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ABSTRACT

Three studies examine the impact of different types of television content on the social behavior of children at various ages. The studies represent research into the interrelated problem of the processes involved in media effects and age-related differences. In the first study an action-adventure program, in which a character's reputation and loved ones were threatened, was edited into two versions and shown to two sample groups. In one version the hero responded with physical aggression and in the other with constructive nonviolent efforts. The second study focused on the effects of ambiguity in the dramatic context for modeled aggressive behavior. One version of a program presented the aggressive character as unequivocally evil, while a second version presented scenes which made him appear both good and bad. The third study examined how the dramatic context in which aggression appears can modify the negative effects of aggression. Results indicate that the character who uses constructive coping strategies may have more impact on young viewers than violent character; that the dramatic context of a program can modify the impact of the aggressive action; and that if young viewers see an aggressive character with both good and bad qualities, the impact of his aggression is greater. (Author/DE)

# ASPECTS OF TELEVISION CONTENT AND CHILDREN'S SOCIAL BEHAVIOR

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TABLE OF CONTENTS

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## Word About Reading This Report

This document is an attempt to summarize twelve months' worth of thinking, background research, data collection and analysis. Consequently, a great deal could have been recorded. However, it is also an effort to make that year-long endeavor comprehensible and its yield useful to readers, whether they be social scientists, child development professionals, television production specialists, or interested citizens (perhaps the parents and teachers of children who watch television). While we have not tried to "popularize" the contents of our research, we have tried to make this report straightforwardly understandable, on the one hand, while providing enough information to satisfy more technical readers, on the other.

One thing that may make it easier to get to the substance of the report is the organization. The text proper carries quite a few statistics, but only enough tables and figures to illustrate our main findings. The less focal data presentations have been put into appendices, where those who want to scrutinize the work more thoroughly can retrieve them. In those latter sections, we have tried to present what is needed to make an adequate archive of the research in our program.

A further aid to the reader, we think, is our final chapter. Here we try to summarize the main findings of our studies of aspects of television content and comment on them in terms of their potential usefulness to the average user. We hope we have not made unnecessarily obscure some results which we believe should make less obscure our knowledge of the world of television as children perceive and respond to it.

# Chapter 1

## Introduction

More than a decade ago, some well-known researchers into the effects of television on children concluded that the answer to their inquiry "depends at least as much on what the child brings to television as on what television brings to the child" (Schramm, Lyle, & Parker, 1961, p. 74). They were speaking to indications that children's social and emotional needs often influence the amount and kind of their exposure to television content. Indeed, some of the 1950's cycle of television research with children (for a review, see Maccoby, 1964) provided some evidence that children who have strained family relationships and show poor social adjustment spend somewhat more time with television than their happier counterparts. But those happier children watched television, too; in fact, television watching is very close to being a universal experience of growing up in this society (Lyle, 1972).

It is also an experience that seems, by most accounts, to be quite influential for the vast child audience. The recent resurgence of interest in the social effects of television on children inspired a body of studies (Murray et al., 1972; Comstock & Rubinstein, 1972; Comstock et al., 1972; Feshbach & Singer, 1971; Friedrich & Stein, 1973; Rubinstein et al., 1972) directed primarily toward determining whether viewing of television violence causes subsequent aggressive behavior. The more than twenty studies done under the aegis of the Surgeon General's Scientific Advisory Committee on Television and Social Behavior generally converged on the conclusion that a "moderate" causal relationship does exist between violence viewing and later aggression in children of different ages. However, neither these studies nor isolated efforts (e.g., Kapkiewicz & Roden, 1971; Osborn & Endsley, 1971; Steuer et al., 1971) have provided much evidence about relevant practical concerns, such as

the particular effects of program characteristics on children of different ages. Indeed, this aspect of "what children bring to television" -- their age-related skills and tendencies -- has been almost totally neglected in media-effects studies. In their understandable concern with the relevant issue of a general causal relationship, previous researchers have neglected equally important and vital questions about processes involved in media effects and the implications of these processes for developmental differences in the impact of the mass media. The studies reported in this volume represent attempts to consider the interrelated problem areas of processes and age-related differences. The goal is to assess the variable effects of television on the highly diverse audience in a more differentiated way.

Some background considerations

The resources available in social and developmental psychology for analyzing the effects on children of an audiovisual experience like television drama are, in the 1970's, considerable. The fact that children learn much about social behavior from observing the social behaviors of others has been well documented (for example, see reviews by Bandura, 1973; Bryan & Schwartz, 1971; Goranson, 1970; Liebert, Neal, & Davidson, 1973). The documentation accrues not only from studies showing that aggressive behaviors become more likely after viewing an aggressive model (Feshbach & Feshbach, 1972), but also from those demonstrating that helpful, altruistic behaviors can be influenced by a model who behaves in those more "prosocial" ways (Rosenhan, 1972). For the most part, these data are soundly grounded in the theoretical formulation of observational learning, or contiguity-mediational, theory (Bandura 1965b, 1969, 1973). This notion that social behaviors may be learned, disinhibited, or otherwise facilitated simply by watching another person perform them has

obvious implications for the study of television, which makes it possible for the average child to encounter an enormous number and variety of social models that he/she would otherwise be unlikely to encounter. In short, the theory and data of observational-learning theory provided a basic concept of the process by which television effects occur.

"Modifying" the effects of social models. One aspect of that process involves the modifying effects of the context in which a modeled behavior is shown. Both specially made films used in laboratory studies and more complex presentations like television programs contain: (1) social behaviors which may be observationally learned or have disinhibiting effects, along with (2) information that may modify these effects. For example, modeled social behaviors are modified by variables outside the viewing situation (e.g., arousing events, target availability, similarity to modeling context, etc.), and in the viewing situation itself (distraction, presence of a sanctioning co-observer, etc.), as well as by cues within the media presentation itself. The latter include motivation or justification for the modeled behavior, consequences to the model and receiver of the behavior, divergent or convergent information within the plot about the modeled behavior, and, undoubtedly, the amount of information being presented, the rate at which it is shown, etc. Of these intra-presentation factors, motivation and consequences for the modeled behavior (typically, aggression) have been studied most often and with most consistent results (Collins, 1971). In general, aggressive modeling increases the likelihood of an observer's aggressive behavior more when the model is rewarded or receives no consequences (relatively positive consequences) than when the model is punished (relatively negative consequences) (Bandura, Ross, & Ross, 1963c; Bandura, 1965a; Walters, Parke, & Cane, 1965). Subsequent aggression

is also more likely when the actor's motives are positive, rather than relatively negative (Berkowitz, Corwin, & Hieronimus, 1963; Berkowitz & Geen, 1967; Berkowitz & Rawlings, 1963). In short, accompanying motivations and consequences act to modify the effect of modeled behavior.

The case for age differences.

In the simple stimuli used in these laboratory studies, it is relatively easy for even very young viewers to see the relationship between these modifying cues and the acts, like aggression or altruism, that they are supposed to modify. The cues are typically contiguous with action and are relatively explicit. But in complex presentations, such as television dramas or most real-life modeling experiences, the modifying cues themselves are often subtle, inexplicit, and noncontiguous with the focal act. Consequently, comprehensions of action, motives, and consequences are more likely to be different for different viewers.

Although television-effects researchers -- and indeed observational-learning theorists in general -- have not been very attentive to differences like these, we believe that they can and should be incorporated into a view of television's effects on children's social behavior. Bandura (1965b) has proposed a now-familiar cognitive-mediator concept suggesting that when a child observes a string of behaviors, he/she has probably had to code observations in words or images. These "reductive codes" of what has been seen are then stored away and can be called up later to serve as a guide for the performance of the behavior. In other words, the child -- or adult -- integrates what has been seen into a simple code to guide him/her when he/she tries to do the same thing.

It's only a short step from that idea to the notion that it might also be

necessary to integrate cues like motives and consequences into a code along with the action. But viewers of different ages may not be equally successful in understanding those cues or in relating them to the focal behavior (e.g., aggression). That is, they can't have an integrated understanding of what they've seen if their cognitive capabilities are not such that they can do the necessary sub-tasks. Their cognitive mediator may be the result of only the aggression, or only the aggression and consequences, but without the motive. It follows that they may subsequently behave differently from the viewer whose cognitive mediator is more complete. The potential usefulness of the mediator concept is, then, that it allows us to explain different behavioral effects of the same complex presentation. It does so because differences in what a child does after watching television are viewed as possibly being the result of differences in the content of the mediator and resulting evaluations of the action -- in other words, as a result of their understanding of what they've seen.

One of the important dimensions of these differences is age, and a consideration of television effects in terms of age takes us beyond the general question, "Does television affect children?" to a more differentiated one, "How does television affect children of different ages, and through what processes?" Two major aspects of age-related changes in children's responses to television have been particularly characteristic of our previous research.

One has to do with changes in the cognitive skills that children must use to comprehend content. By this, I mean their skills in handling the information in dramatic presentations, including perhaps their abilities to make appropriate inferences about the inter-relationships of scenes within plots that are sometimes subtle and complex.

For example, in one study (Collins, 1970) we identified the information in a television program that adults thought was absolutely central to the plot and then asked third, sixth, seventh, and ninth graders questions about both the central and the less essential information. We found that children as old as third graders remember only a small proportion of the information that adults consider essential to retelling the plot of a TV program. But as they grow older, there seems to be a progressive increase in their ability both to know what is important in the plot and to be able to focus on that important information while ignoring non-essential content. This selective ability is clearly crucial in achieving a mature conception of television content, but our results indicate that it comes only gradually and that third graders may very well take away a different message -- or at least a less complete one -- than ninth graders do.

In another study (Leifer et al., 1971), we showed a film of a simple fairy-tale to four-, seven-, and ten-year olds and then asked them to reconstruct the sequence of events in the plot. Four-year-olds could scarcely order the three most central scenes from the program correctly. Although the children all performed very well on much longer sequences of scenes by the time they were ten, it is almost alarming that children as old as four apparently remember scenes in random order, if they remember them at all. It makes it very unlikely, for example, that they can comprehend that aggression may have been caused by a particular earlier happening, and, in fact, we found that our youngest children could not correctly answer questions about characters' reasons for their actions. Dorothy Flapan has reported similar improvement in the ability to specify causal relationships between scenes in her book, Children's Understanding of Social Interactions (1968).

The implications of these cognitive factors for the effects of television aggression come through in the findings of Leifer and Roberts (1972) in their work for the Surgeon General's Report. They found that children's knowledge of the motives and consequences for aggression improved dramatically with age. Kindergarteners answered questions about motives and consequences at about chance level, but accurate knowledge increased in a rather linear fashion up to high-school age.

In some recent work (Collins, Berndt, & Hess, in press), we have considered age-related changes in children's conceptions of a TV program in somewhat more detail than other studies have. We showed an edited version of an aggressive television program to kindergarten, second, fifth, and eighth graders, we then interviewed them to get at their memory for the plot and their understanding of the motives of the main characters and the consequences of their actions.

The aspect we were most interested in was what we called comprehension; that is, the extent to which aggression was construed in terms of its relevant context -- the aggressor's motives for committing the aggression and the consequences to him. Kindergarteners typically recalled only the aggressive action; quite often, their entire retelling of the plot consisted of "Some people got killed" or "Well, there was lots of shooting and this boy got killed". But the older subjects associated, first, consequences, then motives, and finally, the full complex of motives and consequences with retelling the aggressive action. So these older viewers, but not the younger ones, understood that A had killed B for a certain reason and, as a result, had been arrested and tried.

These results show that what children understand from this particular television content is obviously patterned according to age. It seems clear that these different understandings reflect cognitive growth involving things

like learning of task-relevant cues, aspects of memory, improvement in selective-attention and inferential abilities, and so forth -- all age-related skills for understanding and evaluating program content.

Although these studies did not go on to measure effects on behavior, some evidence exists (Collins, 1973a) of behavioral differences that appear to be related to these kinds of age differences in comprehension and evaluation. In this work, real television programs were edited to vary the ease with which the action of an aggressive model could be related to cues about the actor's motives and the consequences to him. Third, sixth, and tenth graders saw either a television program in which negative motives and consequences were separated from aggression by commercials, or they saw the negative modifying cues in contiguity with the aggression.

The Separation group subsequently became more aggressive than the No-Separation group at the third-grade level. These differences did not hold for the sixth and tenth graders in the study. Apparently, for the Separation third graders, the separating commercials interfered with comprehension of aggression in terms of negative motives and consequences, so that the aggression stood alone -- unmodified -- as a model for behavior. But temporal contiguity of the three scenes seemed to make the comprehension task easier for the other group of third graders. Older subjects apparently could handle the cognitive difficulties imposed by separation, so that their comprehensions of the act under Separation were essentially the same as those formed under temporal contiguity. Presumably, these cognitive differences are similar to the kinds of age-related differences in comprehension and evaluation in the earlier studies. Taken together, those data and this latter evidence of differences in behavioral effects suggest that variations in comprehension may mediate variations in the

effects of observing social interaction, as the cognitive-mediator concept implies. In other words, in order to study the effects of television on children, you have to consider how the content of the program may be understood by them at different ages, with different cognitive capabilities.

A second source of variation in the effects of television programs may be age-related changes in the bases for evaluating social acts in general. Piaget's (1965) moral judgment paradigm is a good example of these kinds of age-related changes. He tested children with pairs of stories, one of which described a character engaged in an action which caused little damage, but which was done for bad reasons, the other of which described the character as well motivated but having accidentally caused a substantial amount of damage. Young children typically thought the character who caused the most damage was the more reprehensible of the two, while older children -- say, ten or eleven or older -- judged the action on the basis of the actor's intentions. A number of other studies fairly consistently show a major shift at about age nine or ten from consequences-based to motive-based evaluations of actions (Armsby, 1971; Hebble, 1971; King, 1971). This finding holds up in the case of television viewing. In the Collins, Berndt, and Hess study, we found a trend away from primarily consequences-based judgments toward judgments involving the actors' motives as well.

These bases for social judgments are the same factors I have already described as modifying the effects of observation on behavior -- motives and consequences. Thus, the implication is that if the motive and consequences cues are inconsistent, behavioral effects might be different for children of different ages. For example, children may observe a situation in which positive consequences follow a negatively motivated social act. Assuming that the act itself does not (as killing does) strongly imply negative evaluation, this situation might lead

to developmental differences in subsequent performance, because of the strong tendency of younger viewers to judge an act on the basis of consequences, rather than motives.

Modeling context and television effects. The obvious importance of the context in which a social act like aggression or constructive coping is seen in television shows and the evidence that understanding and using contextual cues is age-related suggests that there are typical aspects of television content that demand a level of sophistication that younger viewers often do not have. Our research was built around three questions about the role of context in children's responses to shows:

1. Does a televised context of interpersonal threat or conflict make children more likely to be hostile or aggressive, regardless of the way the televised model handled his situation?
2. Does the complexity, or ambiguity, of the context make comprehension and evaluation of modeled acts, like aggression, more difficult for younger than older viewers? In other words, is a young child who gets "mixed" cues that an actor is good and that he is bad more likely to rate him more positively and be influenced by his behavior than an adolescent who sees the same "mixed" message or than another child who sees only the "bad guy" cues?
3. Finally, does a verbal "reminder" or restatement of the modifying context in relationship to the modeled behavior make it more likely that viewers who have not understood it when viewing alone will comprehend the "message" of

the program? Or to put it another way, if parents or others tell a young child that aggression was committed for bad reasons and remind him that it led to bad consequences, can you overcome the "temporal-separation effect" found in earlier studies (Collins, 1973b)?

Our attempts to answer these questions are, respectively, the studies reported in Chapters 3, 4, and 5. They are the heart of the report. But before they are presented, the research program itself deserves comment: what were the broad outlines of our strategy for answering these three questions about typical aspects of television content?

Chapter 2

# Explaining the Impact of Television: General Procedures and Measures

The effects of television on children have been studied in a variety of ways, ranging from large-scale survey/correlational studies that take advantage of natural settings to tightly controlled laboratory experiments that enable clear causal inferences. Our research goals required that we use methods that fall toward the latter end of that range. We were interested in the role of the dramatic context on the effects of aggression and other social behaviors in television shows. The questions were clearly couched in terms of the processes that we assumed to be involved in the effect of typical aspects of television content and, more particularly, different outcomes to which those processes may lead because of the age-related capabilities of child viewers. Consequently, we needed procedures for testing specific predictions about the effects of particular instances of content upon children of specified ages.

The approach we devised might be called developmental-explanatory with a strong "naturalistic" flavor (with apologies to Flavell, 1963, pp. 2-3). It consisted of conducting experiments where some control over events was possible; but we preferred relatively natural settings that were familiar to the subjects, rather than a laboratory situation. Thus, we tested them in their classroom buildings in small viewing groups composed of their classmates. Furthermore, this approach involved selecting stimulus materials from television fare which is readily available to children and which they frequently watch. And, perhaps most importantly, it involved the participation of subjects across the range of grade-school and high-school students.

From the outset then, the studies shared three major characteristics:

(1) They used real television content. The stimuli were dramatic action/adventure programs intended for a general audience. That is, we did not test content produced expressly for children, such as the programs produced by the Children's Television Workshop, Misterogers Neighborhood, or even Saturday-morning cartoons. We were interested in programs produced with the adult audience in mind, but which are available to children and are frequently consumed by them. As it happened, the shows we drew from were police-action dramas, which are among the favorite programs of children across the age range we tested (Lyle & Hoffman, 1972). The programs were edited to enable us to test our predictions about the effects of different aspects of the contexts of social acts.

(2) They were developmental in nature. Subjects were chosen from a general age range of 7-16 years, and hypotheses reflected expected differences in comprehension and behavioral effects of the programs across ages. This characteristic of the studies indicates again our commitment to a more differentiated understanding of the diverse "child" audience.

(3) Finally, the research program reflected a basic conception of television research as an oscillation between laboratory and field work. Our view is that the naturalistic conditions of stimulus selection and viewing that we adopted for "ecological-validity" reasons were not always well suited to some of the more detailed questions about processes of mass media effects. Therefore, an effort was made to supplement the findings of experiments in relatively natural settings with more controlled laboratory investigations. These supplementary investigations were not part of the work funded by the Office of Child Development; hence, they will not be reported fully here. However, they were useful in the on-going research process of which the OCD-funded studies were a part, just as these experiments in natural settings played a role in an

interactive research enterprise.

In short, our research plan reflected the special nature of the problem we were attacking. Our goal was to answer a series of questions about the effects on children of different ages of typical characteristics of the contexts in which models of social behavior are often portrayed on television. We pursued them in a series of experiments in natural settings in which we not only varied contexts and models to learn more about their various effects, but in which we studied the responses of grade school children and adolescents. Thus, we had comparisons between contrasting instances of content and comparison of the responses of children of different ages to those different contents.

## Measuring Effects of Content

Our major concern was the outcomes of the processes, mitigated by age differences, on indicators of children's social behavior. Television-effects studies have typically focused on antisocial outcomes, and we, too, were interested in behaviors considered potentially hurtful or damaging to others (see Bandura, 1973, for a discussion of definitions of aggression). But we also wanted to consider outcomes somewhat more broadly. Recent work on the effects of the variety of television programs available to children (Friedrich & Stein, 1973) have indicated that content that can generally be called "prosocial" -- meaning fare emphasizing helpfulness, altruism, self-acceptance, etc. -- also has potentially important social effects on young children. Furthermore, some of the aspects of television content in which we were interested implied that other outcomes besides aggression should be considered. Thus, we endeavored to find measurement instruments that would permit us to assess not only aggressive behavioral tendencies, but also the likelihood that more positive social behaviors would occur as the result of some kinds of television-viewing experiences.

Accordingly, we employed two measures in our studies, both of which carried the potential for subjects to respond in both "aggressive" and "prosocial" ways. Both measures had previously been used in studies of the effects of television on children of different ages. They were selected, following a survey of previously used measures (see Gecy, 1974), partly because, compared to other available measures, they promised to be equally valid indicators of the potential for aggressive and/or prosocial responding by our subjects across the age range to be studied.

The Behavior-Potential Instrument.

The first measure was a paper-and-pencil test designed to elicit subjects' verbal estimates of their responses to a wide range of hypothetical interpersonal conflict situations. The measure was developed by Leifer and Roberts (1972), who give a detailed description of its construction.

The basic instrument. Briefly, it consisted of six basic items that described real-life situations which had been found, in interviews with children between ages four and sixteen, to be irritating and moderately likely to elicit aggression from them. Each situation was accompanied by four types of responses, formulated on the basis of children's responses to interview questions such as "What do you do when you get mad?". The four response categories were physical aggression, verbal aggression, "leaving the field," and positive coping with the situation. Specific instances of each category (e.g., "Hit them," "Call them a bad name," "Go into the house," and "Tell them not to . . .") were randomly assigned to the six hypothetical situations.

All possible pairs of stick-figure pictures of instances of the four alternatives for each situation were presented on slides. The subjects circled the alternative from each pair that they thought they were likely to perform.

Situations were presented in random order, with responses separately randomized. The six items, along with the response alternatives for each are presented in Appendix B. An example of the paired-comparison response sequence for one of the items is shown in Appendix A, as are instructions to the subjects and a subject response form.

Scores on the Behavior-Potential measure were the average frequencies with which a subject chose one of the four alternatives over the six items. For example, a child might choose the physical aggression alternative an average of 2.5 times (out of a maximum possible average of 3.0) and the positive coping response only 1.33 times. In short, the measure indicates the relative likelihood of a subject's favoring an aggressive, rather than a positive coping, response after seeing a television program in either the experimental or control conditions.

