interpretation into question. While it is possible that children learn a wide variety of behaviors by imitating television characters, it is equally possible that the medium operates by heightening arousal which in turn heightens performance levels of all types of behavior. This arousal process, while clearly an effect of the medium, could hardly be termed learning. The data presented here do not allow for a clear separation of arousal and imitation effects. Therefore, further research will be needed before a definitive statement can be about the simultaneous teaching of pro- and antisocial behavior via television.

This research precludes the possibility that some children learn primarily prosocial behavior because they systematically use prosocial television while others learn primarily antisocial behavior because they systematically use antisocial television. The high correlations between prosocial and antisocial exposure and identification indicate that children do not systematically use one or the other type of content. This may be due in part to the fact that most television shows and characters manifest both types of behavior. However, some shows and characters portray almost exclusively prosocial behavior while others portray relatively large proportions of antisocial behavior. In principle, then, children could choose shows to watch or characters with whom to identify on the basis of the type of behavior they portray. The evidence reported here indicates that children do not use this criterion for their choices of programs to watch or characters with whom to identify. Thus, the possibility that different groups of children learn different types of behavior from television seems to be precluded.

The third possibility--that mixed television use causes potential effects to cancel out--remains plausible in light of this research. Indeed, the fact that most children get very mixed diets of television may account for the relatively low associations between television use and performance of the behaviors investigated here. The finding that

prosocial exposure mitigates the effects of antisocial exposure indicates that at least some cancellation occurs. Also, it is possible that mixed viewing causes imitative effects to cancel but leaves arousal effects free to operate.

In summary, it appears that this research precludes the possibility of differential learning among different groups of children, but leaves two other possibilities open. Of these remaining possibilities cancellation of effects with the concurrent operations of arousal processes appears to be the most plausible. However, further research is needed to disentangle imitation and arousal effects and to document either the simultaneous teaching of pro- and antisocial behavior or the cancellation of potential effects.

APPENDIX A

QUESTIONNAIRE

TELEVISION SURVEY

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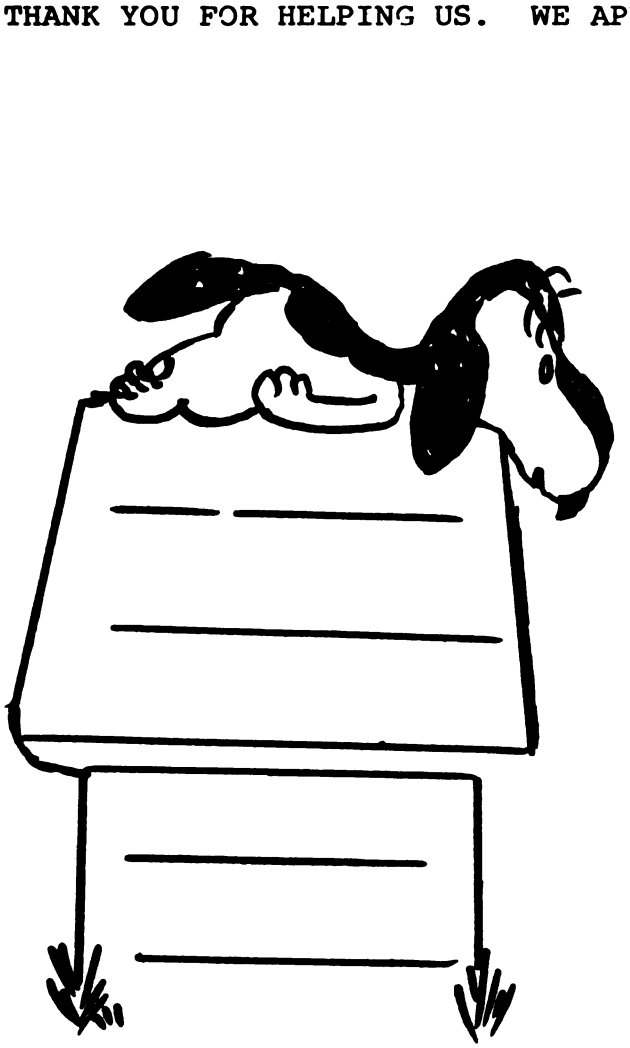
QUESTIONNAIRE

