DOCUMENT RESUME

ED 114 314 SO 008 669

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TITLE	Convergent and Divergent Social Cues Effects of Televised Aggression on Children.
INSTITUTION	Minnesota Univ., Minneapolis. Inst. of Child Development .
SPONS AGENCY	Children's Bureau (DHEW), Washington, D.C.
PUB DATE	[74]
NOTE	25p.; For related documents, see SO 008 573 and SO 008 668
EDRS PRICE	MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS	*Aggression; Anti Social Behavior; Behavioral Science Research; Behavior Patterns; Child Development; Childhood Attitudes; *Child Psychology; Elementary Education; Programing (Broadcast); *Social Behavior; Social Influences; Social Psychology; Television; Television Research; *Television Viewing; *Violence

ABSTRACT

Research assessing the impact of consistently negative motivations versus mixed negative and positive motivations for a televised character's aggressive behavior and the consequences on children's subsequent behavior is provided. This study is also reported in related document SO 008 573. Second and sixth graders viewed one of two edited versions of an aggressive television program: (1) one in which scenes relevant to motives and consequences were clearly negative, and (2) one in which the aggressor sometimes appeared negative and positive. There were nonaggressive control programs at each age. Random subgroups of children responded to an indication of willingness to hurt or help a fictitious other child, while other random subgroups responded to a paper-and-pencil instrument employing both aggressive and nonaggressive response alternatives to hypothetical situations. The results indicate that children who watched the program with mixed character motivations are more aggressive. Therefore, the effects of aggression on television are not only modified by motives and consequences in the program, but also depend on their uniformity. (Author/DE)

Convergent and Divergent Social Cues

Effects of Televised Aggression on Children

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Running head: Convergent and Divergent Social Cues

Abstract

A study was conducted to assess the impact of consistently negative cues vs. mixed negative and positive cues about a televised aggressor's motives and the consequences to him on children's subsequent behavior. Second and sixth graders viewed one of two edited versions of an aggressive television program: (1) Convergent, in which scenes relevant to motives and consequences were clearly negative and (2) **Divergent**, in which the aggressor sometimes seemed negative, but sometimes positive. There were also nonaggressive control programs at each age. Some random subgroups of children were tested on an indication of willingness to hurt or help a (fictitious) other child, while other random subgroups responded to a paper-and-pencil instrument employing both aggressive and nonaggressive response alternatives to hypothetical situations. As expected, Divergent-condition viewers were significantly more aggressive than Convergent-condition children. This was true for both second and sixth graders despite an expectation that sixth graders would be better able to ignore the interference of duplicitous positive cues in the Divergent version. Results were discussed in terms of differences in viewers' cognitive representations of the observed aggression.

Convergent and Divergent Social Cues:
Effects of Televised Aggression on Children

Recent studies of television and children have shifted from the general questions of whether effects occur toward examination of aspects of typical content that make effects more or less likely (Stein & Friedrich, in press). For example, the dramatic context for television aggression, including the aggressor's motives and the consequences to him, have been found to be effective modifiers of the disinhibiting influence of observed aggression (Collins, 1973; Note 1, Note 2). In general, when motives and consequences are negative, post-viewing aggression is less likely than when such scenes are relatively positive. This finding is consonant with the result of laboratory studies of aggressive models (Bandura, 1965a Bandura, Ross & Ross, 1963; Berkowitz, Corwin & Hieronimus, 1963; Berkowitz & Rawlings, 1963) that show less imitation of a model whose aggression is unjustified, or who is punished for it, than of a model whose aggression is justified, or who is rewarded or receives no consequences. Presumably, a justified or rewarded act is more positively evaluated by a viewer and, thus, is more likely to exist as a guide for later behavior than an unjustified or negative one (Bandura, 1969; Bandura, Ross and Ross, 1963).