Modifications of the instrument. The Behavior-Potential measure has primarily been used in previous studies as an indicator of the likelihood of aggressive behavior (Collins, 1973b; Leifer & Roberts, 1972). However, our broader conception of social-behavior effects in this series of studies required that the positive coping index be employed as well. The instances of positive coping in the original instrument were felt not to be good reflections of the concept of positive social behaviors that we wanted to tap. Our guideline was the work of Chittenden (1942) in which the doll-play behaviors of nursery-school children were rated "prosocial" on the basis of the extent to which they attempted to use techniques of negotiation and discussion in solving interpersonal conflicts. Unfortunately, two of the existing Behavior-Potential positive coping responses ("Tell the teacher" and "Say that's alright") did not seem to reflect the constructive methods of conflict resolution that we wanted

to measure. The other instances of the category, "Tell them not to . . . " and "Ask why . . . " seemed closer to our goal. Therefore, we attempted to modify the positive coping response category to reflect our particular meaning for "prosocial" behavior.

After a careful review of Leifer and Roberts' instrument-development procedures, we repeated some of them with a slight variation. They had simply constructed the four general response categories based on children's responses to very general questions like, "What do you do when you get mad?" We asked the same question of fourth, seventh, and eleventh graders with whom we conducted interviews; but we also asked them a more specific question: "What would you do if you wished to remain friends with the person (initiating the conflict)?" In addition, we described three of the situations from the Leifer and Roberts instrument to the subjects and asked them to choose one of four positive coping alternatives (instances of asking why, asking advice, bargaining, or verbalization of feeling). These categories followed the analysis of Chittenden (1942). A fuller description of the interview procedures is presented in Appendix B.

The most commonly mentioned responses to the interview questions were of the "Ask why . . . " and "Tell them not to . . . " variety. This was also true for the multiple-choice procedure. Interestingly, these responses had also been frequently obtained by Leifer and Roberts in their original interview procedure, but these particular responses had been slighted in the process of randomly assigning positive coping instances to situations and in the strategies for choosing the six-item set which constituted the final instrument. Because of our more specific requirements of the instrument, however, we felt justified in substituting "Ask why . . . " and "Tell them not to . . . " responses for the less conceptually appropriate ones, "Tell the teacher" and "Say that's alright."

We also felt it was appropriate to make slight wording changes in some of the situations and responses to make them more contemporary, less humorous, or more appropriate.

Nevertheless, we repeated Leifer and Roberts' procedure of administering the revised instrument to a sample of fourth, eighth, and tenth graders and applied the original item-selection criteria to the results. The pattern of aggressive response selections were not especially different from the pattern that appeared with Leifer and Roberts' original sample (see Appendix B for a comparison). The original Leifer and Roberts instrument can also be compared with our revised version in Appendix B.

Validity indices. The Behavior-Potential instrument was previously used to obtain interesting and replicable results in at least one published study (Collins 1973b). However, consistent validity indices have not been established for it. Leifer and Roberts (1972) administered a version of the Behavior-Potential instrument to one-half of a sample of four-year-olds who had seen either a filmed aggressive model or nonaggressive model. Frequencies of imitative and nonimitative overt aggressive behaviors were recorded for the remaining subjects. The authors report that subjects in the aggressive-model conditions showed more aggression potential than those in the nonaggressive condition. The data were consonant with data from the overt-behavior measure. In attempts to validate the instrument with older subjects (13-year-olds), no condition differences were found for either the aggression-potential or the overt-behavior measures. Leifer and Roberts' own work did not yield findings that demonstrate the discriminating ability of the instrument, but it is plausible that this was due to their particular stimuli and predictor variables.

The "Help-Hurt" measure.

The second measure assessed the willingness of the subjects to help or hurt another (fictitious) child, whom they believed to be working on a sound-discrimination task in another room. Measures similar to this one have been used in previous studies, notably those by Mallick and McCandless (1966) and by Liebert and Baron (1972).

The measure involved a subject's being seated at a response-box apparatus similar to the one used in the precedent studies. A gray box, measuring approximately 14 by 7 inches, had two buttons, a red button on the left and a green one on the right, and a red light centered above them. The word "hurt" appeared beneath the red button, the word "help" beneath the green button. A drawing of the apparatus appears in Appendix C.

Children were told that each box was connected to a testing apparatus in another room and that a student was using it to take a sound-discrimination test. Although subjects could neither see nor hear their alters, they were told that the lights on their boxes would flash whenever the alter made an error on the hearing test. The subject could then decide to push one of the two buttons. They were told that the red "hurt" button would hurt the alter's performance by making a distracting background noise louder, while the green button would help the alter by eliminating the distracting noise. They were also told that the longer they held down either button each time the light flashed, the more they helped or hurt the alter's performance. The four boxes were separated from each other by screens to prevent subjects' noticing that all four lights flashed simultaneously for twenty trials. They also wore safety earphones so as not to hear the activity of the other subjects. Experimenters' instructions are shown in Appendix C.

The entire procedure for testing each subject was controlled in an adjacent room so as to produce 20 trials. Each trial lasted for 15 seconds, and there was a 15 second interval between trials. This timing was automated by an electronic timer attached to the response apparatus. Each subject's response on each trial (that is, whether he/she pushed the Help or the Hurt button) and the duration of that response were automatically recorded by an Esterline-Angus pen recorder. This device was attached to the timer, so that the duration of a response could be determined with an accuracy of .1 second.

Four scores were computed for each subject on the basis of Help-Hurt responses. (1) Frequency of Hurt and (2) Frequency of Help responses consisted of the number of times out of 20 trials that the Hurt and the Help buttons were pushed. Subjects were instructed to push only one button on each trial and to push that button only once. However, they were free to hold the button down as long as they wished. In the cases of multiple button pushes per trial only the first push was counted. Multiple-responding was a rare occurrence. (3) Hurt-Duration and (4) Help-Duration scores were the total amount of time each of the two buttons was depressed over the 20 trials. Only the duration of the button pushes included in the frequency count for each button were added into total-duration scores.

Validity indices. The measure was assumed to reflect potential for either aggressive or prosocial -- in this case, helping or supportive -- behavior. It is similar to the sanctioned-shock measures familiar from the Buss aggression machine (Buss, 1961) and the "learning study" format employed by Berkowitz in many of his studies (e.g., Berkowitz & Geen, 1967). It is different from those measures in a significant respect, however: it does not limit responding to alternatives that would produce pain or injury to others, but includes a more

positive alternative which the subject is perfectly free to choose. Of course a third alternative also exists: not responding at all. In other words, responses on this measure should reflect subjects' own interpersonal tendencies at the time of testing. And, since testing follows exposure to typical television content, Help-Hurt performance should be a valid indicator of children's interpersonal inclinations at that very typical point in their experience. Liebert and Baron (1972) in their study of the effects of a brief televised aggressive sequence, used both the Help-Hurt measure and an observational measure of play with aggressive toys. They found the same treatment differences between children who had seen the aggressive scenes, compared to those that had seen the nonaggressive scenes, with both measures. However, the aggressive-play situation, which did not involve a second child, real or fictitious, also yielded sex and age interactions, indicating that 5-6 year old boys showed the comparative effect much more strongly than either 5-6 year old girls or 8-9 year olds of either sex.

Although consistent validity indices for subjects across the age range of children we tested are not available for either of the two measures alone, the use of both of them in all three studies enabled us to compare the results they yielded in our experimental program. These comparisons will be made in the discussion of the research reports to follow in Chapters 3, 4, and 5.

General procedures.

The three studies proceeded according to the same general format. There were variations, of course, particularly in the study described in Chapter 5; but for the most part, the major steps were the same.

Upon arrival in the classrooms, the experimenter randomly assigned students to several groups. An effort was made to keep the number of males and females in each group proportional to the number of males and females in the class. To

minimize the effects of particular classrooms, the groups were randomly assigned to different experimental conditions. In other words, a given classroom contributed equally to several of the conditions in the study. Details of the procedure for the three studies can be found in the chapters devoted to them and in the allied appendices.

The groups then saw different videotapes played back on a Sony CV-2200 videocorder and seen on a 19" black-and-white television monitor. After viewing, the subjects were told that the experimenters wanted their help with several tasks and that they would be divided into groups to work on the tasks simultaneously. They were then randomly assigned to be tested according to one of the two dependent measures, the Behavior-Potential or the Help-Hurt.

One male and one female from each of the viewing groups were then asked to help in a hearing study. Once they were seated at the Help-Hurt response appartus (described above, pp. II-8ff.), the experimenter gave them the following instructions:

> You are going to help us by operating these machines. As you can see, each machine has one light at the top and two buttons below, one labelled HELP and the other labelled HURT. Now, each of your machines is connected to a student in another room who is taking a test. When a student makes a mistake on the test, the light at the top of your machine will come on and stay lighted up for awhile. The test is hard so the person might make a lot of mistakes and your light might come on several times The test is difficult partly because there is a background noise going on all the time which is distracting. The noise sounds like this. (E demonstrates a recorded low level irritating noise.) For each time you see the light come on, you must decide to push one of the two buttons. If you push the red button, the background noise which you heard before will become much louder. It will sound like this. (E demonstrates a recorded high level irritating noise.) This noise will hurt the person's ears and make it more difficult for them to take the test. If you push the green button, the noise will stop completely. This will help the person because he won't be so distracted. You can help the person a little by pressing the green button for a short time while the light is on. You can help him a lot by pushing the button for a longer time. Or you can hurt the person a little by pressing the red button for a short time, and hurt more by pressing for a longer time.

After the experimenter completed the instructions, he remained in the room, but was seated with his back toward the subjects.

Each subject's light then flashed 20 times, and they could depress either the Help or the Hurt button once on each trial. The number of times each button was pushed and the length of time it was held down were automatically recorded by an Esterline-Angus pen recorder attached to the response box.

The remaining subjects in the condition groups from each classroom completed the Behavior-Potential measure. They were given the following explanation:

> I'll read a short description of something that could happen to you. Then I want to know what you would do about it. When I've read the description, I'll show some slides. Each slide will have two pictures on it, one marked A and the other marked B. Take your answer sheet and circle A if picture A shows what you'd do, and circle B if picture B shows what you'd do in the situation. We want to know what you really would do if it happened to you -- not what you think you should do. This is not a test; it is a survey. There aren't any right or wrong answers. So please look only at your own paper. Some of the situations might not sound like something you would do, but we are using this survey with younger children as well as people your age and it is worded so that everyone can understand. You can only choose one picture at a time, so please choose carefully. Sometimes you won't want to choose either picture, but please choose one anyhow. There will be six slides for each situation. Remember -- we want to know what you would do in each situation and not what you think you should do.

After completion of both measures, subjects were asked if they had any questions about the procedures and their questions were answered. Subjects then generally answered questions designed to assess their understanding of the videotape they had viewed. Older subjects typically responded in writing to open-ended questions (e.g., "What did (the heroes) do to change Mick's mind?"). Younger subjects' questions had two fixed-alternative responses.

When the comprehension testing was completed, subjects were returned to their classrooms. The entire procedure ordinarily took 45-50 minutes.

# Chapter 3

## Effects of Alternative Modeled Responses to Threat Situations -- Study I*

The chief tenet of observational learning theory -- that the learning or disinhibition that occurs after viewing a model is the result of the particular behavior sequences which the model has performed -- is also the premise of most research into the effects of television on children. The major summary of the recent round of television-effects research (Liebert, Neal, and Davidson, 1973) unequivocally attributes the effect of both aggressive and prosocial models to the particular behaviors the model showed. However, in very complex presentations like television dramas, many other socially relevant scenes and presentation styles characteristically exist along with the aggression or other social behavior by which the program is characterized. Aggression almost invariably exists in a plot that is generally action-filled and exciting; while prosocial behaviors are often featured in slower-paced, quieter entertainment. Consequently, it is difficult to determine if it is the behavioral model per se, or the presentation style in which such models typically occur, that is responsible for the effects that have been recorded.

A good example of this confusion between context and modeled behavior occurs in a valuable study recently reported by Friedrich and Stein (1973). They showed "diets" of television programs -- either aggressive, prosocial, or neutral -- to groups of nursery-school children over a period of several weeks. The results showed dramatic differences in the interpersonal play and self-regulatory behaviors of the children in the contrasting groups. However, not only did the different types of behavioral models in their two main "diets" differ, but the context in which they were presented varied in ways that might

*This study was conducted in collaboration with Suzanne Hasper Gecy.

have influenced the results. For example, the Batman and Superman cartoons in the aggressive diet were action-filled and exciting, while the prosocial diet of Misterogers Neighborhood programs was slower-paced, quieter entertainment. In addition, the authors themselves note that the possibly greater subtlety and complexity of the prosocial programs may have influenced their results (Friedrich & Stein, 1973, p. 57). This "confounding" of models and contexts was quite justified by the goals of Friedrich and Stein's research program, but it leaves open the question of whether the general tenor of the prosocial presentation or the modeling of prosocial behavior accounts for the strikingly different behaviors that this "diet" group showed in comparison with their aggressive-diet counterparts.

This issue is especially relevant to assessing the effects of programs that show non-aggressive, but assertive coping reactions to problem situations. Studies of aggression-modeling effects often involve stimuli in which the model responds to a conflict or threat situation (Gerbner, 1972). But neither laboratory experiments (Rosenhan, 1972) nor television-effects studies in other settings have examined the effect of prosocial models in these dramatic situations. Consequently, it is possible that the effects of prosocial models may not extend to situations that are typical of aggressive programs. One reason for this is that the provocation in such dramas may itself be arousing and thus inimical to the prosocial behavior exemplified by the model. The work of Tannenbaum and Gaer (1965) lends credence to the possible arousing effects of provocation by showing an increase in affective response by their subjects who had just seen a provocation depicted. Berkowitz's (Berkowitz & Geen, 1967; Berkowitz & Rawlings, 1963) demonstrations of the performance-enhancing effects of alleged provocation for an aggressive model's behavior suggest a similar

conclusion. An alternative possibility is that successful prosocial responses to depicted provocation would enhance subsequent prosocial responding by viewers. Davitz's (1952) classic demonstration of the effectiveness of training constructive responses to frustration, while not entirely analogous to prosocial modeling in response to depicted provocation, nevertheless does suggest that a source of arousal may energize whatever behavior has previously been learned or disinhibited, whether through direct training or observational learning.

The first study in our program was designed to assess the impact of particular modeled behaviors, rather than their contexts, in the effects of television dramatic presentations. A single television drama was edited such that the major difference between two versions was the response, either aggressive or constructive, to the same provocation. Although there was no reason to expect developmental differences in responses to these contrasting versions, subjects at three age levels were tested in order to estimate the generality of effects across age.

## METHOD

### Subjects

The subjects were fourth, seventh, and tenth graders from a suburban Minneapolis school district. All students who had obtained written permission participated. The 395 subjects were drawn from six classrooms at each of the three grade levels. They included 65 male and 71 female fourth graders (mean age = 9 years, 8 months; range = 9,4 - 11,0), 67 male and 51 female seventh graders (mean age = 13,0; range = 12,2 - 14,4), and 77 male and 64 female tenth graders (mean age = 16,1; range = 15,3 - 17,0). The school district was predominantly middle-class, and more than 95% of the subjects were white.

Stimuli

A 22-minute action-adventure television program depicting an intense interpersonal conflict was edited into two versions. The conflict centered on a police captain who, while acting as legal guardian for a young boy, was framed on a bribery charge by the boy's gangster uncle. In the Aggression version the police captain responded to the threat by refusing to cooperate with investigators, and by confronting the gangster himself. This version was distinctive in that two scenes, both involving fist-fighting and one involving gunfire, were included. In the Positive Coping version, the aggressive scenes were replaced with three scenes showing investigators gathering clues and collaborating on a solution to the problem. No aggression was included. Additional minor variations occurred in the two versions in order to preserve dramatic continuity in each. The basic threat-depicting scenes appeared in both versions. Commercials were removed from the edited programs. A more detailed summary of the two versions appears in Appendix D (Table D-1).

Control subjects saw a documentary about ecological balance on the African savanna. This program included no modeling of interpersonal behaviors. To equalize the length of tapes, two commercials about the production and use of energy were inserted in the control tape.

Procedures

Experimenters. Two white females conducted the study. Each experimenter was assisted by an equipment operator who was a white female, and a white male.

Exposure to the stimulus. The experimenter randomly divided the class into two groups, each with half of the males and half of the females in the class. To minimize classroom effects, the two groups from each classroom were randomly assigned to some two of the three conditions (Aggressive, Positive Coping,

Control). The comprising of the three condition groups in this fashion is illustrated in Appendix D (Table D-2).

Response measures. After viewing, subjects were randomly assigned to receive one of the two dependent measures, the Behavior Potential or the Help-Hurt. One male and one female from each of the two conditions in each classroom were measured according to the Help-Hurt procedure described in Chapter II. The remaining subjects in each condition responded to the Behavior Potential instrument. The number of subjects in each condition at each grade level who were tested by each of the two measures is shown in Appendix D (Table D-3).

After the administration of these two measures was completed and subjects' questions were answered, all subjects answered questions about the plot and characters of the program. Copies of the instruments are shown in Appendix D.

## RESULTS

When the dramatic context is held constant, as in the two edited programs, both prosocial and aggressive models affect the behavior patterns of the children who see them, and the effects are consistent with the behavior of the models.

### Constructive coping

Children were significantly more likely to choose positive responses on the Help-Hurt measure after seeing the Constructive Coping program than after either the Aggression or Control programs. Prosocial response means are shown in Figure 1. A three-way analysis of variance (sex X grade X condition) showed a significant effect of conditions on the number of Help responses children delivered ($F=3.65$, $df=2.36$, $p < .05$). Newman-Keuls comparisons of means (Winer, 1962) indicated that children who viewed the Constructive Coping sequence gave more Help responses than children who viewed either the Aggressive

or the Control programs ($p < .05$). Since Aggression condition viewers did not differ from Control subjects ($p > .05$), the condition effect was probably due to the enhancing effect of the Constructive Coping version on prosocial responses, rather than the deleterious effect of the Aggressive condition. Parallel but nonsignificant condition differences were found for the Help-duration response measure ($F < 1$).

Frequency of Help responses increased with age ($F=7.26$, $df=2,36$, $p < .005$). Newman-Keuls comparisons of means shows that this effect is primarily due to a significant increase in helping from the fourth to the tenth grades ($p < .01$). Seventh graders' helping tendencies are not different from either older or younger subjects' ($p > .05$). However, there was no overall grade X condition interaction. This grade trend was not apparent on the Help-duration measure ($p > .05$).

There were no sex differences on either the frequency or the duration indices of helping ($F < 1$ for both).

No condition differences were apparent in the Positive Coping responses on the Behavior Potential measure ($F < 1$). The only significant effects in this analysis was for sex ($F=54.05$, $df=1,323$, $p < .001$), indicating that girls' positive coping scores were significantly higher than boys', and grade ($F=3.90$, $df=2,323$; $p < .025$), reflecting higher scores for seventh and tenth graders than fourth graders.

Aggressive behaviors

Condition effects on aggressive-behavior scores were also pronounced, as Figure 1 shows. Children who saw the Aggression program were significantly more aggressive than children in the Constructive Coping condition (Newman-Keuls, $p < .05$), although the Aggressive-Control difference was not significant ($p > .05$).

Thus, the Constructive Coping condition again appears responsible for condition effects on both frequency of Hurt responses ($F=3.55$, $df=2,36$, $p < .05$) and the Hurt duration measure ($F=3.54$, $df=2,36$, $p < .05$). Newman-Keuls comparison of means indicated that fourth graders' scores on both frequency and duration were significantly lower than tenth graders' ($p < .05$), but seventh graders were not significantly different from either of the other age groups ($p > .05$). No other main effects or interactions appeared in analyses of the Help-Hurt indices.

Condition differences did not obtain for physical-aggression scores on the Behavior Potential measure ($F=2.98$, $df=2,323$, $p > .05$). However, there was a significant effect of grade levels ($F=10.37$, $df=2,323$, $p < .001$), reflecting a pattern of means similar to the one reported above for frequency of Hurt and Hurt duration measures. There were also sex differences in the Behavior Potential physical aggression scores. Girls chose significantly fewer physical aggression responses than boys ($F=153.42$, $df=1,323$, $p < .001$).

To summarize, showing a constructive response to threat appears to influence strongly children and teenagers' willingness to be supportive and helpful to another person whom they can't see. It also significantly affects their unwillingness to give hurtful, interfering responses. In contrast, viewing an aggressive response to threat does not seem notably influential in changing young viewers' willingness to be either hostile or helpful. And neither an aggressive nor a constructive model affected their choices of how they would respond to hypothetical conflict situations.

Arousal

Since arousal is often thought to account for effects of mass-media violence, an analysis was performed to determine whether the prosocial and aggressive conditions were differentially arousing. If the positive coping

version proved to be less arousing than the aggressive and neutral versions, the contrasting effects of the two programs might be attributable to the differential arousal effects of the models, rather than to the specific disinhibition effects of their behaviors.

Consequently, an analysis of combined total duration of Help and Hurt scores, representing total button-pushing activity, was performed. This procedure was suggested by Liebert and Baron (1972), who employed it in the analysis of their own Help-Hurt data. There was no difference between conditions ($F < 1$) on this "activity index," indicating that condition differences in response patterns were probably not an artifact of different total amounts of responding.

## DISCUSSION

These results indicate that modeled constructive coping with provocation disinhibits more general prosocial responding and inhibits aggressive responding, while modeled aggressive responses to the same provocation have the reverse effect. Such findings strongly support the role of modeling in the social-behavior effects of television, which provides a variety of naturalistic social models to children.

The most plausible explanation for the contrasting effects of aggressive and prosocial models is the disinhibitory effects traditionally attributed to observational learning phenomena (Bandura, 1965b, 1973). Neither the effects of context nor differential arousing effects of the two models threaten this interpretation. The former is precluded by the fact that context was held constant; the two versions were essentially the same except for differences in modeled responses to provocation. The differential-arousal explanation is implausible because neither of the versions engendered more response activity than the other. It remains that the aggressive and prosocial models had rather

specific disinhibition effects on the response categories most similar to them.