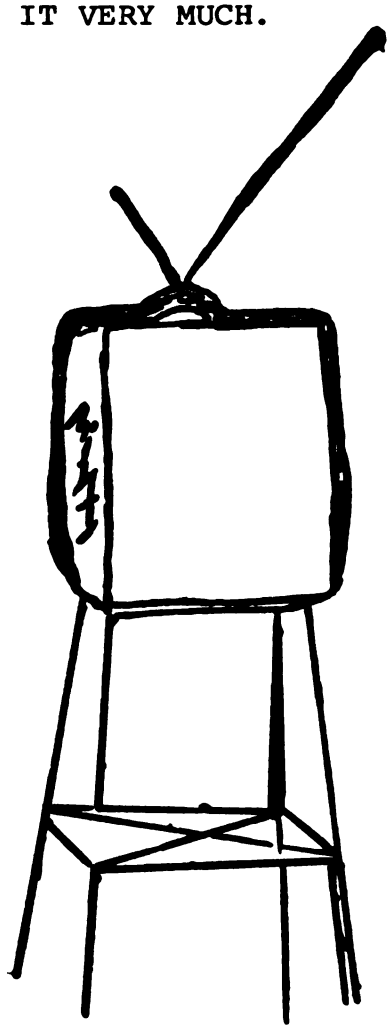
TELEVISION SURVEY

TODAY WE WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT WHAT YOU WATCH ON TELEVISION. WE ALSO WANT TO FIND OUT ABOUT THINGS YOU DO WITH YOUR PARENTS AND YOUR FRIENDS. WE ARE DOING THIS SURVEY WITH MORE THAN ONE THOUSAND STUDENTS IN MICHIGAN, WISCONSIN, AND CALIFORNIA.

THIS IS NOT A TEST, SO THERE ARE NO RIGHT OR WRONG ANSWERS. YOUR ANSWERS WILL NOT BE SHOWN TO YOUR TEACHER OR YOUR PARENTS--ONLY THE RESEARCHERS AT THE UNIVERSITY WILL SEE THE SURVEYS. PLEASE BE HONEST WHEN YOU ANSWER THE QUESTIONS, SINCE WE WANT TO KNOW WHAT YOU REALLY THINK.

PLEASE WORK QUICKLY, BUT BE SURE TO ANSWER ALL THE QUESTIONS. THANK YOU FOR HELPING US. WE APPRECIATE IT VERY MUCH.





Here is a list of some programs on TV this year. About how often do you watch each of these shows? For each program, make one check to show whether you watch every week, most weeks, some weeks, or never.

		EVERY WEEK	MOST WEEKS	SOME WEEKS	NEVER
SUNDAY NIGHT	Six Million Dollar Man.	☐	☐	☐	☐
	Kojak.....	☐	☐	☐	☐
MONDAY NIGHT	Rhoda.....	☐	☐	☐	☐
	All in the Family.....	☐	☐	☐	☐
TUESDAY NIGHT	Happy Days.....	☐	☐	☐	☐
	Good Times.....	☐	☐	☐	☐
	LaVerne and Shirley....	☐	☐	☐	☐
	The Rookies.....	☐	☐	☐	☐
	Police Woman.....	☐	☐	☐	☐
WEDNESDAY NIGHT	Little House on the Prairie.....	☐	☐	☐	☐
	Bionic Woman.....	☐	☐	☐	☐
	Chico and the Man.....	☐	☐	☐	☐
	Starsky and Hutch.....	☐	☐	☐	☐

