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ABSTRACT

Much of the television American children watch is violent in content. The evidence indicating that this programing increases children's aggressive behavior is not clear-cut, and some studies have shown a decrease in children's aggressive behavior. A study was conducted to test a more developmental perspective on the effects of violent television: that the impact of televised aggression will vary according to the child's cognitive and social developmental level. In an experiment using 119 students from kindergarten, second grade, and fifth grade, the subjects' free playground play was observed during a one-week baseline period, a two-week experimental phase, and a one-week follow-up period. During the experimental phase, subjects were randomly assigned to view for 20 minutes each day either exclusively aggressive or exclusively nonaggressive programing, after which their playground behavior was observed and rated according to 13 categories ranging from physical threat to passive social interaction. The results showed that the older the subjects, the better their comprehension and recall of the shows. Female aggressive behavior was quite low throughout the experiment, but aggressive behavior in boys decreased after they viewed the aggressive segments. Kindergarten children showed more decrease than did fifth grade students, although the fifth grade students better understood the programs they had viewed. (HTH)

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The Impact of Televised Aggression on Children:
A Developmental Field Study

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Most children watch a great deal of television in our culture-- upwards of three to four hours per day as reported by some researchers (Lyle & Hoffman, 1972 - for sixth graders). Furthermore, much of what they view is violent in content. Two-thirds of all cartoons sampled by Gerbner in 1975 were found to depict violence and aggression. This massive exposure of children to televised aggression has led parents and legislators, as well as psychologists, to take a close look at the effects of such programming on children's behavior and attitudes.

Although initially there was much controversy surrounding what effects violent television might have, there is a developing consensus that this programming increases children's subsequent aggressive behavior. However, we think the evidence for this is still not unequivocal. One reason, of course is that some studies show a decrease in children's aggressive behavior after they have viewed violent shows (cf. Feshback & Singer, 1971). Another is that some studies which have been interpreted as demonstrating that violent shows increase children's aggression are not clear-cut. A frequently cited study by Friedrich & Stein (1973) actually found a decrease in aggression among their kindergarten subjects who had seen violent cartoons. The authors concluded that since this decrease was less of a decrease than that found among children exposed to Neutral and Prosocial shows, violent television encourages the tendency to

aggress. Perhaps. But this is certainly not well-established --at least not in this oft-cited study.

There is a second and, we feel, more serious constraint to the blanket statement that violent television increases children's aggressive behavior. That is that most of the empirical work in the area has examined only preschool boys. Not only is roughly half the population ignored, but the assumption is apparently that children at all ages are affected by TV in a similar way--whether it be through modeling, catharsis, or some other process. Yet, there are several reasons why television may influence different-aged children to a different degree.

As children grow older, they become increasingly aware of normative constraints on behavior. During the middle years in particular, they are more susceptible to normative or peer influence (Costanzo and Shaw, 1966; Hartup, 1970). This suggests that different aspects of a television show may appeal to children at different ages. Whereas the four-year-old may be content with fleeting aspects of a program--the individual actions, sights, and sounds as ends in themselves--the ten-year-old may seek information--guidelines as to what is appropriate or chic--that is revealed only through a more global orientation to the show. In other words, changes in the child's social world may be reflected in what the child



seeks from television.

Just as importantly, children's cognitive skills become much more sophisticated as they grow older. Young children are less able to consider an actor's intentions and motivations (Berndt & Berndt, 1975); less able to separate fantasy from reality (Piaget, 1962); and less able to retain information they do initially perceive (Collins, 1973). This suggests that the understanding a younger child takes from a violent show may be fundamentally different from when he/she is older.

For these reasons we feel it is important to take a developmental perspective on the effects of violent television. We propose that the impact of televised aggression will vary according to the child's cognitive and social developmental level.

There are studies in the television violence literature which ~~examine older boys. And so if one compares across~~ studies a certain developmental perspective might be obtained (see Stein & Friedrich, 1975). However, many things other than the child's age vary across studies--things such as the type of programs presented, the various dependent measures taken, and the populations from which the children are drawn. What is needed is to assess different-aged children within the same study so that other factors are held as constant as possible. The study I'd like to describe examined the impact of

violent television on children at three different ages and in a naturalistic setting--their freely occurring playground behavior while at school.

As a general overview, a field experiment was conducted using kindergarten, second, and fifth graders at two public elementary schools. Free playground play was observed during a one-week baseline period, a two-week experimental period, and a one-week follow-up period. During the experimental phase, subjects were randomly assigned to view either exclusively aggressive or non-aggressive programming after which they were observed on the playground. Subjects watched a twenty-minute segment each day and various cognitive measures relating to the show were taken.

The subjects were recruited from two elementary schools in the Princeton public school system via letters to all parents of children in the relevant grades describing the general purpose and method of the proposed research. The final subject pool consisted only of children for whom parental consent had been obtained. One hundred-nineteen children were involved in the study (58 males and 61 females).

Subjects were shown contemporary commercial television programs that had been pretested to differ in aggressive content and to be similar in interest level, amount of action, etc. Some examples of typical shows, each edited to approximately



twenty minutes, were The Incredible Hulk and Plamerstown, USA in the Aggressive condition and Eight is Enough and The Brady Bunch in the Nonaggressive condition. All segments were commercial-free. There were no cartoons in either condition, although two shows in the Aggressive condition, The Incredible Hulk and Six Million Dollar Man, contained many aspects of fantasy. Subjects viewed the shows in same-age, mixed-sex groups of between 8 and 14 children.