One of the most provocative findings in the study is the indication that prosocial models may sometimes affect behavior more profoundly than aggressive models. Both "help" and "hurt" response patterns primarily reflected the enhancing effect of the Constructive Coping program on prosocial behaviors, rather than the aggression-facilitating effect of the Aggressive program. These findings do not necessarily conflict with the results of other studies that show disinhibiting effects of aggressive models, relative to nonaggressive controls (Liebert & Baron, 1972), and others that show the deleterious effects of aggressive models on self-regulation (Friedrich & Stein, 1973). Compared to the aggressive stimuli used in many other studies, the aggression in our Aggressive version was relatively weak. Since the aggressive condition was somewhat disinhibiting, it seems likely that the absence of significant disinhibiting effects is simply due to a conservative choice of aggressive stimulus. However, this does not invalidate the conclusion that under many naturally occurring conditions, prosocial models may be dramatically effective; and typical television plots carry great potential for showing such instances.

## Chapter 4

## Responses to Ambiguous Depictions Of Aggressive Characters and Actions -- Study II*

The fact that modeled behaviors are themselves important influences on social behavior does not mean that context is an unimportant determinant of modeling outcomes. As we said in Chapter 1, a large number of studies have documented the modifying power of context, the studies of the role of depicted motives for aggression and the consequences of it being the primary example.

Another aspect of the context for televised social acts has been implicated, but never convicted, in the varying effects of televised and real-life social models. That is the extent to which various cues about motives and consequences converge on an unambiguous inference about the model or his behavior. For example, an aggressor may be presented unequivocally as a "bad guy," or he may be a much more elusive character; he may sometimes seem good, sometimes bad, as "double-dealers" often do. In the first case, we can say that information in the program "converges" on an evaluation of the actor as negative; in the second, cues "diverge" and leave a certain amount of ambiguity in the viewer's mind.

A number of laboratory modeling studies bear on the conclusion that, if within the presentation there are divergent cues about the model's behavior, the outcomes of social learning may be deleteriously affected. In general, studies (primarily of non-aggressive behaviors) show that discrepancy between what the model does and what he either says should be done or forces the child to do decreases modeling of nondeviant behaviors (Rosenhan, Frederick, and Burrowes, 1968; Stein, 1967). The minimal suggested hypothesis for social

*This study was conducted in collaboration with Stephen A. Zimmermann.

learning of aggressive behaviors is that converging information about the depicted behavior will facilitate learning and performance more than diverging information will. A study by Hicks (1968) supports this suggestion. Hicks studied the effect of a co-observer's sanctions on the observer's imitation of aggression. He found more imitation in situations in which the model's behaviors were approved by the co-observer than in those in which they were disapproved. That is, the situations in which the co-observer's verbal approval for an action matched the model's performance of it elicited more performance by the viewer than the situations where co-observers' verbalizations and models' actions were mismatched.

Although these studies merely suggest sometimes dysfunctional aspects of divergence within the context of modeled behaviors, they do enable some predictions about modeling outcomes under such conditions. For example, if cues like motives and consequences scenes converge on the evaluation of an aggressor and his behavior as positive, then disinhibition of aggression should occur; if the convergence is toward a negative evaluation, then inhibition of aggressive behaviors should occur. However, if divergence occurs in either direction, the original prediction is weakened. Some hints that an otherwise "bad" guy may, in fact, be good or effective should make disinhibition somewhat more likely than if the basis for evaluation is unambiguous.

The study reported in this chapter was designed to test predictions like these. An action-adventure program that featured a very salient aggressive sequence was edited into two versions. In one version, motives and consequences cues were unambiguously negative, while in the second version some scenes could be interpreted as positive information about the double-dealing aggressive character. Generally speaking, we expected more disinhibition of aggressive

behavior for viewers of the more ambiguous version.

However, we also expected this adverse effect to be more pronounced for younger viewers than for older ones - those approaching adolescence, for instance. Our previous work has indicated that there is age-related improvement in children's ability to recognize and use the information relevant to social judgments (Collins, 1970, 1973b; Collins, Berndt, & Hess, in press; Leifer et al., 1971). Furthermore, as children approach adolescence, they also appear to increase in their ability to perform the intellectual tasks involved in weighing contradictory information (Elkind, 1967; Inhelder & Piaget, 1958; Peel, 1965). Consequently, for the younger of the two age groups in this study, second graders, we expected to find rather marked differences in post-viewing aggressiveness between the viewers of convergent and divergent versions of the program; but we did not expect to find significant differences between the two viewing groups at the older age level (sixth grade).

## METHOD

### Subjects

Subjects were 84 boys and 72 girls from the second (mean age = 8 years, 1 month; range = 7,7 - 8,6) and sixth (mean age = 12, 1; range = 11,7 - 13,5) grades of two suburban Minneapolis public schools. Number of subjects per grade and condition are shown in Appendix E (Table E-3).

### Stimuli

The stimulus films consisted of edited versions of a popular police-adventure television program. The story involved a rookie police officer's search for some guns stolen by a group of young demonstrators. In his search, the police officer kills a member of the demonstrator group, and is later taken

into custody by the police.

The convergent stimulus film was edited to provide motivation and consequences for an aggressive act that were judged to be negative by the experimenters. The negative motivations consisted of expressions made by the rookie police officer desiring to "get rid of" the young demonstrators. The negative consequences consisted of the police officer being tried and then taken away in a police car.

The divergent stimulus film was edited to provide a more complex portrayal of the main character's motivation and consequences to an aggressive act. It included cues which were both positive and negative. Motivations again included expressions made by the rookie police officer desiring to "get rid of" the young demonstrators, but also included overtures of friendship toward them. Consequences included showing the main character being taken away in a police car followed by a police captain's expressions of ignorance regarding what would happen to the rookie officer. Detailed summaries of the two versions appear in Appendix E (Table E-1).

Neither the motivation or consequence scenes were judged aggressive in either condition, so that they did not provide an alternative behavioral model of aggression.

Control subjects saw a nonaggressive nature film about African wildlife. This program was the same as the control stimulus in the previous study. Each of the three films was about 15 minutes long.

Procedures

The general procedure described in Chapter II was followed. The subjects in each classroom were randomly assigned to one of the three conditions (see Appendix E, Table E-2). They viewed either the Convergent or Divergent program

or the Control tape; and they were subsequently tested either with the Help-Hurt or the Behavior Potential measure. A breakdown of number of subjects in each grade and condition who were tested with each measure, can also be found in Appendix E (Table E-3).

Interviews. After completion of both measures subjects in the Divergent and Convergent conditions answered questions designed to assess their understanding of the videotape they had viewed and their evaluations of the actors and the aggressive action. A copy of the interview schedule and questionnaires are shown in Appendix E. Control subjects answered questions about their television viewing habits and preferences.

When the comprehension testing was completed, subjects were returned to their classrooms. The entire procedure took 45-50 minutes.

## RESULTS

The contrast between the ambiguous and unambiguous contexts for aggression produced striking contrasts in children's willingness to be aggressive themselves.

### Aggressive behaviors

An analysis of variance (sex X grade X condition) for the Hurt duration measure revealed a significant effect of condition ($F=4.10$, $df=2,74$, $p < .05$). A Newman-Keuls comparison of means showed that subjects in the Divergent condition were significantly more aggressive than either Convergent condition subjects ($p < .05$) and Control subjects ($p < .05$). As can be seen in Figure 2, complexity of cue portrayal in the divergent condition apparently did confuse viewers, and with the result that their tendency to deliver substantial aggressive responses on the Help-Hurt measure was enhanced.

The contrasting conditions did not affect the frequency with which Hurt responses were chosen, however. Although the mean Frequency of Hurt responses for the Divergent condition is slightly larger than the number of Hurts delivered in either the Convergent or Control conditions, it is not significantly so ($F < 1$).

There were no grade or sex effects for either the frequency or Hurt duration measures. However, there was a significant sex X grade interaction on the frequency of Hurt measure ($F=3.97$, $df=1,74$, $p < .05$), indicating that second-grade boys were more aggressive than the rest of the subjects.

Contrary to prediction, the grade X condition interaction was not significant for either the two Hurt scores, or for the physical aggression scores from the Behavior Potential measure ($p > .05$ for all scores). Neither were there other significant main effects or interactions in the analysis of Behavior Potential aggression scores.

Positive coping scores

Positive coping scores were of considerably less interest in this study than in the previous one, since there was no reason to expect that the two versions of the program we presented would affect degree of positive responding. In fact, the data indicate that it did not. None of the main effects of interactions were significant in the analyses of either frequency or duration of Help scores, with one exception. The sex X grade level interaction was a significant factor in the analysis of frequency of Help scores ($F=4.34$, $df=1,74$, $p < .05$). It indicated that sixth-grade girls' positive responding was substantially lower than other subjects'.

## DISCUSSION

The data provide persuasive evidence that the ambiguity with which a character is portrayed affects the influence of his actions on the actions of others. It probably does so because presenting conflicting or divergent cues about the motives and consequences of a character weakens the modifying effects that a less ambiguous set of cues would have on the impact of an observed model.

We reach this conclusion because our Convergent version was effective in preventing disinhibition of aggression; children who saw this program were no more aggressive than those who saw the nonaggressive Control documentary. But the children who saw the Divergent version were substantially more "hurtful" than the Control or the Convergent version viewers, indicating that the inclusion of a few scenes implying that the aggressor was a "good guy" and the deletion of some negative cues less strongly modified the effect of the model than a more unambiguous presentation did.

This conclusion holds for both second and sixth graders, despite our expectation that the older subjects would be more impervious to the contrasts between the two versions. One possible explanation for this is that the contrast between the two versions was such a strong one that even much older viewers would have been ambivalent about the hero in the Divergent condition. That is, our editing may genuinely have made him a character whose motives, while confused, could have been interpreted as valid. To get evidence on this speculation we asked a college student sample to tell us whether the main character and his actions were good or bad, and why. Their evaluations were similar, regardless of whether they saw the Convergent or Divergent version: they saw him and his actions as essentially negative. The possibility that the likelihood of such a conclusion is relatively small at sixth grade, but increases markedly by young adulthood is still a real one, however.

## Chapter 5

## Response to Post-Viewing Reminders Of the "Message" of the Program -- Study III*

The importance of dramatic context as "modifier" of the effects of televisied social behaviors themselves is clear, both from the laboratory studies reviewed in Chapter 1 and from the results of our earlier research (Collins, 1973b; Collins, Berndt, & Hess, in press). But it also seems likely that comprehending the behaviors of models in terms of the relevant context is sometimes difficult and may depend, among other things, on the cognitive maturity of the viewer. Much of the background work for this series of studies (reviewed in Chapter 1) suggests that children are more or less skilled in this way, depending upon their ages. Furthermore, it suggests that the format, or presentation style, of the program may make it more or less difficult for young viewers to achieve the mature understanding that television producers -- and parents -- assume for them.

This point was most dramatically documented in the study (Collins, 1973b) in which the interpolation of television commercials between the motive, aggression, and consequence scenes produced disinhibition of aggression for third grade viewers, but not for six and tenth graders. This effect showed up in comparisons of groups who saw either this Separation version or a version in which commercials did not disrupt the crucial plot sequence. Apparently, the interruption made the task of relating motives and consequences to the focal aggressive scene more difficult; and third graders, unlike the older viewers, simply found the added burden of temporal separation of the relevant scenes too great to overcome. They couldn't associate negative motive and consequences

*This study was conducted in collaboration with Allen Keniston.

with the aggression. Therefore, aggression stood alone for them as a model of behavior, unmodified by negative motive and consequence cues.

Unfortunately, there was no adequate way to test this explanation in the data for that study. But it seems likely that, if the effect was indeed due to interference in the third graders' relating of motive and consequences cues to the aggressive scene, we should be able to help them overcome that difficulty by supplying the missing relationships. In other words, if we "remind" them of the connection between the aggressor's action and his motives and the consequences to him, they should show inhibition to the same extent as third graders who saw an uninterrupted version of the sequence in the first place.

This third study in our research program, then, had two goals: (1) to replicate our finding that temporal separation made a difference in third graders' behavior after watching an aggressive program, and (2) to confirm our explanation for this effect of temporal separation by showing that it could be reversed with a "reminder" of the crucial causal sequences in the plot. Consequently, we showed edited versions of the same aggressive television drama used in the earlier study to third and sixth graders. We then either reminded them of the motive-aggression-consequences sequence, or we said nothing to them about the show. We expected to replicate the effect with third graders in the latter group, but to "wipe out" group differences with the "reminded" group.

## METHOD

### Subjects

One hundred ninety-five children from third and sixth grade classes were tested in May and June, 1974. Third graders' mean age was 9 years, 1 month (range = 8.7 - 10,10); sixth graders', 12 years, 2 months (range = 11,5 - 13,2). The children were almost exclusively white, middle class students drawn from

two public elementary schools in a suburban Minnesota community. Table F-2 gives a breakdown of the subjects used by condition, sex, grade, and dependent measure.

Stimuli

The same edited dramatic television program used in Collins' earlier (1973b) study was employed. The program involved a criminal aggressing against Federal agents who were trying to arrest him for extortion and murder. It was edited for two purposes: (1) One purpose was to permit clear predictions about the behavioral effects of the content. Adult judges identified a single aggressive scene for which both motivation and consequences were judged to be negative. The scene involved the criminal hitting and shooting the Federal agents, who had confronted him with damaging evidence. The negative motivation was judged to be intent to harm them in order to escape from justice. The negative consequences consisted of the criminal falling to his death while running from the scene of the aggression. The sequence was retained as the sole instance of aggression in the program, so that the modifying effects of both motivation and consequences scenes were presumably operating in the same direction. Neither the motivation nor the consequences scenes were themselves rated as aggressive, so that they did not provide alternative behavioral models of aggression; (2) The second purpose was to manipulate the degree of temporal separation between the motivation and consequences. In the Separation version, a 3-minute commercial sequence was inserted between motivation and aggression scenes; a similar sequence was inserted between aggression and consequences scenes. In the No Separation version, the commercials were placed in two other parts of the tape; the motivation-aggression-consequences scenes were temporally contiguous. The commercials were nonaggressive conventional advertisements for products such as food and automobiles.

The plot of the original edited versions, which is described in detail in Appendix F, was not modified for the present study. However, since passage of time and repeated use had resulted in some deterioration of the quality of the master videotapes, efforts were made to improve their technical qualities (e.g., sound and picture reproduction) by replacing distorted portions with duplications of the technically best segments of the original tapes.

The same non-violent documentary show used in Studies I and II served as the stimulus for the Control group. It depicted animal life on the African savanna.

Procedure

Experimenters. The experimenters were two white female and two white male graduate students; a third white male student occasionally assisted. One of the female experimenters always supervised administration of the Behavior Potential measure, and the other female conducted the Help-Hurt test. Male Es performed mostly technical and supervisory functions, such as preparing and operating equipment, conducting children to and from classrooms, etc., although one of them occasionally assumed the administration of the Help-Hurt procedure.

Exposure to stimuli. Procedures followed the general outline in Chapter 2. Children were randomly assigned to conditions (Table F-1). Typically, one group of eight subjects at a time viewed one of the television programs on a 19" black-and-white television monitor.

Following viewing, the experimenter "reminded" children in half the Separation and half the No Separation groups of the aggression and the associated motives and consequences in the following fashion:

> OK, that's the end of the show. In the program you just saw, a man named Max was trying to take over a cement company. He killed some men and was also trying to hurt the woman who

owned the company. Some secret government agents told Max that they had evidence the police could use to arrest him. Max tried to get the evidence and run away. He hit the agents many times and shot at them to keep from being arrested for the bad things he did. At the end, Max fell onto a conveyor belt that carried him into a cement mixer, and he was killed. After that, all the people who worked for Max were also arrested and sent to jail for their crimes.

In the remainder of the experimental groups and in the Control group, the experimenter asked the children to wait while she worked with the equipment. She occupied herself with this activity for approximately the same period of time that it took to deliver the reinstatement message to the other groups (about one minute).

Administration of dependent measures. Half the subjects from each group were then taken by a male experimenter to another room where the Help-Hurt measure was administered. The remaining subjects stayed in the same room and responded to the Behavior Potential measure.

Attitude questionnaire. In an essentially exploratory attempt to examine attitudinal correlates and/or effects of the different presentations of televised violence, a short (ten item) attitude questionnaire was administered. The items, which are shown in Appendix F, were drawn from three scales used by Dominick and Greenberg (1972). Baseline measures were obtained one to three weeks prior to the experiment proper by administering the ten items to the children in their classrooms at school. The items were given again after the Behavior Potential or Help-Hurt measures had been obtained. To reduce the similarity of the two questionnaire administrations, ten additional (and unrelated) items were randomly mixed with the original items.

Interviews. Following the attitude questionnaire, about half of the subjects who completed the Help-Hurt procedure were interviewed. We were interested in their understanding of the motives and consequences for the

aggressive scene, their evaluation of characters and their actions, and whether separation of scenes had distorted understanding. The interview schedule is shown in Appendix F.

## RESULTS

To summarize briefly, the data obtained failed to provide support for the major predictions of the study.

The finding of Collins' (1973b) earlier study, that third graders were adversely affected by temporally separating motives, actions, and consequences scenes by commercials, was not replicated. As Tables F-3 through F-6 show, no significant grade X condition interaction was obtained either for scores derived from the Help-Hurt procedure or for the physical aggression score on the Behavior Potential measure (F's range from less than 1 to 2.20). However, when physical aggression and verbal aggression scores on the Behavior Potential are combined, the analysis of variance (sex X grade X condition) yields a significant interaction ($F=4.09$, $df=4,73$, $p < .01$); but the pattern of means deviates from previous findings and from present predictions, as Figure 3 shows. The interaction reflects a failure of the replication attempt and, consequently, a failure to support our expectation that the reinstatement conditions would "wipe out" differences between Separation and No Separation conditions at the third grade level.

Boys were more aggressive than girls on all dependent measure scores, and third graders were generally more aggressive than sixth graders (F's can be found in the tables in Appendix F). There were no interactions in the data from any analysis, except for the grade X condition interaction reported above.

Analysis of the attitude questionnaire data and the results of the interviews, in relationship to the behavioral data, have not been completed. However,

since there is a general absence of findings from the behavioral scores alone, the planned analyses are not promising.

## DISCUSSION

The single significant finding of interest, graphed in Figure 3, is really more illustrative than illuminating. It is apparent that, among the third grade students, reinstatement heightened, not reduced, aggression as measured by the physical + verbal aggression score. Among sixth graders, reinstatement did produce some inhibition of aggression, but there was also a peculiarly high level of aggression in the No Separation-No Reinstatement condition, where aggression scores should have been quite low. Without further belaboring details, it is clear that a strictly cognitive-developmental, social-learning hypothesis cannot account for these findings; no single consistent influence appears to be operating either across grades or across viewing experiences. Considering the data from all scores together, it seems very likely that this single significant result is random, or at least spurious.

However, expected sex and grade differences hold up for analyses of scores based on both measures. Thus, it is difficult to attribute randomness in the data to invalidity or lack of sensitivity in the measures. It is more likely that one or more faulty experimental procedures accounts for the strange outcomes. Our experimenters reported that, despite our attempts to provide a technically adequate stimulus videotape, children often said they had not been able to see what happened in the program. Perhaps some interaction of their confusion or frustration over this difficult viewing situation and the particular wording of our "reminder" message produced reactions that we had not expected and cannot straightforwardly account for. We anticipate further research to test the important hypotheses that we tried to attack in this third study.

Chapter 6

Discussion

Now that we have described the three studies in our research program, some comments should be made both on theoretical and methodological points and on the practical ramifications of the findings. Since some readers will undoubtedly be concerned about one, but not both, of those considerations, we have partially separated them. In this chapter we will speak to the theoretical and technical concerns of readers; in the next, Chapter 7, we will summarize and comment on the results.

The results of the present studies both support and qualify the thesis behind the bulk of research on the effects of real-life and televised models of social behavior. It supports them by confirming the power of models per se to influence children's behavior. The impact of aggressive models has received the most attention in the past, but in Study I we showed that positive social behaviors like constructive coping with conflict may be potent alternatives to the range of aggressive behaviors with which television characters typically respond to difficult situations.

At the same time, this demonstration of the powerful effect of modeled behaviors themselves in no way diminishes the role of the dramatic context in which they are shown. In fact, a major goal of our research has been to elaborate notions about television effects in terms of the modifying influences of context on the effect of behavioral models. In Study II, we reported evidence that programs that unambiguously portray an aggressive actor as having undesirable motives and as suffering negative consequences clearly modify the effect of an aggressive model in the direction of inhibition. On the other hand, if portrayal is more ambiguous -- if there are scenes in which the actor

seems to have more desirable motives and in which the consequences are less explicitly presented -- disinhibition is more likely; the modeled behavior is enhanced, rather than countered.

The results of both these studies are quite consonant with the idea of a cognitive mediator, which we presented in Chapter 1. In our view the effects of a televised social model on viewers' later social behavior is determined by the evaluation of the model and the behavior that become attached to a representation of that behavior in the viewer's mind. Such evaluations usually involve basic social information, such as the motives behind a behavior and the consequences of it, that is portrayed in the plot. In the study comparing prosocial and aggressive models, the effect of both types of behaviors was enhanced by the positive motives and consequences that accrued to the models. In the Convergent-Divergent cues study, the ambiguous information about the model in one version did not counteract the effect of the aggressive model, while the negative cues in the Convergent version rendered the model ineffective. Although additional control groups would be needed to confirm this interpretation of the Study II data fully, the evidence suggests that the explanation is a plausible one.

Unfortunately, our attempts to obtain further evidence for the cognitive mediator hypothesis in Study III were unsuccessful. The study was designed to show that disinhibition of aggression after viewing an aggressive model accompanied by negative motives and consequences indicates an inadequate cognitive mediator. If an adequate one, emphasizing the negative cues associated with the aggression, were explicitly formulated, the effect of the aggressive model should be counteracted. In fact, we found that there was no consistent effect of the cognitive mediator we provided. Although the content of this

"reminder" was probably faulty (it apparently reminded viewers of the aggression, without strongly associating it with the negative modifying cues), it leaves us unable to report that the strategy of "reinstating" the cognitive mediator for subjects who may not have been able to construct it for themselves has been demonstrably successful. Further research efforts may still document its validity, however.