		EVERY WEEK	MOST WEEKS	SOME WEEKS	NEVER
THURSDAY NIGHT	The Waltons.....	☐	☐	☐	☐
	Welcome Back Kotter...	☐	☐	☐	☐
	Hawaii Five-0.....	☐	☐	☐	☐
FRIDAY NIGHT	Sanford and Son.....	☐	☐	☐	☐
	Rockford Files.....	☐	☐	☐	☐
SATURDAY NIGHT	Jeffersons.....	☐	☐	☐	☐
	Emergency.....	☐	☐	☐	☐
	Mary Tyler Moore.....	☐	☐	☐	☐
	S.W.A.T.....	☐	☐	☐	☐
	Bob Newhart.....	☐	☐	☐	☐
SATURDAY MORNING	Hong Kong Phooey.....	☐	☐	☐	☐
	Bugs Bunny/Roadrunner.	☐	☐	☐	☐
	Pink Panther.....	☐	☐	☐	☐
	Shazam.....	☐	☐	☐	☐

		EVERY WEEK	MOST WEEKS	SOME WEEKS	NEVER
SATURDAY MORNING	Isis.....	☐	☐	☐	☐
	Fat Albert.....	☐	☐	☐	☐

On an average Saturday morning, about how many hours do you usually spend watch TV?

NUMBER OF HOURS: 0 1/2 1 1 1/2 3 3 1/2 4 4 1/2 5

On an average school day, about how many hours do you usually spend watching TV before supper?

NUMBER OF HOURS: 0 1/2 1 1 1/2 3 3 1/2 4 4 1/2 5

On an average school day, about how many hours do you usually spend watching TV after supper?

NUMBER OF HOURS: 0 1/2 1 1 1/2 3 3 1/2 4 4 1/2 5

Here is a list of names of people on television. Draw a circle around the names of people you <u>want to be like</u>. Draw a line through the names of people you <u>don't</u> want to be like. If you don't care, just leave the name without marking it.

1. STEVE AUSTIN -- on The Six Million Dollar Man
2. LAURA -- on Little House on the Prairie
3. LAVERNE -- on Laverne and Shirley
4. CHARLES INGALLS -- the father on Little House on the Prairie
5. PEPPER ANDERSON -- on Police Woman
6. HONDO -- on S.W.A.T.
7. OLIVIA WALTON -- the mother on The Waltons
8. GEORGE JEFFERSON -- on The Jeffersons
9. CAPTAIN MARVEL -- on Shazam

10. MAUDE -- on Maude

11. MARY RICHARDS -- on The Mary Tyler Moore Show

12. GABE KOTTER -- the teacher on Welcome Back Kotter

13. JAIME -- the Bionic Woman

14. DIXIE MCCALL -- the nurse on Emergency

15. MIKE STIVIK -- on All in the Family

16. MARGARET "HOT LIPS" HOOLAHAN -- on M*A*S*H

17. ED BROWN -- on Chico and the Man

18. JOHN-BOY -- on The Waltons

19. STEVE MCGARRETT -- on Hawaii Five-0

20 ISIS -- on the Isis Show

When you are watching police and detective programs (like Police Woman, S.W.A.T., or Rockford Files), how much do you watch by yourself and with other people?

A. How much do you watch police-detective programs with your parents?

ALMOST ALWAYS USUALLY SOMETIMES ALMOST NEVER

B. How much do you watch police-detective programs by yourself?

ALMOST ALWAYS USUALLY SOMETIMES ALMOST NEVER

C. How much do you watch these programs with your brothers or sisters?

ALMOST ALWAYS USUALLY SOMETIMES ALMOST NEVER

Here are some things your parents might have told you about police-detective programs when you were a little younger. How many times have they said these things?

How often have your parents . . .	Parents said this:		
A. Told you these stories are make believe.....	OFTEN	SOMETIMES	NEVER
B. Explained that the bad guy will get punished in the end...	OFTEN	SOMETIMES	NEVER
C. Told you that it's OK for the hero to beat up people.....	OFTEN	SOMETIMES	NEVER
D. Said you shouldn't copy the bad things that people do on TV.....	OFTEN	SOMETIMES	NEVER
E. Said that TV heroes have good reasons for hurting other people.....	OFTEN	SOMETIMES	NEVER
F. Remind you that people in these shows are just actors and are not really getting hurt.....	OFTEN	SOMETIMES	NEVER
G. Explained that fighting isn't the best way to solve problems in real life.....	OFTEN	SOMETIMES	NEVER
H. Said that the bad guys really deserve to get beat up.....	OFTEN	SOMETIMES	NEVER
I. Said that people on TV shouldn't hit and shoot each other like that.....	OFTEN	SOMETIMES	NEVER
J. Told you that things are like this in real life.....	OFTEN	SOMETIMES	NEVER