However, these effects of motives and consequences scenes apparently may often be undermined, especially for younger viewers, by typical aspects of dramatic presentations. For example, the separation of an aggressive scene from motive and consequences cues by extraneous material may interfere with young children's use of these cues in evaluating the aggressive scene. Collins (1973) found that children as old as third graders were more aggressive when the negative motives and consequences scenes in a program were separated from the aggressive scenes by commercials than when the scenes were temporally contiguous. These differences in behavior did not occur for sixth-and tenth-grade viewers. Collins suggested that the younger children in the temporal-separation

condition failed to infer the relationship between the negative cues and the aggressive scenes, while those in the no-separation condition were able to make the necessary inferences. The older children's inferences were not impaired by the inserted commercials, probably because their more mature cognitive skills enabled them to select and recall the relevant information as well as to infer the causal relationships among the elements. In other words, the nature of their evaluation of the aggressive portrayal was directly related to the extent to which the entire motive-aggression-consequences complex was understood. Furthermore, this understanding appeared to reflect age-related differences in viewers' abilities to recognize relevant social cues like motives and consequences in naturalistic stimuli and to relate them to the aggressive scene.

Another presentation aspect that may affect the impact of motives and consequences 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 sometimes seem bad, sometimes good, as "double dealers" often do. In the first case, information in the program "converges" on an evaluation of the actor as negative; in the second, cues "diverge," so that the viewer's evaluation is more equivocal. Although the comparison implied by this distinction has not been tested, a number of laboratory modeling studies indicate that divergence between cues within a presentation and between the presentation and elements of the viewing situation affect children's imitation. A discrepancy between what the model does and what he either says should be done or forces the child to do has been found to decrease modeling of nondeviant behaviors (Rosenhan, Frederick & Burrowes, 1968; Stein, 1967). Similarly, discrepancy between an adult co-observer's verbal statements and a model's behaviors appeared to make imitation less likely than when the co-observer and model agreed (Hicks, 1968).

Such cases suggest some hypotheses about convergence and divergence of motives and consequences cues for televised aggression. If cues 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 inhibition somewhat less likely than if the cues converge on a negative evaluation.

This prediction implies a simple additive model of the effect of motives and consequences cues that may be increasingly invalid the more cognitively sophisticated the viewers. Previous work indicates an age-related improvement in children's ability to recognize and use information relevant to judgments of acts and actors (Collins, 1970, 1973; Collins, Berndt, & Hess, 1974; Leifer et al., 1971). Furthermore, as children approach adolescence, they generally improve in their ability to perform the intellectual tasks involved in weighing contradictory information (Elkind, 1965, 1967; Inhelder & Piaget, 1958; Peel, 1965) and seek to reconcile discrepancies in information about persons (Gollin, 1959; Hill & Palmquist, Note 4). In short older viewers' social judgments may conform to a relatively complex "weighted sums" model. In the case of divergent cues, older viewers might well notice the discrepancy among cues and attempt to reconcile them, perhaps by discounting as sham the positive cues. In this case, the difference between effects of the convergent and divergent- cues cases would be small.

In the present study, second- and sixth - grade children saw one of two edited versions of an action-adventure program that featured a salient aggressive sequence. In one version motives and consequences cues were uniformly

negative, while in the second version some scenes could be interpreted as positive information about the double-dealing aggressive character. Generally, more disinhibition of aggressive behavior was predicted for viewers of the divergent-cues version, although sixth graders in that condition were expected to evaluate the aggressor more negatively than second graders.

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 Table 1. The subjects were tested in April-May, 1974.

Insert Table 1 about here

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 portray motives and consequences for the aggressive act that were judged to be negative. The negative motive consisted of the rookie police officer's statement that he wanted 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 followed by the police captain's assertion that "you can't excuse" what he did.

The Divergent stimulus film was edited to provide a more inconsistent portrayal of the main character's motives and consequences for the aggressive act. It included clues which were both positive and negative. Motives again included expressions made by the rookie police officer desiring to "get rid of" the young demonstrators, but also included apparent overtures of friendship toward them. Consequences included showing the main character being taken away in a police car, followed by a police captain's statement that he did not know what would happen to the rookie officer.

Neither the motive 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 program about African wildlife. It served as a "placebo" stimulus to provide a response baseline for comparison of scores from the two aggressive-show conditions. Each of the three tapes was about 15 minutes long.

Procedure

Experimenters. The study was conducted by one male and two female experimenters. An additional male and female served as interviewers.