Even more surprising was the absence of the age effects that the previous work has shown and implied. Although children of at least two age levels participated in each study, we found little evidence that the conditions of our studies made some difference at younger ages, but not older ones. Of course, we did not anticipate an age-related finding in the study of prosocial vs. aggressive models (Study I); there was no reason to expect that children's age-related capabilities would make them more susceptible to one kind of model than to another. However, we had expected that children of different ages would react differently in the studies in which the context of modeled acts was varied. For example, the contrast between convergent and divergent versions of an aggressive program (Study II) was expected to affect the responses of second, but not sixth, graders. As we have already suggested, we suspect that our particular stimuli may have been responsible for a false negative on this point. In other words, the contrast was apparently such that even the oldest children responded differently to the two programs. Different contrasting stimuli might very well produce the differential age effects we had expected. However, despite the age-resistant contrast they present, there is no reason to expect that the two edited versions are unrepresentative of typical television fare. Thus, it is striking that children as old as sixth graders responded differently when a relatively "mixed" message about the aggressor was

presented, both for theoretical and practical reasons. Perhaps these children are more influenced by subtly presented negative characters than most adults realize.

The main effects of age present a different kind of interpretation problem. Although Study II only yielded a significant age difference in overall aggression on one of the Behavior Potential scores (Physical + Verbal Aggression), both Studies I and III yielded a number of age-related differences in behavior scores. In particular, Study I, in which we intended to assess the extent of correspondence between the Help-Hurt and Behavior Potential measures, showed marked age changes on both aggression and prosocial indices. However, the scores based on the Help-Hurt measure and those based on Behavior Potential responses showed contrary age trends. Aggression scores declined and prosocial scores increased over age on Help-Hurt indices, but the opposite was true for the physical aggression and positive coping scores based on the Behavior Potential. These incongruent patterns, combined with the general lack of correspondence between findings from the two measures (see Appendix G), suggests that, at best, they are tapping different dimensions of the children's responses to television content.

There is no firm basis on which to choose between the two in terms of validity or appropriateness for the problem we were attacking. Conceptually, both are relevant -- one, in the sense of its eliciting responses in a wide range of threatening hypothetical situations; the other, in the sense of its tapping general willingness to display hostility or benevolence when there are no apparent sanctions for one behavior or the other. The fact that the Help-Hurt measure appears to have been sensitive to the variations in aspects of television content in which we were interested obviously gives it an edge in

our review of the data. It is further bolstered by the fact that its use in different studies (e.g., Studies I and III) produced similar age patterns, and in Study III there were sex differences that were consonant with the ample evidence that boys are more aggressive than girls.

Assuming that the Help-Hurt measure provided valid indices of social behavior -- indices that predict the likelihood of either aggressive or prosocial behavior, the results of the studies represent a remarkable degree of generality in the effects of the various television programs we showed. For example, in the case of Study I, the finding that a Constructive coping model significantly increased the incidence of helping behavior demonstrates generality from one dimension of prosocial behavior to another. Constructive coping is a considerably different prosocial response than helping, yet the effect of the constructive coping model was strongly apparent on our rather benign measure of voluntarily helping a peer. Similar comments can be made about the effect of a physically aggressive model on the willingness to hurt another person from whom there has been no provocation. Yet it is still desirable to seek further tests of the effects of social models and the impact of context on behavioral outcomes with measures that permit a variety of both prosocial and less socially desirable responses. An observational measure such as Friedrich and Stein's (1973) is conceptually ideal, but is not feasible for use with subjects as old and as varied in age as ours. Future research on this and other aspects of the social-behavioral effects of television should attempt measures that adequately challenge the generality of their findings.

In the meantime, the present evidence suggests that several aspects of actual action-adventure television programming can and do influence children's behavior over the short range. Depending on the model and the context in which

the model appears, the influence may be toward enhanced prosocial behavior, heightened aggressive tendencies or little change from normal incidences of a range of behaviors. In short, aspects of television content direct and intensify children's behavior in socially important ways. Our future efforts should address the variety of possible effects as a function of what television brings to the child and of the capabilities the child brings to television.

# Chapter 7

## Aspects of Television Content and Children's Social Behavior

The effect of television on children has long been studied in a very global way -- neither discriminating among the aspects of content that may be responsible for television effects, nor considering the possibility that children of different ages may react to the same content in different ways. The present research focused on considerations such as these.

Three studies were carried out. Each one dealt with an aspect of typical adult television content believed to be relevant to effects on children's social behavior:

In Study I, an action-adventure television program in which a character's reputation and loved ones were threatened was edited into two versions. In one the hero responded to the provocation with physical aggression; in the other, with constructive efforts to solve his predicament. We were interested in the effects of a non-aggressive alternative to the aggressive models that typically appear in such dramatic situations.

In Study II, we focused on the effects of ambiguity in the dramatic context for modeled aggressive behavior. In one version, the aggressive actor was presented as unequivocally "bad". In the other, he was presented in standard "double-dealer" fashion; some scenes made him seem good, others bad. We expected the latter version to lead to more aggressiveness in the children who viewed it, particularly the younger ones.

Finally, in Study III, we attempted to use previous findings that the dramatic context in which aggression appears can modify the negative effects of aggression. We supplied a "reminder" to children who may not have understood

the modifying cues themselves in the hope that the modifying effects would take hold that way. Again, we expected that younger, less competent, children would benefit more than older ones.

To an appreciable exten , we found evidence for our notions about the effect of various aspects of television content. First, we found that a character who employs constructive coping strategies in response to threat is as effective as -- and may have even more impact than -- a character who employs violent responses. The effectiveness manifested itself in the willingness of children who saw the constructive coping model to be helpful and supportive toward an unseen peer who was doing a problem solving task. Children who saw an aggressive response to the same provocation tended to be more "hurtful" or hostile toward peers in the same situation. These tendencies were true not only of the young fourth graders we tested, but of adolescents -- seventh and tenth graders -- as well. Such evidence should bolster efforts to portray responses other than aggression in dramatic conflict situations in television action-adventure programs. It also makes it all the more worthwhile to do so, because our evidence reiterates the enormous power of behavioral models -- of whatever kind. The effect of seeing constructive responses to conflict is not likely to be negated by the dramatic provocation itself. If these conflict scenes are arousing, our results suggest that the arousal energizes constructive responses and, perhaps, makes them even more impactful than the more typical aggressive responses.

But at the same time, the fact that prosocial models of behavior can effectively replace more typical aggressive models in certain types of plots does not diminish the role that the context for aggression or other social models plays in television effects on children. Many studies provide evidence

that the motives and consequences cues that accompany televised modeled behaviors modify the impact of the actor and action with which it is associated. Our own previous work has shown that the modifying effect of context is also subject to children's abilities to understand the context-behavior complex at different ages.

In fact, the second major finding of our program was that the ambiguity of the information about actors and actions strongly modifies the influence those actions have on children-viewers. In particular, if the plot is contructed so that the aggressor is clearly, unambiguously, presented as a "bad" guy with reprehensible motives and a negative comeuppance, children are much less likely to be influenced by his aggressive behavior, than if there are ambiguities in the presentation. In other words, if there is room to see him as possibly good and attractive, his aggression is likely to have some impact, compared to the situation in which he is unambiguously "bad". Again, this finding was true for children as young as second graders and as old as sixth graders. Much to our surprise, sixth graders could not see through the "double-dealing" of the aggressor any better than the second graders could. This suggests that their comprehension of many "bad guy" portrayals may be less adequate than many adults think.

The evidence we gathered is persuasive for several reasons. It bears on typical aspects of television fare produced for adults, but consumed in large amounts by children of many ages. It reflects an attempt to check the generality of the impact of these content aspects across a range of ages and viewing skills, and it employed a measure (the Help-Hurt measure) which tested the generality of effects of physically aggressive and constructive coping models by tapping aggressive and prosocial tendencies somewhat removed from the

particular behaviors displayed in the television programs.

At the same time, there are limitations to our conclusions. Despite the attempt to test generality, our measure was still limited in the range of social behaviors the children could engage in. Furthermore, its lack of correspondence with a supplementary paper-and-pencil measure of aggression and positive coping in hypothetical situations was disappointing and difficult to explain. Too, we tested children after a single exposure to a particular television program and, consequently, can say little about how a prolonged "diet" of programs with these same characteristics might affect viewers of different ages -- nor can we speak to the possible effects of a mixture of these different characteristic content types.

What we can say is that certain important aspects of typical television programs quite clearly affect children's willingness to help and hurt other children over the short term. This is true of children as old as elementary school students and adolescents. The ramifications of the processes that must go on to produce such effects are potentially useful, both for parents and other persons responsible for the welfare of children, and also for the media professionals who prepare and transmit these "agents" of socialization into our homes.

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Errata -

The following references should be included in the above:

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# Appendix A

## Instructions for Administration of Behavior Potential and Sample of a Complete Behavior Potential Item

# E'S INSTRUCTIONS - BEHAVIOR POTENTIAL

$E_1$ SAID:

We are interested in finding out today how people your age feel about different things that happen to them. So we are going to ask you some questions about some things that could happen to you. The first thing we'll do is pass out an answer sheet to everyone.

Older Ss

Please fill out the top of your answer sheet with your name, age, school, and sex. We are not particularly interested in your name but we need some way to keep the answer sheets separate so you can just put your first name and the first initial of your last name at the top of your sheet.

Younger Ss

Let's begin by having you put your first name and the first letter of your last name at the top of your sheet. We are not particularly interested in knowing your name but we need some way to keep the answer sheets separate so your first name and the first letter of your last name will do that. On the next line circle "BOY" if you are a boy and "GIRL" if you are a girl. Now put the name of your school on the next line. Just write _____ (abbreviation). On the next line write _____ (number of the grade you're in). On the bottom line, write the date of your birth - the month, day, and year that you were born.

OK, now this is what we are going to do. I'll read a short description of somethi that could happen to you. Then I want to know what you would do about it. When I've read the description, I'll show some slides. Each slide will have two pictur on it, one marked A and the other marked B. Take your answer sheet and circle A if picture A shows what you'd do and circle B if picture B shows what you'd do in the situation. There are two items for us to practice with. They're labelled P1 and P2 on your answer sheet. Here's the situation for P1:

"A new family moves into your neighborhood. Which would you rather they had, a son or a daughter? Would you prefer they had a son or a daughter?" (show slide) Take your pencil and circle either A or B by P1 on your answer sheet.

OK, here's the next situation:

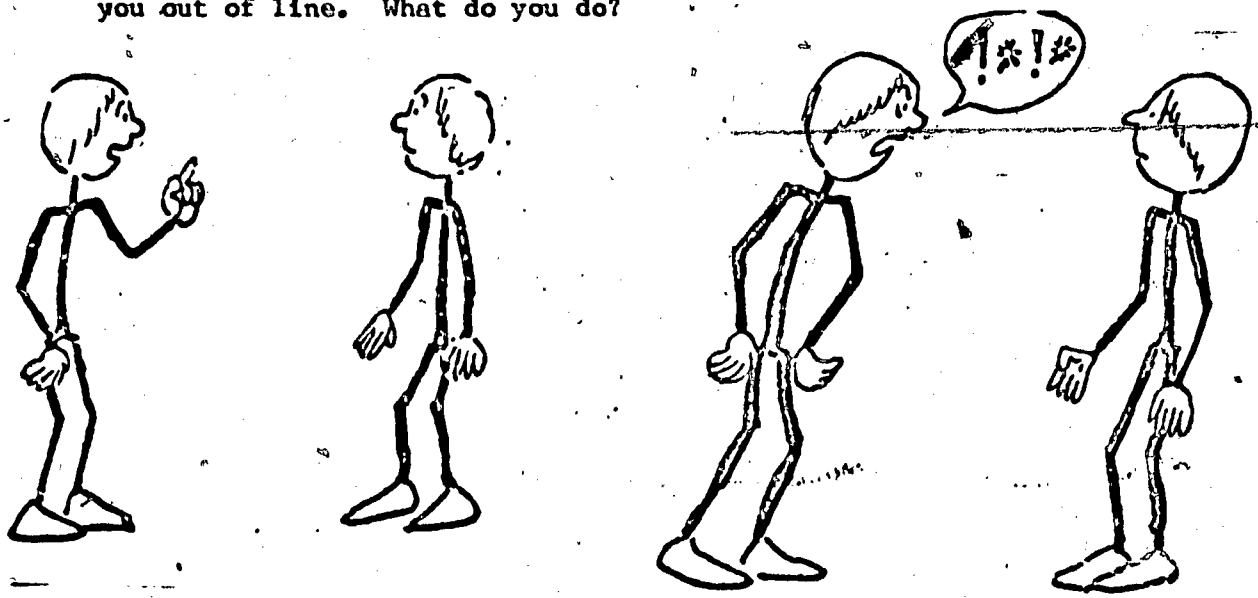
"You come home from school. Which would you rather do, smoke a cigarette or eat a cookie?" Take your pencil and circle what you'd do.

Let's go on to some more situations. Remember, I'll read a description of somethi that could happen to you. Then I want to know what you would do about it. You l at the slides and mark on the answer sheet the one that shows what you would do i it happened to you. We want to know what you really would do if it happened to y not what you think you should do. This is not a test. It is a survey. There ar any right or wrong answers. So please look only at your own paper. Some of the situations might not sound like something you would do but we are using this surv with younger children as well as people your age and it is worded so that everyon can understand. So just do the best you can. You can choose only one picture at a time so please choose carefully. Sometimes you won't want to choose either pic ture. But please choose one anyhow. If you want to change an answer, just cross the first one you circled and circle the other one. There will be six slides for each situation. Remember we want to know what you would do in each situation a not what you think you should do.

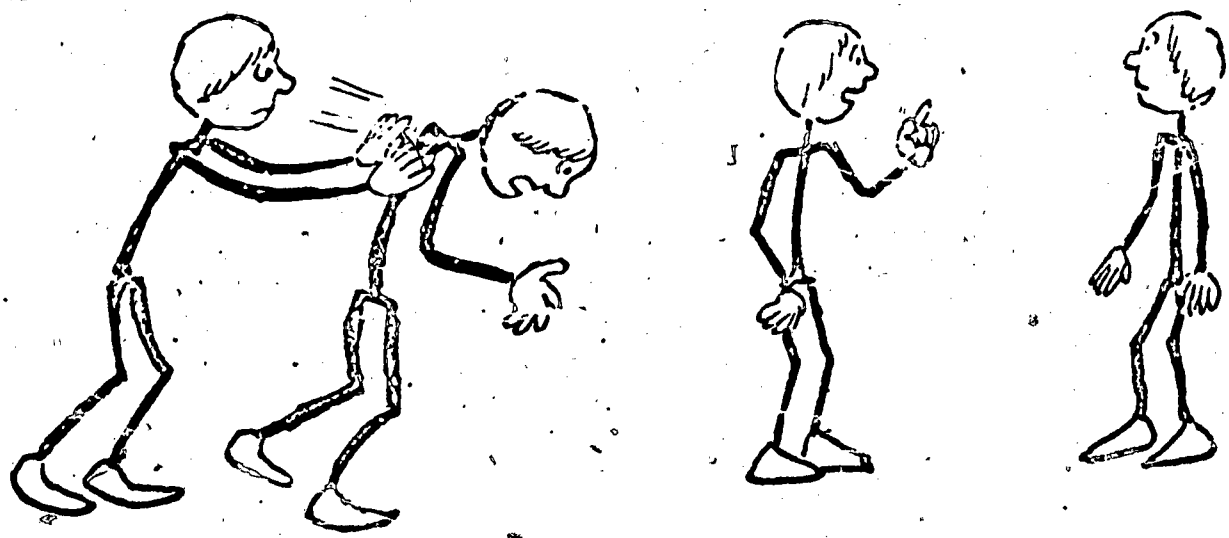
THE SLIDES ARE THEN SHOWN.

SAMPLE OF A COMPLETE BEHAVIOR POTENTIAL ITEM

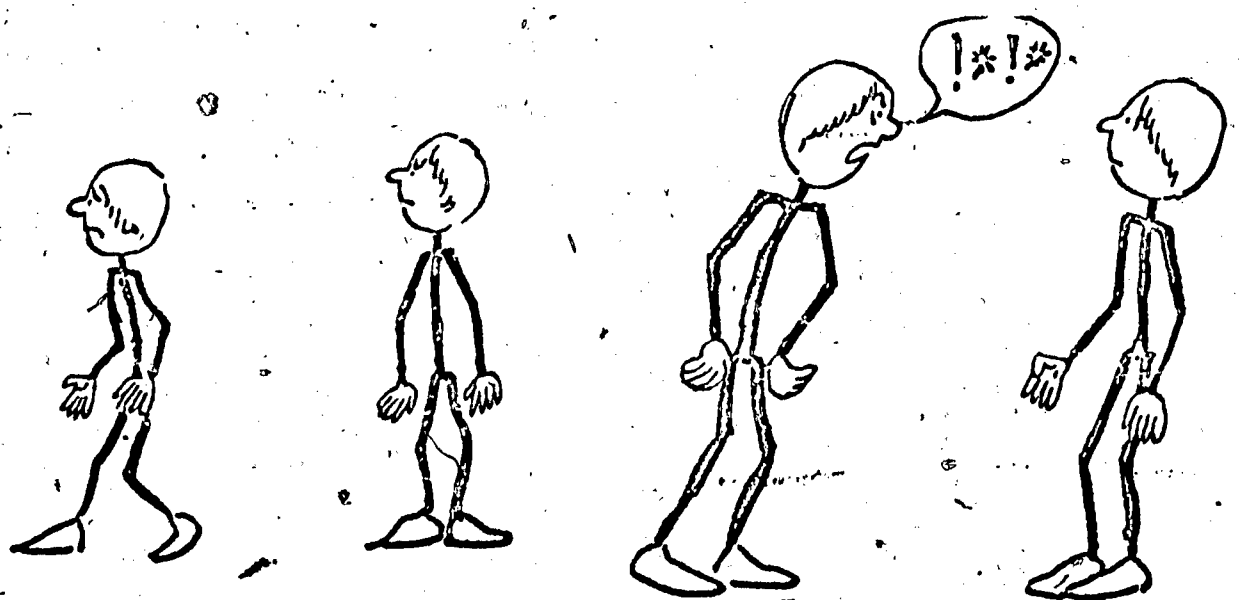
You're standing in line for a drink of water. A kid comes along and just pushes you out of line. What do you do?



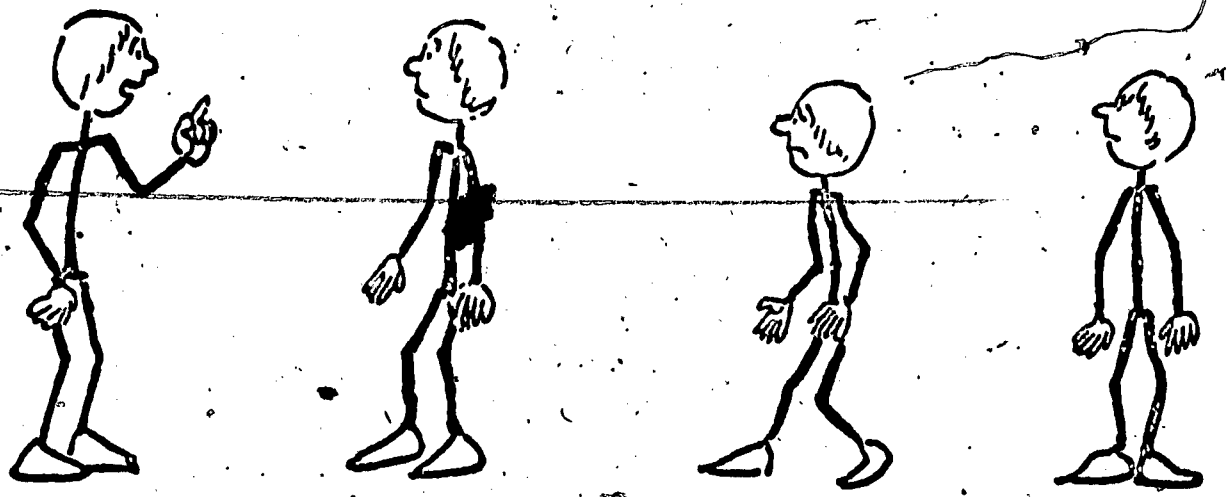

A. Explain that it's your turn OR Call them a bad name



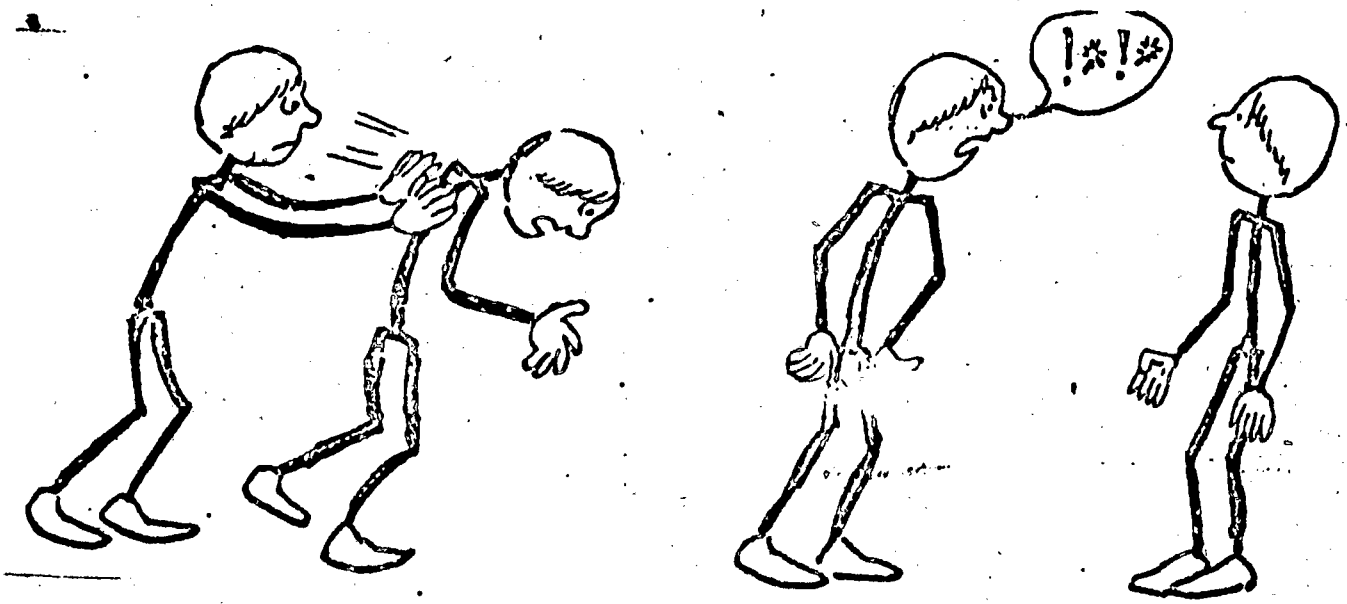
B. Push them OR Explain that it's your turn




C. Go away OR Call them a bad name



D. Explain that it's your turn OR Go away




E. Push them OR Call them a bad name

F. Push them OR Go away

Name _____

Birthdate _____

School _____

Grade _____

Circle one Boy Girl

Form _____

Example

CIRCLE either A or B

P1 A B
P2 A B

1. As you're leaving school you see two kids fighting with your best friend. What do you do?

A B

A B

A B

A B

A B

A B

2. You're walking down the street. Some kid is mad at you and comes up and hits you. What do you do?

A B

A B

A B

A B

A B

A B

3. You're playing a game and you're not doing so well. So somebody else starts taking over your plays. What do you do?

A B

A B

A B

A B

A B

A B

4. You've just heard that someone you thought was your friend has been making up stories behind your back. You see them after school. What do you do?