How often have your parents . . . Parents said this:

K. Explained that tough guys always get what they want on these shows..... OFTEN SOMETIMES NEVER

L. Said they like the way TV stars act so mean..... OFTEN SOMETIMES NEVER

We are interested in why kids watch TV. Here are some reasons that other people gave us for watching television. Please tell us how much each reason sounds like you:

	How much is this like you?		
	A LOT LIKE ME	A LITTLE LIKE ME	NOT LIKE ME
I watch TV because it excites me.....	☐	☐	☐
I watch TV so I can learn how to do new things.....	☐	☐	☐
I watch because it's a pleasant rest.....	☐	☐	☐
I watch TV because it teaches me things I don't learn in school.....	☐	☐	☐
I watch because it relaxes me...	☐	☐	☐
I watch because it shows me how other people deal with the same problems I have.....	☐	☐	☐
I watch TV because it's thrilling.....	☐	☐	☐
I watch because it shows me how I'm supposed to act.....	☐	☐	☐

Are you a boy or a girl? BOY GIRL

We want to know how you felt about the show you just watched. Tell us whatever you thought about it--there are no right or wrong answers.

1. Have you ever seen fights like this one on TV at home?

YES NO

2. How much did you like watching that fight on the TV show you just saw?

VERY MUCH PRETTY MUCH NOT MUCH

3. How excited did you get while you were watching the fight?

VERY EXCITED PRETTY EXCITED NOT EXCITED

4. When you were watching that guy get beaten up, how much did you feel like getting even with someone who you are mad at?

VERY MUCH PRETTY MUCH NOT MUCH

5. How rough did you think that fight was in the TV show?

VERY ROUGH PRETTY ROUGH NOT ROUGH

6. Do you think it was O.K. for those three guys to beat up the sheriff?

YES MAYBE NO

7. How real did you think that fight was in the TV show--was it like fights in real life?

VERY REAL PRETTY REAL NOT REAL

8. In real life, how many people settle problems by getting into fist fights?

MOST PEOPLE SOME PEOPLE NOT MANY PEOPLE

9. If a real policeman stole money from someone, do you think that the person's friends would beat up the policeman?

YES MAYBE NO

10. What do you think will happen to those guys who beat up the sheriff at the end of the TV show . . . Do you think they will get in trouble?

YES MAYBE NO

11. Do you think it was a smart thing or a dumb thing for those guys to beat up the sheriff?

SMART THING NOT SURE DUMB THING

12. Suppose you beat up some kid on the way home from school. Do you think that you would get in trouble?

YES MAYBE NO

Here are some things that might happen to you sometime. Tell us what you would do if these things happened.

1. What if someone cut in front of you in a long line. What would you do to them?

Would you push them out?..... YES MAYBE NO

Would you yell at them?..... YES MAYBE NO

Would you beat them up later that day? YES MAYBE NO

2. Suppose someone played a real dirty trick on you. What would you do?

Would you hit them?..... YES MAYBE NO

Would you play a trick on them?..... YES MAYBE NO

Would you yell at them?..... YES MAYBE NO

3. What if you're playing a game and you keep making mistakes. Then your friends start making fun of you, and you get really mad at them.

Would you call them a bad name?..... YES MAYBE NO

Would you throw something at them?.... YES MAYBE NO

Would you go someplace else?..... YES MAYBE NO

4. Suppose two of your friends are having a big fight on the playground.

Would you join in the fight?..... YES MAYBE NO

Would you cheer them on?..... YES MAYBE NO

Would you try to get them to stop?.... YES MAYBE NO

5. Some kid is mad at you and picks a fight with you on the way home from school.

Would you try to discuss the problem?. YES MAYBE NO

Would you fight with them?..... YES MAYBE NO

Would you say mean or nasty things to them?..... YES MAYBE NO

6. You're walking down the street when you see a little kid playing with a bunch of toys on the sidewalk. You accidentally step on one of the toys and break it. Then the kid starts yelling at you.