Exposure to conditions. Subjects were assigned to stimulus conditions by numbering their names on the class list and using a table of random permutations to determine order of assignment. Upon arrival in each classroom, a white female and a white male experimenter called the names of the pre-assigned children in groups of eight at a time to view one of the stimulus programs. In cases where the classroom sample was not divisible by eight, adjustments were made so as to avoid the biasing effects of disproportionate representation of a classroom to conditions. Each of the four classrooms contributed approximately equal numbers of subjects to each of the three conditions, Convergent,

Divergent, and Control. There were typically equal numbers of boys and girls in the groups. The subjects were told that the experimenters were "people from the university" who wanted their help on several projects.

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 then assigned, again with prior use of random permutations, to be tested with one of the dependent measures. Independent subsamples were tested on the two measures to avoid order effects, or contamination of one measure of aggression by subjects' having previously been allowed to respond on another measure of aggression.

Measures. Two dependent measures were employed:

(1) The "Help-Hurt" device assessed subjects' willingness to help or hurt another (fictitious) child. 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 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). However, it does not limit responding to alternatives that would produce pain or injury to alters, but includes a more positive alternative which the subject is free to choose. Non-response is also an alternative.

One male and one female from each condition were asked to help in a hearing study. The subjects were seated at a gray response box apparatus measuring approximately 14 by 7 inches. The box 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.

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.

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. (a) Frequency of Hurt and (b) Frequency of Help responses consisted of the number of times out of 20 trials that the Hurt and 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. (c) Hurt-Duration and (d) Help-Duration scores were the total amount of time in seconds 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 included in total-duration scores.

(2) The Behavior-Potential Instrument 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. 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.

The original Leifer and Roberts (1972) instrument was modified slightly by substituting two new positive coping responses ("Ask why . . ." and "Tell them not to . . .") for responses that were inappropriate for a conception of the positive coping category as "constructive coping with conflict." The replacement response had also been identified in the original interview procedure, but had not been assigned to the items selected for Leifer and Roberts' (1972) final item set. However, we repeated Leifer and Roberts' procedure by administering the revised instrument to a sample of fourth, eighth and

tenth graders. The response pattern was strikingly similar to the pattern that appeared with Leifer and Roberts' original sample.

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.

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.

Results

The contrast between convergent and divergent cues about the aggressor and his action produced striking comparisons 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 1, the Divergent condition apparently enhanced subjects' tendency to deliver substantial aggressive responses on the Help-Hurt measure.

Insert Figure 1 about here

The contrasting conditions did not affect the Frequency of Hurt responses, 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 ($F < 1$).

The comparisons between condition means are not confounded by unstable within-cell variances. The hypothesis of homogeneity of variance was supported using the Fmax statistic (Winer, 1962).

There were no grade or sex effects for either the frequency of 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.

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). Sixth graders were affected as much by the contrasting conditions as second graders were. 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 than were aggression scores, 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 they did not. None of the main effects or 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'.

Interview responses

Following viewing, subjects were asked informally whether the aggressor was good or bad, and why. Although the resulting data do not permit a definitive assessment of the extent to which positive scenes in the Divergent version affected evaluation, a coding of the responses in these terms is suggestive. The reasons children gave for their evaluations were thus coded according to the incidence of program content that the subjects themselves construed as supporting a positive evaluation (e.g., the aggressor appearing to be contrite at a police inquiry into his shooting of a young Chicano, or his buying ice cream for his girlfriend). The two coders were blind as to subjects' conditions, and inter-coder reliability was .88.

These limited data indicate that 80 per cent of the children who watched the Divergent condition mentioned personal characteristics of the aggressor or incidents involving him that contributed to a relatively positive evaluation, while only 63 per cent of the Convergent subjects showed evidence that positive cues had intruded on their evaluations.

Discussion

The data support the prediction that the effects of a televised aggressive episode are not only modified by motives and consequences cues in the program, but are modified more or less strongly depending upon the uniformity of those cues. The 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 viewers. This suggests that the positive cues in the Divergent version were "summed" with the negative cues to produce a more positive evaluation of the aggressor and aggression than existed in the Convergent version.