A B

A B

A B

A B

A B

A B

5. You're playing a game with your friends. Someone takes your turn. What do you do?

A B

A B

A B

A B

A B

A B

6. You're standing in line for a drink of water. A kid comes along and just pushes you out of line. What do you do?

A B

A B

A B

A B

A B

A B

# Appendix B

## The Behavior Potential Instrument, Procedural Information, and Tables Pertaining to Its Modification

# PRE-TEST QUESTIONS FOR BEHAVIOR POTENTIAL MEASURE

## Leifer & Roberts

1. What makes you mad? When do you get mad?

Take answers given and for each one ask:

2. What do you do when _____?
   Anything else you do when _____?

3. How can you hurt somebody? What hurts somebody?
   (Probe for more than one or two answers)

Take answers given and for each one ask:

4. When is it all right to _____?
   When is it bad to _____?

## Study I

1. What makes you mad? When do you get mad?

Take answers given and for each one ask:

2. What do you do when _____?
   Anything else you do when _____?

If responses to 2 are generally aggressive((physically verbally), ask:

3. What would you do if (situation given as response t question 1) happened, but you still wanted _____ (perpetrator of the action) to be your friend?

Children were then presented with three of the situatic from the Leifer and Roberts Response Hierarchy and aske to choose from four possible answers (all of which were variations of the positive coping response). See next page.

## STUDY I: PRE-TEST QUESTIONS FOR BEHAVIOR POTENTIAL MEASURE

1. You're walking down the street. Some kid is mad at you and comes up and hits yc What do you do?

   a. Ask them why they hit you.
   b. Ask an adult for advice.
   c. Tell them you won't get mad if they will just apologize.
   d. Tell them how that made you feel.

2. You're standing in line for a drink of water. A kid comes along and just pushes you out of line. What do you do?

   a. Ask them why they pushed you.
   b. Ask an adult for advice.
   c. Tell them you won't get mad if they will just apologize.
   d. Tell them how that made you feel.

3. You're playing a game with your friends. Someone takes your turn. What do you

   a. Ask them why they took your turn.
   b. Ask an adult for advice.
   c. Tell them you won't get mad if they will just apologize.
   d. Tell them how that made you feel.

TABLE B-1

COMPARISON OF MEAN FREQUENCY OF CHOICE OF PHYSICAL AGGRESSION

BY AGE AND SEX ON ORIGINAL AND REVISED INSTRUMENTS (possible range = 0 to 3)

| | | Original (Leifer & Roberts) | | | Revised (Collins) | | |
|---|---|---|---|---|---|---|---|
| Situation | | 10 years | 13 years | 16 years | 10 years | 13 years | 16 years |
| 1 | Boys | 2.2 | 2.0 | 2.5 | 1.0 | 3.0 | 2.6 |
| | Girls | 1.0 | .8 | 1.8 | .2 | 1.0 | .7 |
| 2 | Boys | 2.3 | 2.3 | 2.2 | 1.9 | 3.0 | 2.3 |
| | Girls | 2.3 | 1.2 | 1.0 | .6 | 2.3 | 1.1 |
| 3 | Boys | 1.4 | 1.1 | .9 | 1.6 | 1.7 | .9 |
| | Girls | .7 | .6 | .6 | .2 | 1.3 | .3 |
| 4 | Boys | 2.4 | 2.4 | 2.8 | 1.1 | 1.7 | 1.6 |
| | Girls | 1.7 | 1.5 | 2.2 | 1.0 | 1.2 | 1.4 |
| 5 | Boys | 1.8 | 1.4 | 2.1 | 1.7 | 1.7 | 1.1 |
| | Girls | .7 | 1.0 | .8 | .1 | 1.2 | .6 |
| 6 | Boys | 1.6 | 1.1 | 1.5 | 1.0 | 2.0 | .6 |
| | Girls | .7 | .4 | .5 | .3 | .9 | .3 |

# BEHAVIOR POTENTIAL

## Liefer & Roberts

1. You're walking down the street. Some kid is mad at you and comes up and hits you. What do you do?

   a. Hit them
   b. Call them "stupid"
   c. Leave them
   d. Tell a grown-up

2. You're standing in line for a drink of water. A kid comes along and just pushes you out of line. What do you do?

   a. Push them
   b. Call them a bad name
   c. Go away
   d. Say "That's all right"

3. You're playing a game with your friends. Someone takes your turn. What do you do?

   a. Push them
   b. Call them "slob"
   c. Go into the house
   d. Tell them not to take your turn

4. As you're leaving school you see two kids fighting with your best friend. What do you do?

   a. Push them
   b. Call them a bad name
   c. Leave them
   d. Tell the teacher



## Collins Revision

1. You're walking down the street. Some kid is mad at you and comes up and hits you. What do you do?

   a. Hit them
   b. Call them "stupid"
   c. Leave them
   d. Ask why they're so mad

2. You're standing in line for a drink of water. A kid comes along and just pushes you out of line. What do you do?

   a. Push them
   b. Call them a name
   c. Go away
   d. Explain that it's your turn

3. You're playing a game with your friends. Someone takes your turn. What do you do?

   a. Push them
   b. Yell at them
   c. Go someplace else
   d. Ask them not to take your turn

4. As you're leaving school you see two kids fighting with your best friend. What do you do?

   a. Push them
   b. Yell at them
   c. Go someplace else
   d. Try to convince them to stop

5. You've just heard that someone you thought was your friend has been making up stories behind your back. You encounter them after school. What do you do?

a. Slap them
b. Call them a bad name
c. Go away
d. **Tell the teacher**

6. You're playing a game and you're not doing so well. So somebody else starts taking over your plays. What do you do?

a. Slap them
b. Yell at them
c. Go someplace else
d. Tell the teacher

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5. You've just heard that someone you thought was your friend has been making up stories behind your back. You encounter them after school. What do you do?

a. Hit them
b. Call them a name
c. Go away
d. Try to convince them to stop telling stories

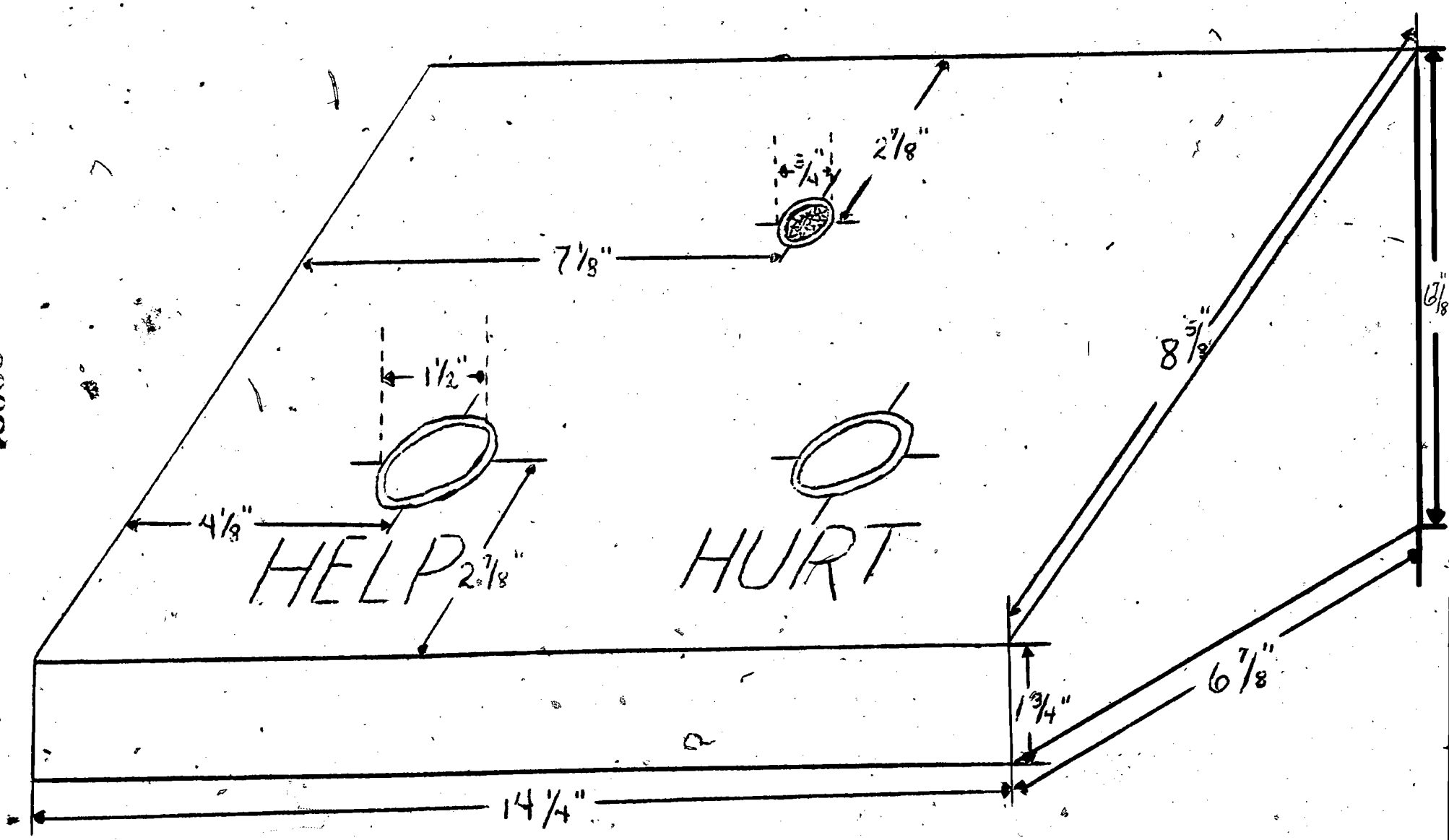
6. You're playing a game and you're not doing so well. So somebody else starts taking over you plays. What do you do?

a. Push them
b. Yell at them
c. Go someplace else
d. Try to convince them to let you play.

# Appendix C

## The Help-Hurt Instrument, Instructions for Its Administration, Sample Output

HELP-HURT MACHINE



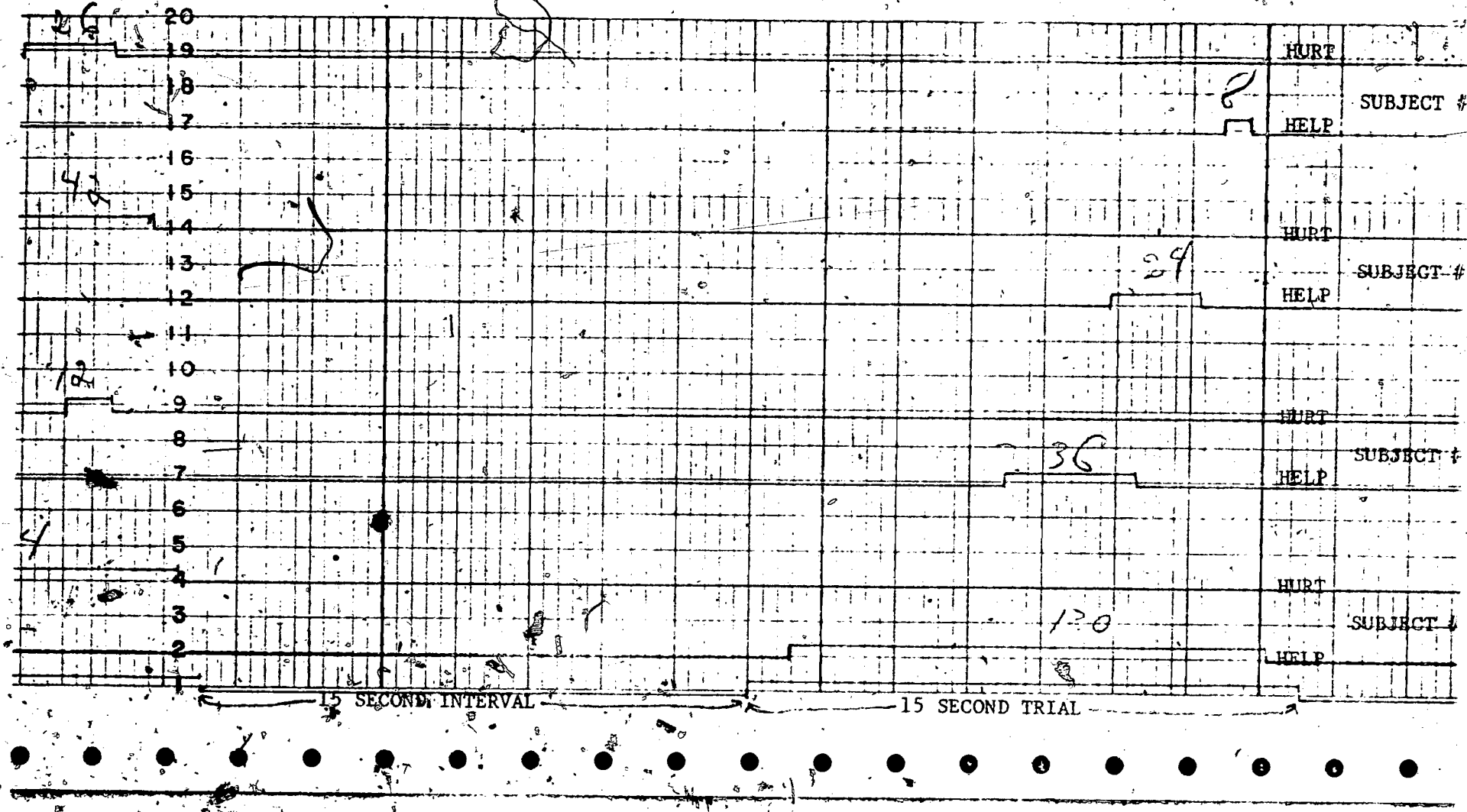
# HELP-HURT SCRIPT

In this part of our research today, we are conducting a study of how people learn, and you are going to help us by operating these machines. As you can see, each machine has one light at the top and two buttons below, one labelled HELP and the other labelled HURT. When the light comes on, your job will be to push either the HELP button or the HURT button. Each time the light comes on, you may help someone a little bit or a lot, or you may decide to hurt someone a little bit or a lot.

Now, each of your machines is connected to a student in another room who is taking a test. (By the way, I don't know who these students are or even what room they are in.) When a student makes a mistake on the test, the light at the top of your machine will come on and stay lighted up for a while. The test is hard so the person might make a lot of mistakes and your light might come on several times. The test is difficult partly because there is a background noise going on all the time which is distracting. The noise sounds like this. (DEMONSTRATE A LOW LEVEL OF OBNOXIOUS NOISE)

Now here is exactly what you'll be doing. For each time you see the light come on, you must decide to push one of the two buttons. If you push the red button, the background noise which you heard before will become much louder. It will sound like this. (DEMONSTRATE A HIGH LEVEL OF OBNOXIOUS NOISE) This noise will hurt the person's ears and make it more difficult for them to take the test. If you push the green button, the noise will stop completely. This will help the person because he won't be so distracted. You can help the person a little by pressing the green button for a short time while the light is on. You can help him a lot by pushing the button for a longer time. Or you can hurt the person a little by pressing the red button for a short time, and hurt more by pressing for a longer time.

It doesn't matter to me which button you push as long as you remember that each time the light comes on, you must push only one of the buttons and you can push that button only once. You can hold the button down for as short or long a time as you want while the light is on, but once you stop pushing the button, you must wait until the light comes on the next time before you can again push one of the buttons. So each time the light comes on, you can decide to help or hurt and how much to help or hurt. Are there any questions?

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ESTERLINE-ANGUS PEN RECORDER DATA PAPER (SAMPLE OUTPUT)

# Appendix D

## Procedural Information, Tables, and Figures for Study I

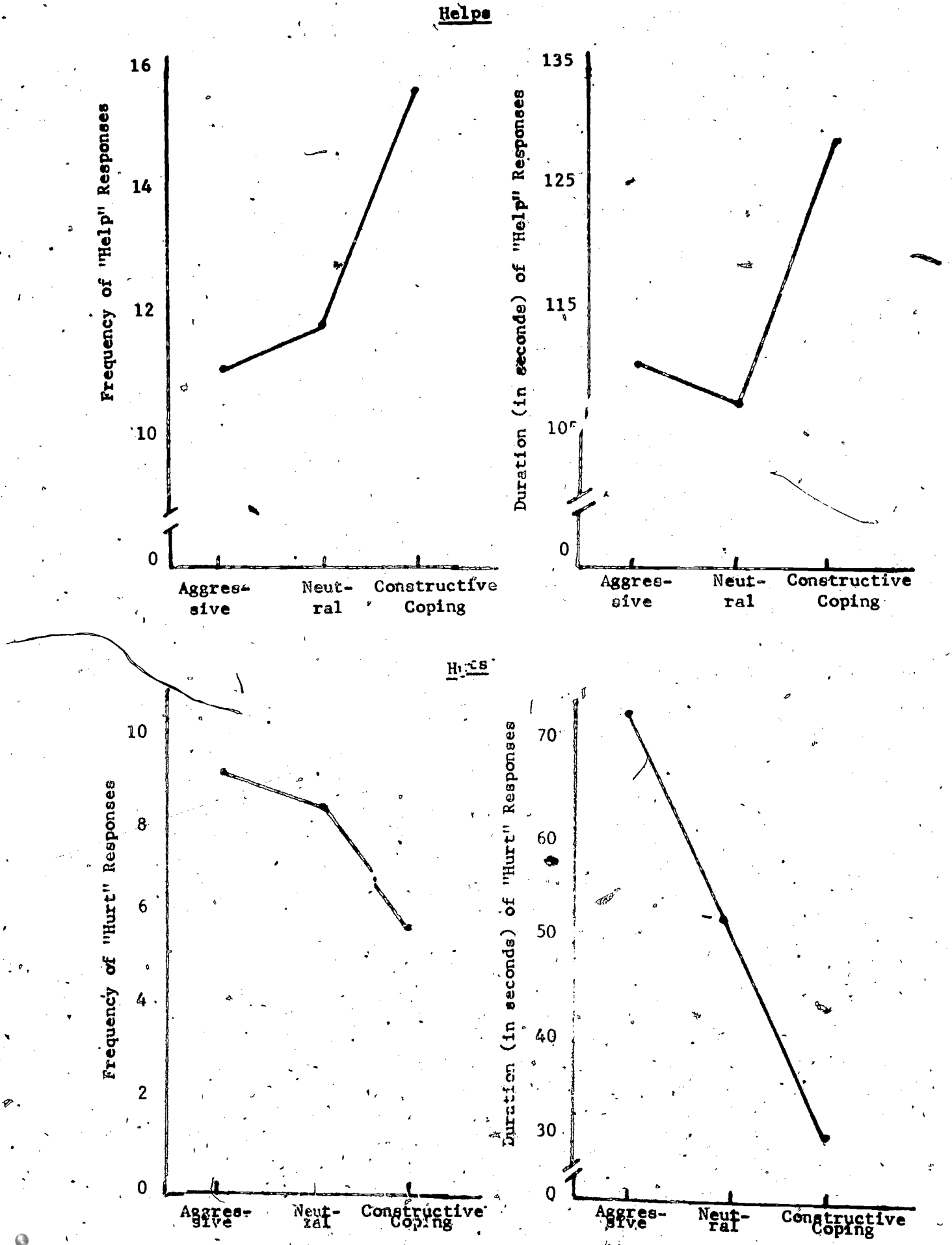


Figure 1. - Mean Frequency and Duration Scores For Both Help and Hurt Responses

## Aggression Version

A syndicate boss coerces a fellow mobster who owes him some money into framing a police captain. The mobster goes to the police chief and states that the Captain has been in league with another crook in various narcotics deals. The Chief puts the Captain on suspension, and orders some undercover police agents who wish to help the Captain not to get involved in the investigation.

Things start to look bad for the Captain: the Chief meets with the undercover officers and reveals that the Captain has a special account in a bank under a different name, and that $5000 has just been deposited into the account.

A birthday party is being held for a young boy, the police captain's "nephew". When one of the adult guests at the party reveals the fact of the Captain's suspension, the children begin to tease the "nephew", calling his "uncle" a crook. The boy, very upset, gets up from the table and falls, at which point it is revealed that he is crippled.

The undercover agents continue to press the Captain to let them help--the Captain thus far has refused to allow them to interfere in "his hassle". He states that he will take care of things himself, and that he is going to "have a talk with somebody".