Would you tell the kid you'll hit him if he doesn't stop yelling?..... YES MAYBE NO

Would you give the kid one of your toys?..... YES MAYBE NO

Would you yell back at the kid?..... YES MAYBE NO

7. You are playing a ball game and one kid hits you on the head with the ball while you aren't looking.

Would you throw the ball at the kid?.. YES MAYBE NO

Would you scream bad names at the kid? YES MAYBE NO

Would you kick or scratch the kid?.... YES MAYBE NO

8. You are walking down the street and drop a dollar bill. Another kid grabs the money and won't give it back.

Would you start a fight with the kid?. YES MAYBE NO

Would you yell at the kid?..... YES MAYBE NO

Would you throw rocks or sticks at the kid?..... YES MAYBE NO

9. You find out that someone has been telling all your friends that you are stupid.

Would you just forget about it?..... YES MAYBE NO

Would you say bad things about the person?..... YES MAYBE NO

Would you hit or scratch the person?.. YES MAYBE NO

10. You worked really hard to finish your homework for school. Some kid takes your papers and rips them up.

Would you shout at the kid?..... YES MAYBE NO

Would you beat up the kid?..... YES MAYBE NO

Would you tell the teacher?..... YES MAYBE NO

APPENDIX B

ITEM ANALYSIS FOR CRITERION MEASURES

APPENDIX B

ITEM ANALYSIS FOR CRITERION MEASURES

Table B1

Item Analysis for Children's Altruistic Behavior

Frequency Distribution for Altruism Items*

Questionnaire Location			
Page	Item		
4	3-B	1.	Suppose one of your favorite relatives comes to town to visit your family. What would you do when you see her? Would you help her take off her coat? yes(3)33% maybe(2)39% no(1)28%
5	1-B	2.	What if a friend is feeling bad because they keep making stupid mistakes while trying to play a new game. Would you help them learn the rules. yes(3)82% maybe(2)16% no(1) 2%
5	5-B	3.	What if your friends are playing a new game and really need one more person to play. Would you help them find another player? yes(3)34% maybe(2)45% no(1)21%
6	2	4.	In the last week how many times did you share something of yours with someone else? didn't (1) 6% 1 or 2 (2)21% 3 or 4 (3)35% 5 or 6 (4)23% 7 or more (5)15%

*N=721. Numbers in parentheses indicate coded value. Percentages may not equal 100 because of rounding error.

Table B1 (cont'd.)

Page	Item		
6	7	5.	In the last week how many times did you try to make somebody feel better?

didn't	1 or 2	3 or 4	5 or 6	7 or more
(1)13%	(2)38%	(3)28%	(4)12%	(5) 9%

7	4	6.	In the last week how many times did you do a favor to help someone?	

didn't	1 or 2	3 or 4	5 or 6	7 or more
(1)11%	(2)35%	(3)32%	(4)15%	(5)12%

9	3	7.	If someone asks to borrow something of yours, how often do you say yes? (contingent report)	

almost always	usually	sometimes	almost never
(4)33%	(3)40%	(2)23%	(1) 4%

9	5	8.	How often do you help people pick things up after they've dropped them? (contingent report)	

almost always	usually	sometimes	almost never
(4)16%	(3)30%	(2)42%	(1)13%

10	3	9.	When things need to get done, how often do you join others to finish the job? (contingent report)	

almost always	usually	sometimes	almost never
(4)22%	(3)37%	(2)35%	(1) 6%

10	4	10.	How often do you help people after they've asked for help? (contingent report)	

almost always	usually	sometimes	almost never
(4)34%	(3)44%	(2)21%	(1)2%

Table B1 (cont'd.)