The 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. This may indicate that, despite sixth graders' supposedly greater cognitive skills, they were no more able than the second graders to understand the possibly duplicitous nature of cues about the aggressor in this particular program. Although the predicted developmental change did not occur with the ages tested, such a change might very well occur with these stimuli at an older age, just as differences between second and sixth graders would be likely with other stimuli. Should such age differences emerge in future research, the hypothesis that older viewers reach their evaluations of acts and actors through a rather complex weighing of conflicting cues, while younger ones use some simpler calculus, will have to be considered.

The mechanism that accounts for greater aggressiveness in the Divergent condition at both ages remains unclear. It may be that all of the children were strongly affected by the positive tenor of the dramatic context, relative to the clearly negative Convergent depiction, as an "additive" model suggests. An alternative is that Divergent-condition subjects at both ages simply ignored the welter of conflicting cues, so that for them the aggressive model essentially stood alone, unmodified by any contextual information. By comparison, relatively less disparity among cues in the Convergent version may have made it easier for the children to comprehend the dramatic context and to relate to the aggressive behavior.

In either case, the results are consonant with Collins' (1973, Note 1; Collins & Berndt, Note 3) recent conceptualization of a cognitive-mediator mechanism to explicate the role of intra-presentation factors in the effect of a single television program. This notion of a cognitive state formed during observation is similar to Bandura's (1965b) proposal that a verbal or imaginal cognitive mediator is formed during observational learning from less complex presentations. Collins' version of the mediator includes a representation of the modeled social behavior and the observer's inferences and evaluations about the action and the motives and consequences associated with it. This cognitive state obviously involves the outcomes of age-related attention, memory, and inferential processes (Collins, Note 1; Collins & Berndt, Note 3). In the case of the present study, such a formulation suggests that, compared to the convergent portrayal, the depiction of divergent cues apparently resulted in a cognitive representation of the aggression as relatively positive. This probably occurred either because positive cues accrued to the aggression or because all cues were ignored, leaving the aggression unmodified. The interview data provide some support for the former suggestion.

Both this formulation and the present study support the contention (Collins 1973, Note 1) that factors within complex television presentations and viewers' interpretation of them contribute to the variance in effects observed across the child audience (Stein & Friedrich, in press). Recent work has shown both that comprehension of behaviorally relevant program content is often markedly deficient for children as old as third graders (Collins, Berndt & Hess, 1974) and that such age-related comprehension differences can indeed affect post-viewing behavior (Collins, 1973). Obviously, a complete mediational model of television effects would have to include factors in the

child's response that have their locus outside his/her understanding of the content of particular programs. For example, a definitive assessment should involve individual-difference variables such as the ability to fantasize (Feshbach and Singer, 1971; Singer, 1971) and age-related differences in the internalization of moral standards and values (Berkowitz, 1964; Feshbach, 1970; Hoffman, 1970), as well as other developmental and non-developmental considerations (Leifer, Gordon, and Graves, 1974). However, a limited mediational model dealing with the possible contribution of differences in comprehension and evaluation may be a useful beginning. At least, it militates against an undifferentiated concept of the child audience. Comprehension and evaluation of observed acts are only two dimensions of age differences in television effects that deserve consideration in future research.

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Footnote

AUTHOR'S NOTE: This research was supported by Grant OCD-CB-477 from the Office of Child Development to W. Andrew Collins. Another version of this report served as the second author's Honors Thesis for the B. A. degree in Child Psychology at the University of Minnesota. We are grateful to the faculty, administration, and students of Woodlake and Central Elementary Schools, Richfield, Minnesota, for their participation in the study. In addition, the substantial assistance of Sally Driscoll Westby, Patrick Gill, Christine Mack Gordon, Allen Keniston, and Joanne M. Quarfoth are gratefully acknowledged. Requests for reprints should be sent to W. Andrew Collins, Institute of Child Development, University of Minnesota, Minneapolis, Minnesota 55455.