The Captain goes to the syndicate boss' boat and confronts him; it is revealed that there is some connection between the syndicate boss and the Captain's "nephew" when the syndicate boss says that he thinks it's "time to talk about the boy." The Captain punches and threatens him.

The Captain goes to the little boy's home to deliver his birthday gift--a bicycle; one of the syndicate boss' henchmen, who has been tailing the Captain, calls his boss and tells him that he has found out "where the Captain has stashed the kid".

Two of the undercover officers join the Captain and the crippled boy's mother; the Captain reveals the background to the whole mess: that he had killed the boy's father (the syndicate boss' brother) and had promised

## Positive Coping Version

A syndicate boss coerces a fellow mobster who owes him some money into framing a police captain. The mobster goes to the police chief and states that the Captain has been in league with another crook in various narcotics deals. The Chief puts the Captain on suspension, and orders some undercover police agents who wish to help the Captain not to get involved in the investigation.

Things start to look bad for the Captain: the Chief meets with the undercover officers and reveals that the Captain has a special account in a bank under a different name, and that $5000 has just been deposited into the account.

A birthday party is being held for a young boy, the police captain's "nephew". When one of the adult guests at the party reveals the fact of the Captain's suspension, the children begin to tease the "nephew", calling his "uncle" a crook. The boy, very upset, gets up from the table and falls, at which point it is revealed that he is crippled.

The undercover agents continue to press the Captain to let them help--the Captain thus far has refused to allow them to interfere in "his hassle". He states that he will take care of things himself.

The Chief decides to change his order and allow the undercover officers to help in the investigation. They meet the Captain and reveal to him what they have learned thus far, but he still refuses to tell them any more.

The Captain receives a call from the boy's mother asking him to come over for a visit and he agrees to come by in the afternoon.

The undercover agents confer to see where they are and decide to follow the clues they have about the little boy, for whom they know the Captain has purchased a bike. Talking to a bike shop owner, they learn the address of the crippled boy's home and proceed to

father (the syndicate boss' brother) and had promised the boy's father that he would keep the boy away from the syndicate boss. The boy had been injured by a wild shot from his father's gun during the struggle with the police captain. The Captain had been the boy's guardian and then his friends (the boy's foster parents) adopted the boy.

The syndicate boss and two other men arrive and break into the house--the undercover agents try to bluff them by telling them the boy had left for summer camp, but the boy and his father soon arrive and honk their car horn when they recognize the Captain's car. At this point, a fight breaks out: two of the undercover officers tackle the syndicate boss' henchmen and the Captain and the syndicate boss "shoot it out". The boss is wounded but one of his shots goes through the front door which the little boy and his father had been approaching. The Captain rushes out, fearing for the boy's safety, but discovers that he is fine.



go there.

The undercover officers join the Captain and the boy's mother; the Captain reveals the background of the whole mess: that he had killed the crippled boy's father (the syndicate boss' brother) and had promised the boy's father that he would keep the boy away from the syndicate boss. The boy had been injured by a wild shot from his father's gun during the struggle with the police captain. The Captain had been the boy's guardian and then his friends (the boy's foster parents) adopted the boy. The Captain now hopes that all will turn out well, and we next see him teaching the boy to ride his bike. We learn from the undercover agents that the mobster (who linked the Captain to narcotics deals) has turned himself in to the police, and will be able to clear the Captain.

TABLE D-2

CONTRIBUTION OF CLASSROOMS TO CONDITIONS IN STUDY I

| Grade 4 | | | | Grade 7 | | | | Grade 10 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Agg.[a] | P.C.[b] | Control | | Agg. | P.C. | Control | | Agg. | P.C. | Control |
| School 1 | | | | School 3 | | | | School 5 | | | |
| Classroom 1 | x[c] | x | | Classroom 1 | x | | x | Classroom 1 | x | | x |
| Classroom 2 | | x | x | Classroom 2 | x | x | | Classroom 2 | x | x | |
| Classroom 3 | x | | x | Classroom 3 | | x | x | Classroom 3 | | x | x |
| | | | | | | | | Classroom 4 | x | x | |
| School 2 | | | | School 4 | | | | | | | |
| Classroom 1 | | x | x | Classroom 1 | | x | x | Classroom 5 | | x | x |
| Classroom 2 | x | | x | Classroom 2 | x | | x | Classroom 6 | x | | x |
| Classroom 3 | x | x | | Classroom 3 | x | x | | | | | |

[a] Aggression condition

[b] Positive coping condition

[c] "x" denotes conditions to which each classroom contributed

TABLE D-3

NUMBER OF SUBJECTS TESTED

BY BEHAVIOR-POTENTIAL AND HELP-HURT MEASURES

BY AGE, SEX, AND CONDITION

| | | BEHAVIOR POTENTIAL | | | | | HELP-HURT | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CONDITION | | | | | CONDITION | | | |
| | | AGGRESSION | POS. COPING | CONTROL | | | AGGRESSION | POS. COPING | CONTROL |
| 4th | BOYS | 19 | 19 | 16 | 4th | BOYS | 4 | 3 | 4 |
| | GIRLS | 18 | 19 | 23 | | GIRLS | 4 | 3 | 4 |
| | TOTAL | 37 | 38 | 39 | | TOTAL | 8 | 6 | 8 |
| 7th | BOYS | 25 | 21 | 15 | | BOYS | 2 | 2 | 2 |
| | GIRLS | 18 | 12 | 15 | | GIRLS | 2 | 2 | 2 |
| | TOTAL | 43 | 33 | 30 | | TOTAL | 4 | 4 | 4 |
| 10TH | BOYS | 25 | 18 | 24 | | BOYS | 3 | 4 | 3 |
| | GIRLS | 19 | 17 | 18 | | GIRLS | 3 | 4 | 3 |
| | TOTAL | 44 | 35 | 42 | | TOTAL | 6 | 8 | 6 |
| | OVERALL | 124 | 106 | 111 | | OVERALL | 18 | 18 | 18 |

TABLE D-4

MEAN FREQUENCY OF HELP RESPONSES

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Aggression | Pos. Coping | Control | Totals |
| 4th | Boys | 8.00<br>3.39[a] | 12.33<br>4.19 | 10.50<br>2.29 | 10.09 |
| | Girls | 11.50<br>1.12 | 11.33<br>2.62 | 10.75<br>2.95 | 11.18 |
| | Total | 9.75 | 11.83 | 10.63 | 10.34 |
| 7th | Boys | 8.00<br>1.00 | 15.50<br>4.50 | 14.50<br>2.50 | 12.67 |
| | Girls | 15.00<br>3.00 | 13.00<br>3.00 | 12.00<br>1.00 | 13.33 |
| | Total | 11.50 | 14.25 | 13.25 | 13.00 |
| 10th | Boys | 13.67<br>4.92 | 17.25<br>3.63 | 15.00<br>2.45 | 15.50 |
| | Girls | 14.33<br>4.19 | 17.00<br>3.08 | 11.67<br>.47 | 14.60 |
| | Total | 14.00 | 17.13 | 13.33 | 15.05 |
| | Overall | 11.56 | 14.72 | 12.11 | |

[a] Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | .91 | .06 |
| B-Grade | 2 | 102.36 | 7.26** |
| C-Condition | 2 | 51.46 | 3.65* |
| AxB | 2 | 5.51 | .39 |
| AxC | 2 | 32.24 | 2.29 |
| BxC | 4 | 5.05 | .36 |
| AxBxC | 4 | 7.80 | .55 |
| Within | 36 | 14.11 | |

*p < .05 **p < .01

TABLE D-5

MEAN HELP DURATION (IN SECONDS) RESPONSES

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Aggression | Pos. Coping | Control | Totals |
| 4th | Boys | 81.85<br>45.55[a] | 70.47<br>35.37 | 108.55<br>35.34 | 90.64 |
| | Girls | 118.50<br>13.81 | 131.47<br>46.42 | 83.40<br>45.76 | 109.27 |
| | Total | 100.17 | 104.97 | 95.97 | 99.95 |
| 7th | Boys | 88.70<br>28.10 | 174.30<br>92.00 | 158.40<br>9.40 | 140.63 |
| | Girls | 71.00<br>21.28 | 81.20<br>27.00 | 89.70<br>73.50 | 73.97 |
| | Total | 79.85 | 118.00 | 124.05 | 107.30 |
| 10th | Boys | 147.30<br>90.81 | 178.80<br>80.82 | 133.80<br>43.38 | 156.00 |
| | Girls | 150.20<br>94.55 | 130.45<br>33.33 | 96.80<br>23.58 | 126.28 |
| | Total | 149.00 | 154.62 | 115.30 | 141.14 |
| | Overall | 111.93 | 129.93 | 103.66 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 4406.31 | 1.05 |
| B-Grade | 2 | 9507.27 | 2.24 |
| C-Condition | 2 | 2362.46 | .55 |
| A x B | 2 | 7506.82 | 1.77 |
| A x C | 2 | 3430.57 | .80 |
| B x C | 4 | 2033.92 | .48 |
| A x B x C | 4 | 1710.07 | .40 |
| Within | 36 | 4276.14 | |

TABLE D-6

MEAN POSITIVE COPING SCORES (BEHAVIOR POTENTIAL MEASURE)

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Aggression | Pos. Coping | Control | Totals |
| 4th | Boys | 2.06<br>.68[a] | 1.89<br>.68 | 2.10<br>.68 | 2.01 |
| | Girls | 2.54<br>.59 | 2.57<br>.47 | 2.69<br>.37 | 2.61 |
| | Total | 2.29 | 2.23 | 2.45 | 2.33 |
| 7th | Boys | 1.88<br>.66 | 2.16<br>.70 | 1.86<br>.49 | 1.97 |
| | Girls | 2.45<br>.51 | 2.15<br>.84 | 2.16<br>.64 | 2.27 |
| | Total | 2.12 | 2.16 | 2.01 | 2.10 |
| 10th | Boys | 1.91<br>.74 | 1.89<br>.70 | 1.88<br>.75 | 1.90 |
| | Girls | 2.63<br>.25 | 2.26<br>.60 | 2.49<br>.52 | 2.47 |
| | Total | 2.22 | 2.07 | 2.14 | 2.15 |
| | Overall | 2.21 | 2.15 | 2.21 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 21.93 | 54.05** |
| B-Grade | 2 | 1.58 | 3.90* |
| C-Condition | 2 | .12 | .29 |
| AxB | 2 | .78 | 1.92 |
| AxC | 2 | .44 | 1.09 |
| BxC | 4 | .39 | .96 |
| AxBxC | 4 | .41 | 1.00 |
| Within | 323 | .41 | |

*p < .05 **p < .01

TABLE D-7

MEAN FREQUENCY OF HURT RESPONSES

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Aggression | Pos. Coping | Control | Totals |
| 4th | Boys | 11.75<br>3.11[a] | 7.33<br>3.86 | 9.25<br>2.68 | 9.44 |
| | Girls | 8.50<br>1.12 | 9.00<br>2.94 | 8.25<br>3.77 | 8.55 |
| | Total | 10.13 | 8.17 | 8.75 | 9.09 |
| 7th | Boys | 12.00<br>1.00 | 4.50<br>4.50 | 5.50<br>2.50 | 7.33 |
| | Girls | 5.00<br>3.00 | 5.50<br>4.50 | 8.00<br>1.00 | 6.17 |
| | Total | 8.50 | 5.00 | 6.75 | 6.75 |
| 10th | Boys | 6.33<br>4.92 | 2.50<br>3.77 | 5.00<br>2.45 | 4.40 |
| | Girls | 5.67<br>4.19 | 3.00<br>3.08 | 8.33<br>.47 | 5.40 |
| | Total | 6.00 | 2.75 | 6.67 | 4.90 |
| | Overall | 8.39 | 5.06 | 7.01 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 1.50 | .10 |
| B-Grade | 2 | 92.56 | 6.01** |
| C-Condition | 2 | 54.74 | 3.55* |
| AxB | 2 | 7.06 | .46 |
| AxC | 2 | 28.22 | 1.83 |
| BxC | 4 | 6.38 | .41 |
| AxBxC | 4 | 8.02 | .52 |
| Within | 36 | 15.40 | |

*p < .05 **p < .01

TABLE D-3

ITEM HURT DURATION (IN SECONDS) RESPONSES

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Aggression | Pos. Coping | Control | Totals |
| 4th | Boys | 130.25<br>58.39[a] | 53.47<br>57.03 | 65.70<br>32.38 | 85.84 |
| | Girls | 69.00<br>29.29 | 61.67<br>49.33 | 71.20<br>47.37 | 67.85 |
| | Total | 99.62 | 57.67 | 68.45 | 76.85 |
| 7th | Boys | 74.30<br>32.70 | 27.50<br>27.50 | 58.00<br>43.40 | 53.27 |
| | Girls | 39.20<br>38.40 | 22.70<br>21.90 | 42.00<br>28.60 | 34.63 |
| | Total | 56.75 | 25.10 | 50.00 | 43.95 |
| 10th | Boys | 63.73<br>56.33 | 6.85<br>8.85 | 24.40<br>11.92 | 29.18 |
| | Girls | 44.00<br>49.53 | 27.95<br>29.23 | 40.93<br>41.76 | 36.66 |
| | Total | 58.87 | 17.40 | 32.67 | 32.92 |
| | Overall | 74.34 | 32.53 | 52.42 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 1020.95 | .45 |
| B-Grade | 2 | 10770.22 | 4.73* |
| C-Condition | 2 | 8065.00 | 3.54* |
| A x B | 2 | 1039.41 | .46 |
| A x C | 2 | 3704.63 | 1.63 |
| B x C | 4 | 304.16 | .13 |
| A x B x C | 4 | 265.10 | .12 |
| Within | 36 | 2276.30 | |

*p < .05

TABLE D-9

MEAN PHYSICAL AGGRESSION SCORES (BEHAVIOR POTENTIAL MEASURE)

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Aggression | Pos. Coping | Control | Totals |
| 4th | Boys | 1.36<br>.88[a] | 1.71<br>.78 | 1.17<br>.81 | 1.43 |
| | Girls | .52<br>.63 | .41<br>.55 | .49<br>.43 | .47 |
| | Total | .95 | 1.06 | .77 | .93 |
| 7th | Boys | 1.82<br>.61 | 1.55<br>1.00 | 1.57<br>.69 | 1.67 |
| | Girls | .84<br>.55 | 1.03<br>.79 | 1.01<br>.58 | .87 |
| | Total | 1.33 | 1.36 | 1.29 | 1.33 |
| 10th | Boys | 1.77<br>.77 | 1.73<br>.74 | 1.52<br>.63 | 1.67 |
| | Girls | .49<br>.30 | 1.07<br>.57 | .58<br>.48 | .70 |
| | Total | 1.22 | 1.41 | 1.12 | 1.24 |
| | Overall | 1.17 | 1.27 | 1.04 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 73.75 | 153.42** |
| B-Grade | 2 | 4.99 | 10.37** |
| C-Condition | 2 | 1.43 | 2.98 |
| A x B | 2 | .53 | 1.11 |
| A x C | 2 | 1.11 | 2.31 |
| B x C | 4 | .16 | .34 |
| A x B x C | 4 | 1.10 | 2.29 |
| Within | 323 | .48 | |

**p < .01

TABLE D-10

MEAN PHYSICAL & VERBAL AGGRESSION SCORES (BEHAVIOR POTENTIAL MEASURE)

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Aggression | Pos. Coping | Control | Totals |
| 4th | Boys | 2.74<br>1.27[a] | 3.13<br>1.16 | 2.50<br>1.12 | 2.85 |
| | Girls | 1.62<br>.84 | 1.47<br>.61 | 1.55<br>.56 | 1.55 |
| | Total | 2.19 | 2.33 | 1.97 | 2.16 |
| 7th | Boys | 3.55<br>.83 | 3.10<br>1.21 | 3.35<br>.76 | 3.34 |
| | Girls | 2.25<br>.75 | 2.79<br>1.14 | 2.89<br>.90 | 2.61 |
| | Total | 3.01 | 2.98 | 3.12 | 3.03 |
| 10th | Boys | 3.45<br>1.01 | 3.45<br>.99 | 3.37<br>.96 | 3.42 |
| | Girls | 2.06<br>.53 | 2.84<br>.83 | 2.18<br>.82 | 2.35 |
| | Total | 2.85 | 3.16 | 2.86 | 2.94 |
| | Overall | 2.71 | 2.81 | 2.62 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 104.13 | 115.36** |
| B-Grade | 2 | 25.76 | 28.53** |
| C-Condition | 2 | .97 | 1.08 |
| A x B | 2 | 2.71 | 3.01 |
| A x C | 2 | 1.23 | 1.37 |
| B x C | 4 | .77 | .85 |
| A x B x C | 4 | 2.18 | 2.42 |
| Within | 323 | .90 | |

**p < .01

NAME _____ GRADE _____

1. Was Nick good or bad?
   a. He was good. b. He was bad.
2. Was the Captain good or bad?
   a. He was good. b. He was bad.
3. Why was the Captain in trouble?
   a. Because the police thought that he was taking money from the criminals.
   b. Because he arrested an innocent man.
4. How did the Captain and the undercover policemen take care of Nick and his bodyguards?
   a. The undercover policemen beat up the bodyguards and the Captain shot Nick.
   b. The Captain convinced Nick to give himself up to the police.
5. Who was the little boy?
   a. He was Nick's nephew.
   b. He was the Captain's son.
6. Do you watch this program at home? How often?
   a. I watch it every day that I can.
   b. I watch it once in a while.
   c. I never watch it.
7. Did you like this program?
   a. Yes, I liked it a lot.
   b. It was OK.
   c. No, I didn't like it at all.
8. How many hours of TV do you watch every day?
   a. About 1 or 2 hours.
   b. About 3 or 4 hours.
   c. About 5 or 6 hours.
9. What is your favorite TV show?

NAME _____ GRADE _____

1. What did you think of Nick? Was he good or bad?

2. What did you think of the Captain? Was he good or bad?

3. Why was the Captain in trouble?

4. How did the Captain and the undercover policemen take care of Nick and his bodyguards?

5. Who was the little boy?

6. Do you ever watch this program at home? How often?

7. Did you like this program?

8. How many hours of TV do you watch every day?

9. What is your favorite TV show?

NAME _____ GRADE _____

1. Was the Captain good or bad?

   a. He was good. b. He was bad.

2. What were the undercover policemen trying to do?

   a. They were trying to help the Captain.

   b. They were trying to capture a narcotics gang.

3. Why was the Captain in trouble?

   a. Because the police thought that he was trying to get money from criminals.

   b. Because he arrested an innocent man.

4. Why didn't the Captain want his friends to help him?

   a. Because he didn't want anybody to know about the little boy.

   b. Because he was guilty and he didn't want them to find out.

5. Who was the little boy?

   a. He was Nick's nephew.

   b. He was the Captain's son.

6. Do you watch this program at home? How often?

   a. I watch it every day that I can.

   b. I watch it once in a while.

   c. I never watch it.

7. Did you like this program?

   a. Yes, I liked it a lot.

   b. It was OK.

   c. No, I didn't like it at all.

8. How many hours of TV do you watch every day?

   a. About 1 or 2 hours.

   b. About 3 or 4 hours.

   c. About 5 or 6 hours.

9 How did the undercover policement try to help the Captain?

   a. They didn't do anything because the Captain told them not to.

   b. They tried to figure out all the clues to get him out of trouble.

10. What is your favorite TV show?

NAME _____ GRADE _____

1. Was the Captain good or bad? Why?

2. What were the undercover policemen trying to do?

3. Why was the Captain in trouble?

4. Why didn't the Captain want his friends to help him?

5. Who was the little boy?

6. How did the undercover policement try to help the Captain?

7. Do you watch this program at home? How often?

8. Did you like this program? Why or why not?

9. How many hours of TV do you watch every day?

10. What is your favorite TV show?

NAME _____ GRADE _____

1. Where is the Savanna located?
   a. In South America.
   b. In Africa.

2. What kind of animals live on the Savanna?
   a. Elephants, vultures, antelope, zebras, buffalo.
   b. Tigers, monkeys, wolves, bears, and peacocks.

3. What do giraffes eat?
   a. Grass on the plain.
   b. Leaves from trees.

4. Do Hippos always stay in water?
   a. Yes, they live in ponds.
   b. No, they come out of the water to eat grass.

5. Do the animals fight with each other on the Savanna?
   a. Yes, they try to kill each other.
   b. No, they live together peacefully.

6. Did you like this show?
   a. Yes, I liked it a lot.
   b. It was OK.
   c. No, I didn't like it at all.

7. If you had a choice between watching the show you watched, and watching The Mod Squad, which would you watch?
   a. The Mod Squad.
   b. The show I watched.

8. How many hours of TV do you watch every day?
   a. About 1 or 2 hours.
   b. About 3 or 4 hours.
   c. About 5 or 6 hours.