Item Statistics — correlation matrix

	mean	sd.	1	2	3	4	5	6	7	8	9	10
1.	1.95	0.78	----									
2.	2.80	0.44	.18	----								
3.	2.14	0.73	.24	.26	----							
4.	3.20	1.12	.17	.16	.11	----						
5.	2.65	1.12	.24	.20	.25	.39	----					
6.	2.91	1.10	.23	.16	.15	.44	.46	----				
7.	3.01	0.85	.15	.16	.11	.24	.25	.24	----			
8.	2.49	0.90	.23	.20	.27	.23	.27	.30	.32	----		
9.	2.76	0.86	.07	.15	.16	.18	.19	.24	.26	.30	----	
10.	3.09	0.79	.13	.19	.22	.21	.20	.25	.32	.33	.34	----
average correlation			.19	.19	.20	.24	.27	.27	.23	.27	.21	.25
*peer validity			.13	.16	.11	.11	.04	-.05	.18	.13	.13	.17
**mother validity			-	.08	.18	.05	.12	-	-	-	-	-

Index Statistics

average correlation	.23
reliability (alpha)	.75
mean	27.00
standard deviation	4.95
range	10-40

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*Peer validity is the correlation between the sum classmate nominations and respondents who "help" and "share" with the indicated item. N=252

**Mother validity is the correlation between the children's responses to hypothetical questions and their mothers' assessments of what the children would do. N=293

Table B2

Item Analysis for Children's Affection Behavior

Frequency Distribution for Affection Items*

Questionnaire Location Page	Item		
4	3-A	1.	Suppose one of your favorite relatives comes to town for a visit. What would you do when you see her? Would you give her a hug? (hypothetical) yes(3)42% maybe(3)33% no(2)25%
6	1-D	2.	What if a friend is feeling bad because they keep making stupid mistakes while trying to play a new game. Would you say you still like them anyway? (hypothetical) yes(3)78% maybe(2)16% no(1) 6%
6	3	3.	In the last week how many times did you tell someone that you like them? (behavior report) didn't (1)21% 1 or 2 (2)37% 3 or 4 (3)20% 5 or 6 (4)10% 7 or more (5)13%
7	5	4.	In the last week how many times did you show your mother that you love her? (behavior report) didn't (1)16% 1 or 2 (2)29% 3 or 4 (3)22% 5 or 6 (4)11% 7 or more (5)22%
9	4	5.	When you see someone that you really like a lot how often do you hug or kiss them? (contingent report) almost always (4) 9% usually (3)11% sometimes (2)30% almost never (1)50%

*N=721. Numbers in parentheses indicate coded values. Percentages may not equal 100 because of rounding error.

Table B2 (cont'd.)

Item Statistics correlation matrix

	mean	sd.	1	2	3	4	5
1.	2.16	0.80	----				
2.	2.72	0.56	.15	----			
3.	2.55	1.27	.25	.16	----		
4.	2.93	1.39	.35	.21	.38	----	
5.	1.79	0.96	.29	.01	.26	.19	----
average correlation			.26	.13	.25	.28	.23

Index Statistics

average correlation	.22
reliability (alpha)	.59
mean	12.16
standard deviation	3.22
range	5-20

Table B3

Item Analysis for Children's Expressive Behavior

Frequency Distribution for Expressiveness Items*

Questionnaire Location			
Page	Item		
4	4-C	1.	What if someone cut in front of you in a long line. What would you do? Would you tell them why that makes you mad? (hypothetical) yes(3)38% maybe(2)25% no(1)37%
4	3-C	2.	Suppose one of your favorite relatives comes to town to visit your family. What would you do when you see her? Would you say you're glad she came? (hypothetical) yes(3)28% maybe(2)39% no(1)33%
5	1-C	3.	What if a friend is feeling bad because they keep making stupid mistakes while trying to play a new game. Would you explain that you know how they feel? (hypothetical)
5	3-C	4.	You work really hard to finish your homework for school. Some kid takes your papers and rips them up. Would you tell them you feel mad? (hypothetical) yes(3)60% maybe(2)19% no(1)21%
7	2-	5.	In the last week how many times did you tell another person how you feel inside? (behavior report) didn't (1)47% 1 or 2 (2)35% 3 or 4 (3)11% 5 or 6 (2)5% 7 or more (1) 2%

*N=721. Numbers in parentheses indicate coded value. Percentages may not equal 100 because of rounding error.