TABLE 1

NUMBER OF SUBJECTS TESTED

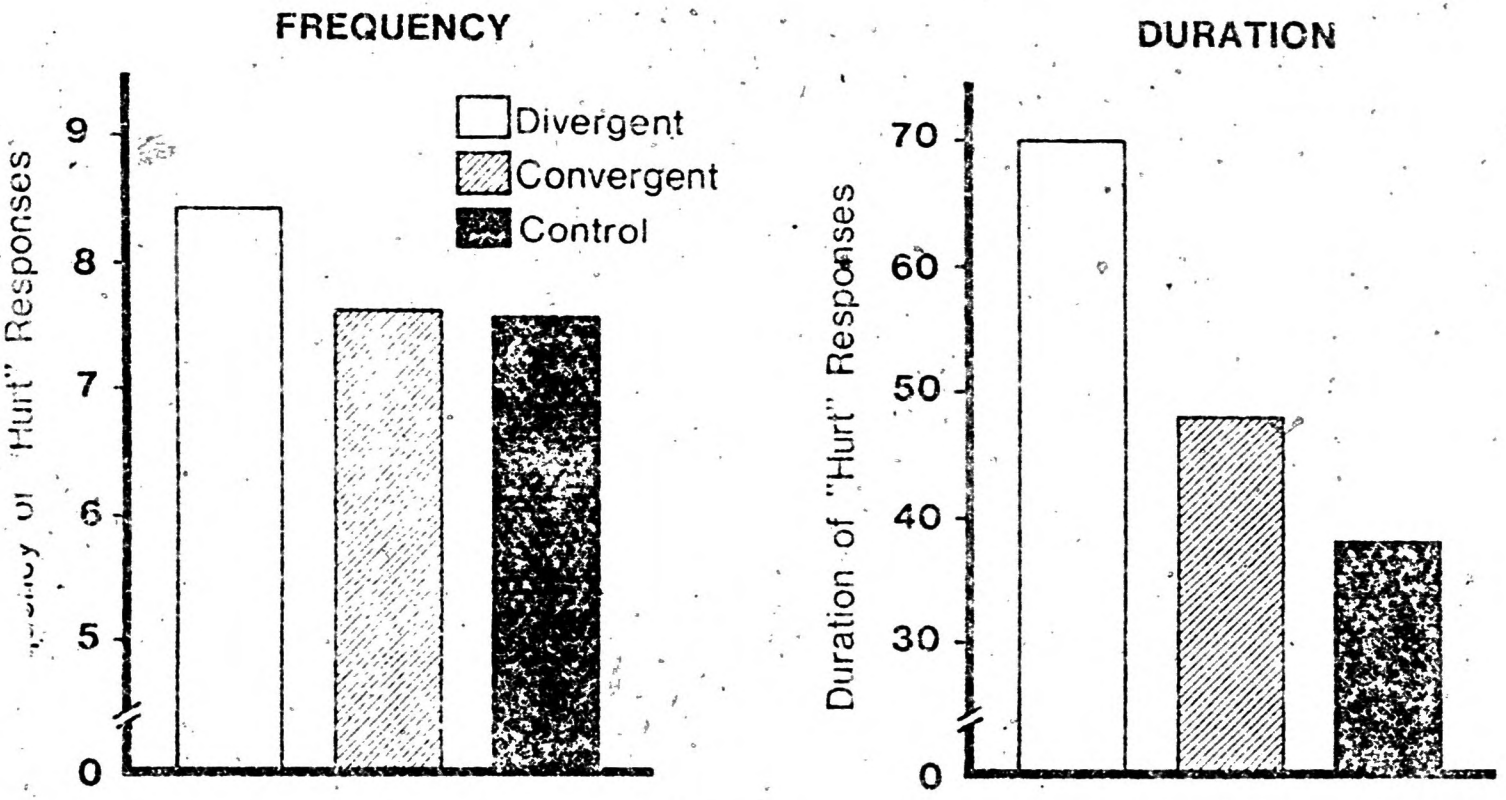
BY BEHAVIOR POTENTIAL AND HELP-HURT MEASURES

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

FIGURE CAPTIONS

1. Mean Frequency of "Hurt" and Hurt-Duration Responses (Help-Hurt Measure) for Three Viewing Conditions.


FREQUENCY
Divergent
Convergent
Control
9
8
7
6
5
0
DURATION
Duration of "Hurt" Responses
70
60
50
40
30
0