9. What is your favorite TV show?

NAME _____ GRADE _____

1. What was the program about?

2. What did you like best about the program?

3. What did you like least about the program?

4. If you had a choice between watching this program and "The Mod Squad", which show would you watch?

5. What is your favorite television show?

6. How many hours of television do you watch every day?

7. Do grass fires completely destroy the Savanna? Why or why not?

8. How do elephants and hippos harm the Savanna?

9. Do the animals live peacefully together on the Savanna? Why or why not? Give an example to support your answer.

Appendix E J

Procedural Information, ~~Tables~~,
and Figures for Study II

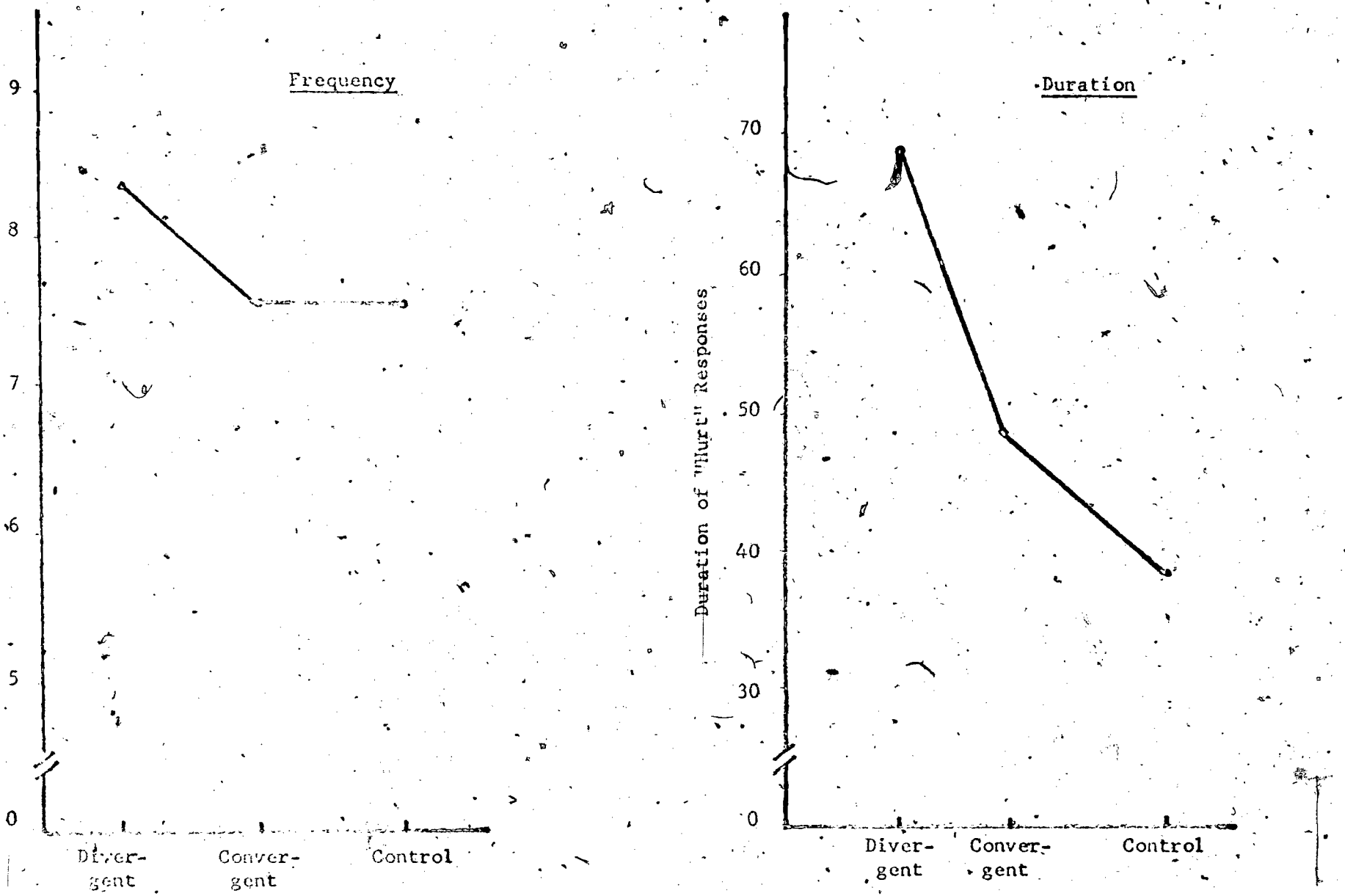


Figure 2. - Mean Frequency of "Hurt" and Hurt-Duration Responses (Help-Hurt Measure) For Three Viewing

Table E-1--Study 2

Convergent

Some undercover police officers meet with the police captain to discuss a current city problem: the city has plans for a sports arena where a park had been promised, and the neighborhood people have organized to protest; some of the young people in the neighborhood have apparently been stealing guns to organize a riot as part of the protest. A man is introduced as a police liason officer for the community.

The undercover agents and the liason officer are outside a day care center; the liason officer reveals that his father had been a police officer and had been killed in the line of duty in the same neighborhood. The liason officer says he "wants to get rid of them" with a strangely intense look on his face.

A mass demonstration is in progress; a neighborhood gang leader leaps up on a car and rallies the people to challenge the city. The liason officer, nearby, talks to a photographer about the right way to solve the problem--by "wasting" a few of the protestors.

The undercover agents visit a pool hall where the neighborhood leader and his gang hang out; the liason officer is also there. He tries to play it cool, but his eyes take on a steely, hateful look and one of the agents has to restrain him when the gang begins to harass him.

The liason officer, alone and off duty, visits the neighborhood leader and his gang at a warehouse in the neighborhood; he asks one of the young gang members to help him with some things he has to deliver to a mission. The young member agrees and goes off with the liason officer.

In an alley, the liason officer threatens the young boy if he will not tell him where the gang has hidden the stolen guns. A struggle ensues between the two; the boy breaks away and the officer

Divergent

A group of neighborhood people are protesting the proposed erection of a sports arena instead of the park they were promised in their neighborhood. One young leader is especially prominent in rallying the people.

In a police captain's office, the Captain and some undercover police officers discuss the neighborhood problem, and the fact that they suspect the young leader and his gang of a series of gun thefts--they fear that the guns will be used to start a riot. A man is introduced as a police liason officer for the community.

The undercover agents and the liason officer are outside a day care center; the liason officer reveals that his father had been a police officer and had been killed in the line of duty in the same neighborhood. The liason says he "wants to get rid of them--the violence and the hate" (in the neighborhood).

The undercover agents visit a pool hall where the neighborhood leader and his gang hang out; the liason officer is also there. He tries to play it cool, but his eyes take on a steely, hateful look and one of the undercover officers has to restrain him when the gang begins to harass him.

The liason officer, alone and off duty, visits the neighborhood leader at a warehouse in the neighborhood; he asks one of the young gang members to help him with some things he has to deliver to a mission. The young member agrees and goes off with the liason officer.

In an alley, the liason officer threatens the young boy if he will not tell him where the gang has hiddent the stolen guns. A struggle ensues betweeen the two; the boy breaks away and the officer [illegible] shoots and kills the fleeing

chases him; he then shoots and kills the fleeing boy.

The liason officer is caught and carried away in a police car. The Captain and the undercover agents discuss what has happened; the Captain states that it can't be excused.

chases him; he then shoots and kills the fleei boy.

An inquiry into the shooting is held; the liason officer appears remorseful at the boy's death, but states that he thought the boy had a gun and that he, the police offecer, was therefore shooting in self-defense. The liason officer is carried away in a police car; when one of the undercover agents asks what will happen to the former liason officer, the police Captain replies "I don't know."

TABLE E-2

CONTRIBUTION OF CLASSROOMS TO CONDITIONS IN STUDY II

| | Grade 2 | | | Grade 6 | | |
|---|---|---|---|---|---|---|
| | Con.[a] | Div.[b] | Control | Con. | Div. | Control |
| School 1 | | | | School 1 | | |
| Classroom 1 | x[c] | x | x | Classroom 1 | x | x | x |
| Classroom 2 | x | x | x | Classroom 2 | x | x | x |
| School 2 | | | | School 2 | | |
| Classroom 1 | x | x | x | Classroom 1 | x | x | x |
| Classroom 2 | x | x | x | Classroom 2 | x | x | x |

[a] Convergent condition

[b] Divergent condition

[c] "x" denotes conditions to which classroom contributed

TABLE E-3

NUMBER OF SUBJECTS TESTED

BY BEHAVIOR POTENTIAL AND HELP-HURT MEASURES

BY AGE, SEX, AND CONDITION

| | | BEHAVIOR POTENTIAL | | | | | HELP-HURT | | |
|---|---|---|---|---|---|---|---|---|---|
| | | CONDITION | | | | | CONDITION | | |
| | | CONVERGENT | DIVERGENT | CONTROL | | | CONVERGENT | DIVERGENT | CONTROL |
| 2nd | BOYS | 6 | 3 | 2 | 2nd | BOYS | 9 | 10 | 3 |
| | GIRLS | 5 | 4 | 3 | | GIRLS | 7 | 7 | 4 |
| | TOTAL | 11 | 7 | 5 | | TOTAL | 16 | 17 | 7 |
| 6th | BOYS | 9 | 9 | 9 | 6th | BOYS | 8 | 8 | 8 |
| | GIRLS | 7 | 7 | 6 | | GIRLS | 7 | 8 | 7 |
| | TOTAL | 16 | 16 | 15 | | TOTAL | 15 | 16 | 15 |
| | OVERALL | 27 | 23 | 20 | | OVERALL | 31 | 33 | 22 |

TABLE E-4

MEAN FREQUENCY OF HURT RESPONSES

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Convergent | Divergent | Control | Totals |
| 2nd | Boys | 8.00<br>4.06[a] | 10.20<br>4.56 | 7.67<br>4.03 | 8.95 |
| | Girls | 7.14<br>3.56 | 6.57<br>2.72 | 6.75<br>4.14 | 6.83 |
| | Total | 7.63 | 8.71 | 7.14 | 8.00 |
| 6th | Boys | 7.38<br>2.13 | 7.75<br>4.52 | 7.63<br>3.39 | 7.58 |
| | Girls | 9.00<br>1.60 | 8.88<br>2.31 | 8.83<br>5.51 | 8.91 |
| | Total | 8.13 | 8.31 | 8.20 | 8.22 |
| | Overall | 7.87 | 8.52 | 7.86 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 1.49 | .09 |
| B-Grade | 1 | 1.01 | .06 |
| C-Condition | 2 | 4.26 | .27 |
| AxB | 1 | 63.16 | 3.97* |
| AxC | 2 | 7.43 | .47 |
| BxC | 2 | 3.56 | .22 |
| AxBxC | 2 | 4.58 | .29 |
| Within | 74 | 15.93 | |

*$p < .05$

TABLE E-5

MEAN HURT DURATION (IN SECONDS) RESPONSES

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Convergent | Divergent | Control | Totals |
| 2nd | Boys | 45.39<br>40.70[a] | 102.08<br>64.58 | 38.37<br>44.07 | 70.45 |
| | Girls | 55.61<br>43.73 | 54.49<br>43.40 | 54.70<br>49.28 | 54.97 |
| | Total | 50.14 | 82.48 | 47.83 | 63.48 |
| | Boys | 42.30<br>19.55 | 65.17<br>52.59 | 43.21<br>29.59 | 50.23 |
| | Girls | 56.00<br>44.56 | 71.75<br>40.80 | 36.04<br>23.09 | 55.38 |
| | Total | 48.69 | 68.46 | 39.87 | 52.69 |
| | Overall | 49.44 | 75.68 | 42.40 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 473.19 | .22 |
| B-Grade | 1 | 2491.49 | 1.14 |
| C-Condition | 2 | 8969.02 | 4.10* |
| AxB | 1 | 2262.65 | 1.03 |
| AxC | 2 | 2328.25 | 1.06 |
| BxC | 2 | 436.97 | .20 |
| AxBxC | 2 | 2619.35 | 1.20 |
| Within | 74 | 2187.45 | |

*p < .05

TABLE E-6

MEAN PHYSICAL AGGRESSION SCORES (BEHAVIOR POTENTIAL MEASURE)

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Convergent | Divergent | Control | Totals |
| 2nd | Boys | .89<br>1.16[a] | 1.28<br>.42 | 1.75<br>1.09 | 1.15 |
| | Girls | .10<br>.20 | .92<br>.69 | .17<br>.14 | .39 |
| | Total | .53 | 1.07 | .80 | 1.09 |
| 6th | Boys | 1.20<br>.75 | 1.02<br>.67 | 1.54<br>.88 | 1.27 |
| | Girls | 1.43<br>.91 | .45<br>.47 | .61<br>.30 | .84 |
| | Total | 1.33 | .77 | 1.17 | .75 |
| | Overall | 1.01 | .86 | 1.08 | |

[a] Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 5.54 | 8.64* |
| B-Grade | 1 | 1.73 | 2.70 |
| C-Condition | 2 | .26 | .41 |
| AxB | 1 | .48 | .74 |
| AxC | 2 | 1.13 | 1.76 |
| BxC | 2 | 1.72 | 2.68 |
| AxBxC | 2 | .63 | .98 |
| Within | 58 | .64 | |

*p < .05

TABLE E-7

MEAN FREQUENCY OF HELP RESPONSES

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Convergent | Divergent | Control | Totals |
| 2nd | Boys | 11.67<br>4.13[a] | 8.90<br>3.73 | 12.33<br>4.03 | 10.50 |
| | Girls | 12.29<br>3.41 | 12.71<br>2.54 | 12.75<br>4.55 | 12.56 |
| | Total | 11.94 | 10.47 | 12.57 | 11.42 |
| | Boys | 11.83<br>1.83 | 12.25<br>4.52 | 12.50<br>3.50 | 12.21 |
| | Girls | 10.14<br>2.29 | 11.00<br>2.23 | 11.00<br>5.53 | 10.73 |
| | Total | 11.07 | 11.62 | 11.80 | 11.50 |
| | Overall | 11.52 | 11.03 | 12.05 | |

[a]Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | .54 | .04 |
| B-Grade | 1 | .12 | .01 |
| C-Condition | 2 | 6.86 | .45 |
| AxB | 1 | 66.48 | 4.34* |
| AxC | 2 | 10.97 | .72 |
| BxC | 2 | 9.98 | .65 |
| AxBxC | 2 | 6.41 | .42 |
| Within | 74 | 15.33 | |

*p < .05

TABLE E-8

MEAN HELP DURATION (IN SECONDS) RESPONSES

BY AGE, SEX, AND CONDITION

| | | Condition | | | |
|---|---|---|---|---|---|
| | | Convergent | Divergent | Control | Totals |
| 2nd | Boys | 100.18<br>57.28[a] | 79.28<br>46.52 | 108.37<br>96.48 | 91.86 |
| | Girls | 120.03<br>67.74 | 102.66<br>63.28 | 62.85<br>29.97 | 100.57 |
| | Total | 108.86 | 88.91 | 82.57 | 95.78 |
| 6th | Boys | 99.29<br>39.89 | 116.12<br>71.29 | 97.91<br>76.00 | 104.44 |
| | Girls | 81.11<br>34.14 | 106.55<br>38.23 | 57.70<br>40.11 | 82.91 |
| | Total | 90.81 | 111.34 | 79.15 | 94.15 |
| | Overall | 100.13 | 99.78 | 80.24 | |

[a]Standard Deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 1225.60 | .33 |
| B-Grade | 1 | 57.15 | .02 |
| C-Condition | 2 | 3181.76 | .86 |
| AxB | 1 | 4858.88 | 1.31 |
| AxC | 2 | 4538.31 | 1.23 |
| BxC | 2 | 3439.25 | .93 |
| AxBxC | 2 | 951.90 | .26 |
| Within | 74 | 3696.67 | |

Convergent-Divergent Study

Instructions to Interviewers

Please pay particular attention to any confusions of intention or consequences that are related by the children, especially with the young children in the divergent condition.

Use probes as necessary, but do not give the children the answers.

Secondly, please pay particular attention to the children's explanations of consequences and especially again with the young children. Use necessary probes, but do not give the children the answers.

Convergent-Divergent Study Interview

Child's Name _____

Interviewer _____

Grade _____

Condition _____

I. General plot recall.

Tell me what you remember about the television program?

II. Aggression Scene.

1. In the television program you watched, there was a fight and a shooting. Could you tell me what you remember about it?

2. Who did the shooting?

3. Who did Ernie shoot at?

III. Motives.

1. What did you think of Ernie before the shooting? (Was he good or bad?)

2. Why did Ernie shoot Palo?

IV. Consequences.

1. What happened to Ernie after the shooting?

V. General Evaluations.

1. In general, what do you think about Ernie? (Was he good or bad? Why do you think so?)

2. Pretend you were Ernie in this program. Would you have done what he did? Why or why not?

3. Do you watch this program at home?

4. Have you ever seen this show before (i.e. this episode)?

5. Was this program more interesting, about the same, or less interesting than other television programs?

NAME _____

1. Who was Ernie?
   a. He lived in the neighborhood?
   b. He was a policeman for the neighborhood.
   c. He was Captain Greer's son.

2. Was Ernie good or bad?
   a. He was bad.
   b. He was good.
   c. He was good and bad.

3. What was Ernie trying to do?
   a. He wanted to find the stolen guns.
   b. He wanted to hurt the people who wanted the park.
   c. He wanted a park.

4. Why did Ernie shoot Palo?
   a. Because Palo was a robber.
   b. He wanted to find the stolen guns.

5. Was Palo (the man who got shot) good or bad?
   a. He was good.
   b. He was bad.
   c. He was both good and bad.

6. Was it OK for Ernie to shoot Palo?
   a. Yes, it was OK.
   b. No, it was not OK.
   c. I don't know.

7. What happened to Ernie?
   a. He went to jail.
   b. The show didn't say.
   c. I don't know.

8. What do you think of the people who wanted the park?
   a. They were good.
   b. They were bad.
   c. They were both good and bad.

9. Did you like this show?
   a. Yes, I liked it very much. b. No, I did not like it. c. It was OK.

10. Have you ever seen this show before?

a. Yes.

b. No.

NAME _____

GRADE _____

1. Who was Ernie?

2. Was Ernie good or bad?

3. What was Ernie trying to do?

4. Why did Ernie shoot Palo?

5. Was Palo (the man who got shot) good or bad?

6. Was it OK for Ernie to shoot Palo?

7. What happened to Ernie?

8. What do you think of the people who wanted the park?

9. Did you like this show?

10. Have you ever seen this show before?

# Appendix F

## Procedural Information, Tables, and Figures for Study III

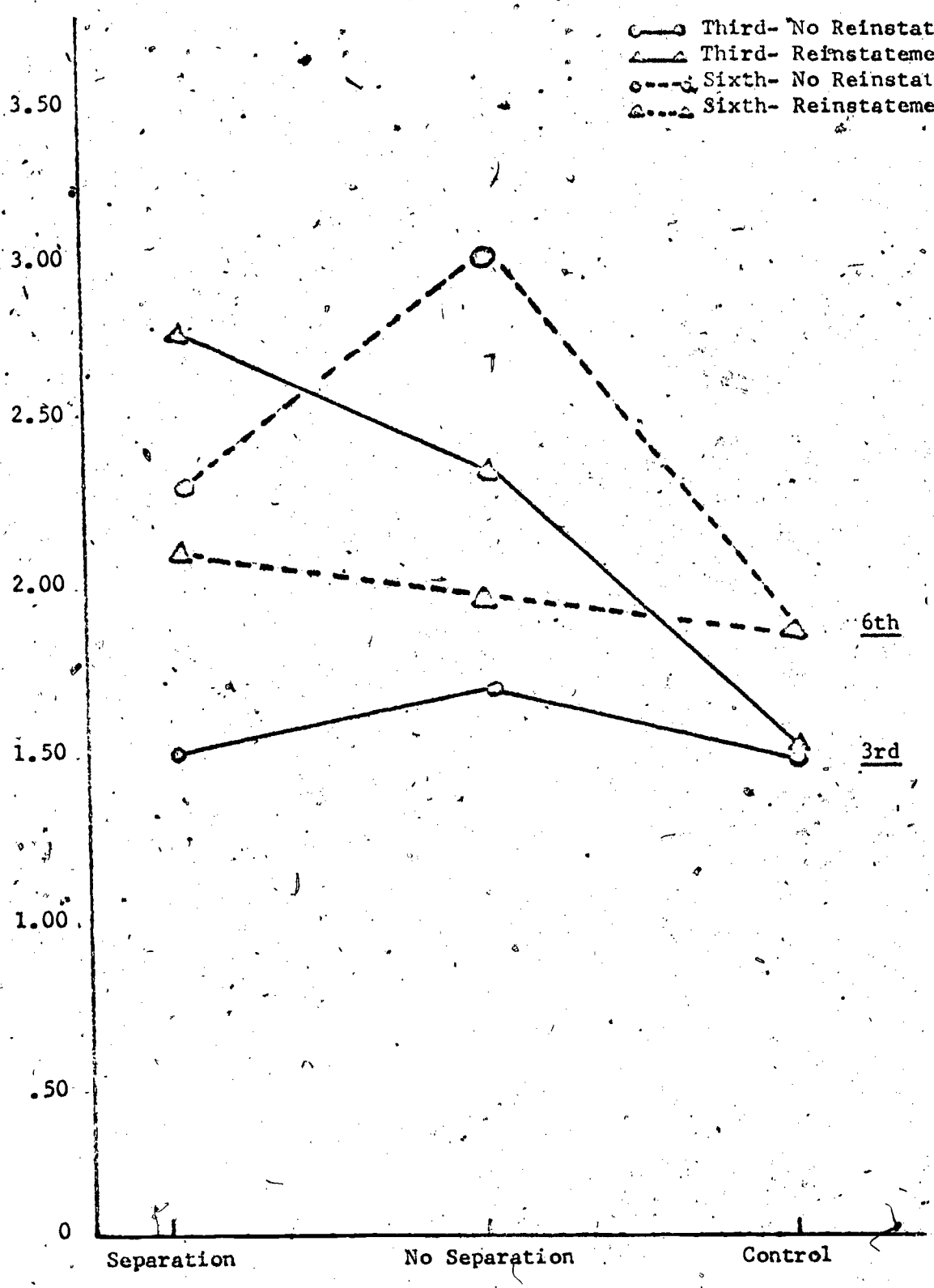


Figure 3. - Physical and Verbal Aggression Scores (Behavior-Potential Measure) By Grade And Viewing Condition.