Table B3 (cont'd.)

Page	Item		
9	7	6.	When you feel sad, how often do you try to explain your feelings to someone? (contingent report)

almost always	usually	sometimes	almost never
(4)11%	(3)13%	(2)31%	(1)46%

10	5	7.	When you are feeling happy, how often do you try to tell others why you feel that way? (contingent report)

almost always	usually	sometimes	almost never
(4)15%	(3)22%	(2)32%	(1)31%

Table B3 (cont'd.)

Item Statistics			correlation matrix						
	mean	sd.	1	2	3	4	5	6	7
1.	2.00	0.87	----						
2.	2.64	0.60	.18	----					
3.	2.26	0.72	.30	.27	----				
4.	2.39	0.81	.41	.18	.31	----			
5.	1.80	0.97	.13	.15	.20	.16	----		
6.	1.87	1.00	.19	.20	.27	.22	.45	----	
7.	2.21	1.04	.19	.16	.22	.22	.31	.43	----
average correlation			.23	.18	.26	.25	.23	.29	.26

Index Statistics	
average correlation	.24
reliability (alpha)	.69
mean	15.18
standard deviation	3.61
range	7-25

Table B4

Item Analysis for Children's Verbal Aggression

Frequency Distribution for Verbal Aggression Items*

Questionnaire Location			
Page	Item		
4	1-B	1.	What if someone cut in front of you in a long line. What would you do? Would you yell at them? (hypothetical) yes(3)30% maybe(2)45% no(1)25%
4	2-C	2.	Suppose you are playing a ball game and one kid throws a ball at your head while you're not looking, and it hits you. Would you shout bad names at the kid? (hypothetical) yes(3)27% maybe(2)32% no(1)41%
4	4-A	3.	You are walking down the street and drop a dollar bill. Another kid grabs the money and won't give it back. What would you do? Would you yell at the kid? (hypothetical) yes(3)62% maybe(2)27% no(1)11%
5	5-B	4.	What if a friend is feeling bad because they keep making stupid mistakes while trying to play a new game. Would you say mean things to them? (hypothetical) yes(3) 2% maybe(2)14% no(1)84%
5	3-A	5.	You work really hard to finish your homework for school. Some kid takes your papers and rips them up. Would you shout at the kid? (hypothetical) yes(3)69% maybe(2)21% no(1)10%

*N=721. Numbers in parentheses indicate coded value. Percentages may not be equal to 100 because of rounding error.

Table B4 (cont'd.)

Page	Item		
6	1	6.	In the last week how many times did you say mean or nasty things to someone? (behavior report)

didn't	1 or 2	3 or 4	5 or 6	7 or more
(1) 9%	(2)35%	(3)25%	(4)14%	(5)17%

Page	Item		
6	6	7.	In the last week how many times did you yell or scream at someone? (behavior report)

didn't	1 or 2	3 or 4	5 or 6	7 or more
(1)19%	(2)33%	(3)24%	(4)13%	(5)14%

Page	Item		
9	6	8.	When someone makes you really mad, how often do you tell them that you'll get them back? (contingent report)

almost always	usually	sometimes	almost never
(4)24%	(3)23%	(2)31%	(1)25%

Table B4 (cont'd.)