TABLE F-1

CONTRIBUTION OF CLASSROOMS TO CONDITIONS IN STUDY III

| GRADE 3 | No Rein.[a] | | Rein.[b] | | Control |
|---|---|---|---|---|---|
| | Sep.[c] | N.S.[d] | Sep. | N.S. | |
| School 1 | | | | | |
| Classroom 1 | x[e] | | x | x | |
| Classroom 2 | x | x | | x | |
| Classroom 3 | | x | x | | x |
| School 2 | | | | | |
| Classroom 1 | | x | | x | x |
| Classroom 2 | x | | x | | x |

| GRADE 6 | No.Rein. | | Rein. | | Control |
|---|---|---|---|---|---|
| | Sep. | N.S. | Sep. | N.S. | |
| School 1 | | | | | |
| Classroom 1 | | x | x | | x |
| Classroom 2 | x | | x | x | |
| School 2 | | | | | |
| Classroom 1 | x | x | | x | |
| Classroom 2 | x | | x | | x |
| Classroom 3 | | x | | x | x |

[a] No Reinstatement

[b] Reinstatement

[c] Separation

[d] No separation

[e] "x" denotes conditions to which classrooms contributed

00122

TABLE F-2

NUMBER OF SUBJECTS TESTED

BY BEHAVIOR POTENTIAL AND HELP-HURT MEASURES

BY AGE, SEX, AND CONDITION

| | | BEHAVIOR POTENTIAL | | | | | | HELP-HURT | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CONDITION | | | | | | CONDITION | | | | | |
| | | NO REINSTATEMENT | | | REINSTATEMENT | | | NO REINSTATEMENT | | | REINSTATEMENT | | |
| | | SEP. | NO SEP. | CONT. | SEP. | NO SEP. | | SEP. | NO SEP. | CONT. | SEP. | NO SEP. | |
| 3rd | BOYS | 3 | 4 | 6 | 5 | 4 | 3rd | BOYS | 3 | 2 | 7 | 6 | 7 |
| | GIRLS | 3 | 2 | 2 | 5 | 4 | | GIRLS | 3 | 2 | 7 | 5 | 7 |
| | TOTAL | 6 | 6 | 8 | 10 | 8 | | TOTAL | 6 | 4 | 14 | 11 | 14 |
| 6th | BOYS | 6 | 4 | 6 | 4 | 5 | 6th | BOYS | 5 | 5 | 7 | 5 | 6 |
| | GIRLS | 3 | 7 | 6 | 8 | 6 | | GIRLS | 2 | 6 | 6 | 6 | 5 |
| | TOTAL | 9 | 11 | 12 | 12 | 11 | | TOTAL | 7 | 11 | 13 | 11 | 11 |
| | OVERALL | 15 | 17 | 20 | 22 | 19 | | OVERALL | 13 | 15 | 27 | 22 | 25 |

TABLE F-3

MEAN NUMBER OF HURT RESPONSES (HELP-HURT MEASURE)

BY SEX, AGE, AND TEMPORAL SEPARATION/REINSTATEMENT

| | | Condition | | | | | |
|---|---|---|---|---|---|---|---|
| | | No reinstatement | | | Reinstatement | | |
| | | Separation | No Sep. | Control | Separation | No Sep. | Totals |
| 3rd | Boys | 8.33<br>1.25[a] | 10.00<br>1.00 | 9.43<br>1.84 | 9.67<br>3.25 | 7.71<br>2.05 | 8.92 |
| | Girls | 6.67<br>4.71 | 7.00<br>4.00 | 8.00<br>2.97 | 9.00<br>1.67 | 7.14<br>2.29 | 7.71 |
| | Total | 7.50 | 8.50 | 8.71 | 9.36 | 7.43 | 8.33 |
| 6th | Boys | 8.40<br>3.38 | 7.40<br>3.01 | 7.00<br>3.93 | 8.00<br>3.29 | 8.33<br>1.25 | 7.79 |
| | Girls | 6.50<br>4.30 | 6.33<br>1.25 | 3.50<br>2.57 | 7.00<br>3.51 | 6.40<br>3.38 | 5.84 |
| | Total | 7.86 | 6.82 | 5.38 | 7.45 | 7.45 | 6.87 |
| | Overall | 7.69 | 7.27 | 7.11 | 8.41 | 7.44 | |

[a]Standard Deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 62.41 | 6.17* |
| B-Grade | 1 | 54.17 | 5.36* |
| C-Condition | 4 | 5.79 | .57 |
| AxB | 1 | 3.46 | .34 |
| AxC | 4 | 1.72 | .17 |
| BxC | 4 | 12.75 | 1.26 |
| AxBxC | 4 | 2.63 | .26 |
| Within | 82 | 10.11 | |

*p < .05

TABLE F-4

MEAN HURT DURATION SCORES (HELP-HURT MEASURE)

BY SEX, AGE, AND TEMPORAL SEPARATION/REINSTATEMENT

| | | Condition | | | | | |
|---|---|---|---|---|---|---|---|
| | | No reinstatement | | | Reinstatement | | |
| | | Separation | No Sep. | Control | Separation | No Sep. | Totals |
| 3rd | Boys | 57.87<br>33.99[a] | 69.50<br>17.70 | 71.43<br>52.57 | 83.73<br>49.93 | 67.31<br>57.46 | 71.45 |
| | Girls | 41.87<br>31.39 | 61.00<br>53.80 | 55.57<br>36.32 | 42.76<br>26.43 | 51.49<br>38.72 | 50.45 |
| | Total | 49.87 | 65.25 | 63.50 | 65.11 | 59.40 | 61.16 |
| 6th | Boys | 75.00<br>37.22 | 36.64<br>36.09 | 38.09<br>30.15 | 44.00<br>38.54 | 55.97<br>38.29 | 49.32 |
| | Girls | 8.80<br>5.00 | 33.20<br>20.97 | 10.97<br>11.03 | 54.00<br>38.96 | 43.76<br>33.29 | 33.02 |
| | Total | 56.14 | 34.76 | 25.57 | 49.45 | 50.42 | 41.63 |
| | Overall | 53.25 | 42.89 | 45.24 | 57.28 | 55.45 | |

[a] Standard deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 8436.77 | 4.74* |
| B-Grade | 1 | 9714.34 | 5.46* |
| C-Condition | 4 | 827.71 | .46 |
| AxB | 1 | 145.97 | .08 |
| AxC | 4 | 557.83 | .31 |
| BxC | 4 | 1473.98 | .83 |
| AxBxC | 4 | 1452.30 | .82 |
| Within | 82 | 1780.59 | |

*p < .05

TABLE F-5

MEAN PHYSICAL AGGRESSION SCORES (BEHAVIOR POTENTIAL MEASURE)

BY SEX, AGE, AND TEMPORAL SEPARATION/REINSTATEMENT

| | | Condition | | | | | |
|---|---|---|---|---|---|---|---|
| | | No reinstatement | | | Reinstatement | | |
| | | Separation | No Sep. | Control | Separation | No Sep. | Totals |
| 3rd | Boys | .67<br>.24[a] | .88<br>.51 | .64<br>.65 | 2.07<br>.63 | 1.73<br>.72 | 1.23 |
| | Girls | .39<br>.29 | .66<br>.17 | .09<br>.09 | .63<br>.66 | .42<br>.48 | .47 |
| | Total | .53 | .81 | .50 | 1.35 | 1.12 | .91 |
| 6th | Boys | .94<br>.63 | 1.71<br>.56 | 1.11<br>.50 | .79<br>.42 | .93<br>.81 | 1.08 |
| | Girls | 1.39<br>1.00 | .88<br>.86 | .33<br>.40 | .77<br>.87 | .53<br>.75 | .72 |
| | Total | 1.09 | 1.18 | .72 | .78 | .71 | .88 |
| | Overall | .87 | 1.05 | .63 | 1.04 | .89 | |

[a]Standard Deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 6.16 | 12.54** |
| B-Grade | 1 | .01 | .02 |
| C-Condition | 4 | .56 | 1.14 |
| AxB | 1 | .98 | 1.99 |
| AxC | 4 | .55 | 1.12 |
| BxC | 4 | 1.12 | 2.28 |
| AxBxC | 4 | .90 | 1.83 |
| Within | 73 | .49 | |

**p < .01

TABLE F-6

MEAN PHYSICAL & VERBAL AGGRESSION SCORES (BEHAVIOR POTENTIAL MEASURE)

BY SEX, AGE, AND TEMPORAL SEPARATION/REINSTATEMENT

| | | Condition | | | | | |
|---|---|---|---|---|---|---|---|
| | | No reinstatement | | | Reinstatement | | |
| | | Separation | No Sep. | Control | Separation | No Sep. | Totals |
| 3rd | Boys | 1.83<br>.60[a] | 1.67<br>.52 | 1.64<br>.79 | 3.90<br>.87 | 3.25<br>.63 | 2.48 |
| | Girls | 1.33<br>.24 | 1.91<br>.59 | 1.17<br>.03 | 1.90<br>.97 | 1.67<br>.61 | 1.65 |
| | Total | 1.58 | 1.75 | 1.52 | 2.90 | 2.46 | 2.13 |
| 6th | Boys | 2.05<br>.04 | 3.62<br>.35 | 2.83<br>.77 | 2.29<br>.55 | 2.30<br>1.12 | 2.58 |
| | Girls | 3.00<br>1.47 | 3.00<br>1.21 | 1.47<br>.53 | 2.17<br>.86 | 1.83<br>.99 | 2.24 |
| | Total | 2.37 | 3.23 | 2.75 | 2.21 | 2.05 | 2.39 |
| | Overall | 2.05 | 2.71 | 1.90 | 2.52 | 2.22 | |

[a]Standard Deviation

ANOVA TABLE

| Source | df. | MS | F |
|---|---|---|---|
| A-Sex | 1 | 5.80 | 6.57* |
| B-Grade | 1 | 1.59 | 1.80 |
| C-Condition | 4 | 2.02 | 2.30 |
| AxB | 1 | 1.46 | 1.65 |
| AxC | 4 | 1.76 | 1.99 |
| BxC | 4 | 3.61 | 4.09** |
| AxBxC | 4 | 2.19 | 2.49 |
| Within | 73 | .88 | |

*p < .05 **p < .01

TABLE F-7

MEAN NUMBER OF HELP RESPONSES (HELP-HURT MEASURE)

BY SEX, AGE, AND TEMPORAL SEPARATION/REINSTATEMENT

| | | Condition | | | | | |
|---|---|---|---|---|---|---|---|
| | | No reinstatement | | | Reinstatement | | |
| | | Separation | No Sep. | Control | Separation | No Sep. | Totals |
| 3rd | Boys | 11.67<br>1.25[a] | 10.00<br>1.00 | 10.14<br>1.36 | 10.00<br>3.16 | 11.86<br>2.23 | 10.76 |
| | Girls | 13.33<br>4.71 | 12.50<br>4.50 | 11.86<br>2.89 | 10.80<br>1.60 | 12.71<br>2.19 | 12.13 |
| | Total | 12.50 | 11.25 | 11.00 | 10.36 | 12.29 | 11.43 |
| 6th | Boys | 11.60<br>3.36 | 12.60<br>3.00 | 12.57<br>4.17 | 12.00<br>3.29 | 11.67<br>1.25 | 12.11 |
| | Girls | 13.50<br>4.50 | 13.67<br>1.25 | 16.50<br>2.56 | 13.00<br>3.51 | 13.60<br>3.36 | 14.16 |
| | Total | 12.14 | 13.13 | 14.38 | 12.55 | 12.55 | 13.08 |
| | Overall | 12.31 | 12.67 | 12.63 | 11.45 | 12.40 | |

[a] Standard Deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 72.85 | 7.16** |
| B-Grade | 1 | 69.06 | 6.78* |
| C-Condition | 4 | 5.23 | .51 |
| AxB | 1 | 3.05 | .30 |
| AxC | 4 | 2.40 | .24 |
| BxC | 4 | 12.36 | 1.21 |
| AxBxC | 4 | 2.32 | .23 |
| Within | 82 | 10.18 | |

*p < .05 **p < .01

TABLE F-3

MEAN HELP DURATION SCORES (HELP-HURT MEASURE)

BY SEX, AGE, AND TEMPORAL SEPARATION/REINSTATEMENT

| | | Condition | | | | | |
|---|---|---|---|---|---|---|---|
| | | No reinstatement | | | Reinstatement | | |
| | | Separation | No Sep. | Control | Separation | No Sep. | Totals |
| 3rd | Boys | 113.73<br>32.26[a] | 107.40<br>26.00 | 66.49<br>33.15 | 86.27<br>48.69 | 121.31<br>29.09 | 95.53 |
| | Girls | 127.40<br>95.34 | 164.60<br>70.60 | 86.23<br>33.44 | 75.32<br>28.82 | 133.40<br>49.55 | 109.39 |
| | Total | 120.57 | 136.00 | 76.36 | 81.29 | 127.36 | 102.32 |
| 6th | Boys | 124.36<br>64.76 | 95.00<br>72.97 | 96.46<br>60.00 | 114.52<br>69.02 | 79.27<br>38.61 | 100.74 |
| | Girls | 122.70<br>85.50 | 136.43<br>22.09 | 160.83<br>79.71 | 115.57<br>63.98 | 135.16<br>47.59 | 135.93 |
| | Total | 123.89 | 117.64 | 126.17 | 115.09 | 104.67 | 117.34 |
| | Overall | 122.35 | 122.53 | 100.34 | 98.19 | 117.38 | |

[a]Standard Deviation

ANOVA TABLE

| Source | df | MS | F |
|---|---|---|---|
| A-Sex | 1 | 15472.26 | 4.29* |
| B-Grade | 1 | 5742.04 | 1.59 |
| C-Condition | 4 | 2821.51 | .78 |
| AxB | 1 | 2897.56 | .80 |
| AxC | 4 | 2110.62 | .58 |
| BxC | 4 | 5692.48 | 1.58 |
| AxBxC | 4 | 1015.72 | .28 |
| Within | 82 | 3610.57 | |

*p < .05

SYNOPSIS OF THE STIMULUS PROGRAM

Three undercover Federal agents assigned to fight organized crime had infiltrated the construction industry in an American city. The leader was posing as a troubleshooter for the national headquarters of a construction workers' union; another of the agents was doing blue-collar labor in a construction company, and the third agent was a secretary in the office of the same company.

A man appeared at the construction company with a threat to foreclose on the owner, a woman, because her late husband had owed him $150,000. The leader of the undercover agents persuaded the woman to ask her husband's leading customers to loan her the money to pay the debt. When she met with them, the agent explained that the loan company of the man demanding the money was a part of organized crime and that it victimized both owners and workers by charging high interest payments for fast financing. One of the customers agreed to subsidize the woman owner; but he subsequently reneged, ostensibly because the man demanding the money had threatened him.

Meanwhile, the leader of the agents discovered that the man demanding the money had been responsible for arson and murder at another construction company. The agent who was working as a secretary told the man demanding the money that the woman owner might have some incriminating information about the fire. When the man came to find the woman owner, the lead agent met him and paraphrased a false "confession" from the woman's late husband, who had been forced to accompany the antagonist to the scene of the fire. The antagonist bolted from the room, pursued by two of the agents. They followed him as he climbed some of the tall structures in the construction yard. The antagonist grappled with the head agent and shot him in the shoulder. When one of the other agents caught up with him, the antagonist knocked him down. Finally, the two agents trapped the antagonist between them. In trying to break away, he fell on a conveyor belt leading into a large industrial cement mixer. The fall knocked him unconscious, and his body went into the machine.

Later the federal agents explained the situation to the police, and the woman owner of the construction company reported that the antagonist's lawyer had made a reasonable settlement of her husband's debt. The narrator explained that the antagonist's organization had dissolved after his death and that his henchmen were serving prison terms for the crimes they had commited.

Name _____ Sex _____

Age _____ Birthdate _____
Month Day Year

Grade _____ School _____

Teacher _____

We would appreciate knowing how you feel about some things. Please help us by putting a check mark next to the answer that is most like what you think.

For example:

1. We should have school only three days a week.

Do you: _____ agree or _____ disagree

Be sure to answer every question, and work as quickly as you can. Thank you very much.

## QUESTIONNAIRE

1. There is no good reason for ever hitting anyone.

   Do you: ____ agree or _____ disagree

2. People who keep bothering me are asking for a punch in the nose.

   Do you: _____ agree or _____ Disagree

3. Anybody who says bad things about me is looking for a fight.

   Do you: _____ agree or _____ disagree

4. Sometimes a fight is a good way to settle an argument.

   What do you think? _____ I agree
   _____ I'm not sure
   _____ I don't agree

5. The best way to deal with someone who keeps bothering you is to rough him up a little.

   What do you think? _____ I agree
   _____ I'm not sure
   _____ I don't agree

6. Sometimes a fight is the easiest way to get what you want.

   What do you think? _____ I agree
   _____ I'm not sure
   _____ I don't agree

7. It is perfectly natural for people to want to fight sometimes.

   What do you think? _____ I agree
   _____ I'm not sure
   _____ I don't agree

8. I see nothing wrong in a fight between two people.

   What do you think? _____ I agree
   _____ I'm not sure
   _____ I don't agree

## QUESTIONNAIRE

9. It's OK with me if two of my friends get into a fight.

What do you think?

_____ I agree
_____ I'm not sure
_____ I don't agree

10. Fighting is one thing I never approve of.

What do you think?

_____ I agree
_____ I'm not sure
_____ I don't agree

Study III Interview

Child's Name _____

Grade _____

Condition _____

1. Tell me what you remember about the show.

2. Do you remember Max? What happened to Max?

3. Do you remember the fight scene? Describe it.

4. What did you think of Max? Was he good or bad?

5. Why did Max fight with the secret (federal) agent?

# Appendix G

## Comparison of Results from

## Behavior Potential and Help-Hurt Measures

TABLE G-1

COMPARISON OF NEGATIVE MEASURES IN ALL THREE STUDIES

| | | STUDY I | | | | | | | | STUDY II | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Aggression | | Pos. Coping | | Control | | | | Convergent | | Divergent | | Control | |
| | | PA[a] | H[b] | PA | H | PA | H | | | PA | H | PA | H | PA | H |
| | Boys | 1.36 | 130.25 | 1.71 | 53.47 | 1.17 | 65.70 | | Boys | .89 | 45.89 | 1.28 | 102.08 | 1.75 | 38.67 |
| 4th | Girls | .52 | 69.00 | .41 | 61.87 | .49 | 71.20 | 2nd | Girls | .10 | 55.61 | .92 | 54.49 | .17 | 54.70 |
| | Total | .95 | 99.62 | 1.06 | 57.67 | .77 | 68.45 | | Total | .53 | 50.14 | 1.07 | 82.48 | .80 | 47.83 |
| | Boys | 1.82 | 74.30 | 1.55 | 27.50 | 1.57 | 58.00 | | Boys | 1.26 | 42.30 | 1.02 | 65.17 | 1.54 | 43.21 |
| 7th | Girls | .64 | 39.20 | 1.03 | 22.70 | 1.01 | 42.00 | 6th | Girls | 1.43 | 56.00 | .45 | 71.75 | .61 | 36.04 |
| | Total | 1.33 | 56.75 | 1.36 | 25.10 | 1.29 | 50.00 | | Total | 1.33 | 48.69 | .77 | 68.46 | 1.17 | 39.87 |
| | Boys | 1.77 | 63.73 | 1.73 | 6.85 | 1.52 | 24.40 | | Overall | 1.01 | 49.44 | .86 | 75.68 | 1.08 | 42.40 |
| 10th | Girls | .49 | 44.00 | 1.07 | 27.95 | .58 | 40.93 | | | | | | | | |
| | Total | 1.22 | 53.87 | 1.41 | 17.40 | 1.12 | 32.67 | | | | | | | | |
| | Overall | 1.17 | 74.84 | 1.27 | 32.53 | 1.04 | 52.42 | | | | | | | | |

[a] Physical aggression means (Behavior Potential Measu

[b] Hurt means (Help-Hurt Measure)

Study III will be found on the following page

STUDY III

| | | No Reinstatement | | | | Reinstatement | | | | Control | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Separation | | No Separation | | Separation | | No Separation | | | |
| | | PA | H | PA | H | PA | H | PA | H | PA | H |
| 3rd | Boys | .67 | 57.87 | .88 | 69.50 | 2.07 | 83.73 | 1.83 | 67.31 | .64 | 71.43 |
| | Girls | .39 | 41.87 | .66 | 61.00 | .63 | 42.76 | .42 | 51.49 | .09 | 55.57 |
| | Total | .53 | 49.87 | .81 | 65.25 | 1.35 | 65.11 | 1.12 | 59.40 | .50 | 63.50 |
| 6th | Boys | .94 | 75.03 | 1.7 | 36.64 | .79 | 44.00 | .93 | 55.97 | 1.11 | 38.09 |
| | Girls | 1.39 | 8.80 | .88 | 33.20 | .77 | 54.00 | .53 | 43.76 | .33 | 10.97 |
| | Total | 1.09 | 56.14 | 1.18 | 34.76 | .78 | 49.45 | .71 | 50.42 | .72 | 25.57 |
| | Overall | .87 | 53.25 | 1.05 | 42.89 | 1.04 | 57.28 | .89 | 55.45 | .63 | 45.24 |

TABLE G-2

COMPARISON OF POSITIVE MEASURES IN STUDY I

| | | CONDITION | | | | | |
|---|---|---|---|---|---|---|---|
| | | Aggression | | Pos. Coping | | Control | |
| | | PC[a] | H[b] | PC | H | PC | H |
| 4th | Boys | 2.06 | 3.00 | 1.89 | 12.33 | 2.10 | 10.50 |
| | Girls | 2.54 | 11.50 | 2.57 | 11.33 | 2.69 | 10.75 |
| | Total | 2.29 | 9.75 | 2.23 | 11.83 | 2.45 | 10.63 |
| 7th | Boys | 1.88 | 8.00 | 2.16 | 15.50 | 1.86 | 14.50 |
| | Girls | 2.45 | 15.00 | 2.15 | 13.00 | 2.16 | 12.00 |
| | Total | 2.12 | 11.50 | 2.16 | 14.25 | 2.01 | 13.25 |
| 10th | Boys | 1.91 | 13.67 | 1.89 | 17.25 | 1.88 | 15.00 |
| | Girls | 2.63 | 14.33 | 2.26 | 17.00 | 2.49 | 11.67 |
| | Total | 2.22 | 14.00 | 2.07 | 17.13 | 2.14 | 13.33 |
| | Overall | 2.21 | 11.56 | 2.15 | 14.72 | 2.21 | 12.11 |

[a]Positive coping (Behavior Potential Measure)

[b]Help means (Help Hurt Measure)