Item Statistics			correlation matrix							
	mean	sd.	1	2	3	4	5	6	7	8
1.	2.04	0.74	----							
2.	1.85	0.81	.25	----						
3.	2.51	0.68	.37	.24	----					
4.	1.18	0.43	.09	.26	.08	----				
5.	2.58	0.67	.35	.30	.54	.03	----			
6.	2.96	1.24	.21	.40	.19	.21	.15	----		
7.	2.76	1.28	.23	.29	.20	.19	.15	.52	----	
8.	2.40	1.08	.16	.18	.14	.17	.13	.17	.21	----
average correlation			.24	.27	.25	.15	.23	.26	.25	.17
*peer validity			.03	.14	.10	.10	.02	-.01	.01	.17
**mother validity			-.06	.07	.08	.00	-	.17		

Index Statistics	
average correlation	.23
reliability (alpha)	.70
mean	18.29
standard deviation	4.09
range	8-28

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*Peer validity is the correlation between the number of classmate nominations of respondents who "say mean things" with the indicated item. N=252

**Mother validity is the correlation between the children's responses to hypothetical questions and their mother's assessments of what the children would do. N=293

Table B5

Item Analysis for Children's Physical Aggression

Frequency Distribution for Physical Aggression Items*

Questionnaire Location			
Page	Item		
4	1-A	1.	What if someone cut in front of you in a long line. What would you do? Would you push them out? (hypothetical) yes(3)27% maybe(2)49% no(1)24%
4	2-A	2.	Suppose you are playing a ball game and one kid throws the ball at your head while you aren't looking and it hits you. Would you hit the kid with the ball? (hypothetical) yes(3)25% maybe(2)23% no(1)51%
4	2-B	3.	Suppose you are playing a ball game and one kid throws the ball at your head while you aren't looking and it hits you. Would you kick the kid? (hypothetical) yes(3)13% maybe(2)23% no(1)65%
4	4-B	4.	You are walking down the street and drop a dollar bill. Another kid grabs the money and won't give it back. What would you do? Would you start a fight with the kid? (hypothetical)
4	4-C	5.	You are walking down the street and drop a dollar bill. Another kid grabs the money and won't give it back. What would you do? Would you throw something at the kid? (hypothetical) yes(3)17% maybe(2)28% no(1)56%

*N=721. Numbers in parentheses indicate coded value. Percentages may not be equal to 100 because of rounding error.

Table B5 (cont'd.)

Page	Item		
5	3-B	6.	You work really hard to finish your homework for school. Some kid takes your papers and rips them up. Would you beat up the kid? (hypothetical) yes(3)39% maybe(2)28% no(1)34%
6	4	7.	In the last week how many times did you push or shove someone? (behavior report) didn't (1)28% 1 or 2 (2)33% 3 or 4 (3)18% 5 or 6 (4)10% 7 or more (5)12%
7	3	8.	In the last week how many times did you hit, pinch, kick, or scratch someone? (behavior report) didn't (1)35% 1 or 2 (2)32% 3 or 4 (3)15% 5 or 6 (4)6% 7 or more (5)11%
9	2	9.	When someone hits you first, how often do you fight back? (contingent report) almost always (4)36% usually (3)23% sometimes (2)28% almost never (1)12%

Table B5 (cont'd.)

Item Statistics			correlation matrix								
	mean	sd.	1	2	3	4	5	6	7	8	9
1.	2.02	0.72	----								
2.	1.74	0.84	.35	----							
3.	1.48	0.71	.24	.34	----						
4.	2.10	0.84	.41	.45	.22	----					
5.	1.61	0.76	.30	.39	.38	.46	----				
6.	2.07	0.85	.38	.49	.27	.72	.41	----			
7.	2.45	1.31	.33	.33	.15	.42	.32	.42	----		
8.	2.25	1.30	.19	.23	.19	.27	.22	.29	.48	----	
9.	2.84	1.04	.30	.31	.17	.52	.25	.53	.40	.27	----
average correlation			.31	.36	.25	.43	.34	.44	.36	.26	.34
*peer evaluation			.17	.17	-.02	.28	.16	.36	.17	.09	.27
**mother validation			.09	.02	-.07	.26	.06	-	-	-	-

Index Statistics	
average correlation	.34
reliability (alpha	.70
mean	18.54
standard deviation	5.44
range	9-32

*Peer validation is the correlation between the number of classmate nominations of respondents who "hurt" others with the indicated item. N=252

**Mother validation is the correlation between the children's responses to hypothetical items and their mothers' assessments of what the children would do. N=293

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