Several measures were included to assess subjects' reactions to the shows. Each day a different child in each of the viewing groups was randomly selected as the target for that viewing session. This was unbeknownst to the child. During the program, this child was observed unobtrusively as to his/her attention to the show. Their expressive behavior and interactions with other members of their group was also noted. Afterwards, they were asked a series of questions concerning their comprehension and recall of the segment in individual interviews with trained observers.

After viewing the television segments, the subjects were then free to take their recess for a period which lasted approximately twenty minutes. During this time, trained observers blind to the film manipulation coded subjects' behavior using an adapted form of a procedure employed by Berkowitz, Parke, Leyens, and West (1974). This procedure involves coding



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behavior into one of 13 different categories which are listed for you along with a brief description of each in Table 1 of the handout. Categories one through twelve were taken directly from Berkowitz and category thirteen was added during the initial observer training week. The observation procedure was such that each of six observers had from three to five children to observe each play period. Each child was observed for 30 seconds out of every 2 1/2 minutes for a total of eight 30-second observation periods during the 20-minute play period.

The categories were applied in the following manner: No category had priority over another and more than one category could be used in sequence during the 30-second interval. That is, a behavioral category could be coded more than once each observation interval if that behavior was interrupted by something fitting into another behavioral category. Each observer was equipped with a clipboard with the coding sheets and a digital stopwatch.

Photographs of the children to be observed were displayed across the top of the clipboard. This arrangement allowed the observers to easily identify the children and to move freely about the play area. The procedure was that when an observer visually located a child, she would start the timer and code the child's behavior for the next 30 seconds. At the end of the 30-second interval, she would locate the next child to be observed and then reset the timer and code that child's

behavior for 30 seconds.

Over the three phases of the experiment the order in which the children were observed and the observer by which they were rated were completely counterbalanced. Each child was observed by each observer once each week during the baseline and follow-up periods and twice during the two-week television viewing period.

The observers received one week of training in using the coding system before the experiment actually began. During this time the observers independently coded the same children's behavior so that reliability measures could be gauged. These reliability scores were judged acceptably high, with a mean of .84 and a range between .79-.93.

Let me turn now to some of the results: The cognitive measures yielded a clear and consistent developmental trend. The older the subjects, the better their comprehension and recall of the shows. For example, as you will note in Figure 1 of your handouts, the mean percentage of comprehension questions answered correctly was 34% for kindergarteners, 64% for second graders, and 80% for fifth graders. The main effect for Grade was highly significant at $p < .001$. And each of the three groups differed significantly from one another by at least $p < .05$. There were no other main effects or interactions on this measure, which suggests that the Aggressive and Nonaggressive shows were equally understandable.

We see clear differences then, in subjects' understanding of the shows as a function of their age. Were these differences accompanied by differences in playground aggressive behavior? Female aggressive behavior was quite low throughout the experiment, which is consistent with the few studies which have included females. For girls, no overall effect was found for type of program viewed. But for boys, aggressive behavior decreased after they viewed the aggressive segments. This can be seen in Figure 2. The aggression index used here was empirically derived through a factor analysis of the behavior categories. "A" represents the aggressive program condition and "Behavior Change" is from the Baseline to the Experimental Period. As can be seen, there is a main effect for program type with the mean change in the Aggression condition -2.3 , Nonaggression $+1.1$, differing by $p < .07$. If you examine the aggression curve, you will note that the greatest decrease occurs among kindergarteners with each higher grade showing successively less of a change. The three groups, however, are not statistically different. This suggestion of a developmental influence is seen more clearly in Figure 3. This shows the change in Aggressive Social Interaction, which was category 13 in the coding scheme.

This category was the most frequently observed of all the categories relating to aggression. It also loaded most highly on the factor used as our Aggression Index. In Figure 3, we see again a main-effect for Program-Type with Aggressive

Programs leading to significantly more of a decreased Aggressive Social Interaction than Nonaggressive programs, at $p < .05$.

Furthermore, within the Aggressive program condition we see again the greater decrease in aggression in the younger children. Kindergarteners show significantly more of a decrease than fifth graders, $p < .05$. Also, only during kindergarten is the Aggression program condition reliably less than the Nonaggressive program group, $p < .09$. And so for males, it seems that the Aggressive programming was followed by a decrease in aggressive behavior which was especially noticeable among kindergarteners.

For females, as I mentioned, overall levels of aggression were low. To help circumvent this "floor effect" on the data, we examined only ^{of} those females who were above the median for that sex on the baseline measure of aggressiveness. This is a quite common procedure in this area of research. Indeed, several investigators frequently cited in the literature have found that violent shows affect only those subjects initially high in aggressiveness. Among these studies are ones by Berkowitz and his colleagues (summarized in Parke, Berkowitz, Leyens, and Sebastian, 1975), Feshback & Singer (1971), and Friedrich & Stein (1973).

When we examine those females high in initial aggression, we see quite a different impact from the Programs. This is shown in Figure 4. Whereas for males the Aggression programs led to a decrease in aggressiveness, for females we see that



it is the Nonaggressive programs which are followed by a decrease in aggression. The Main effect for Program-type is significant at $p < .05$. Of course, since we are discussing subjects initially high in aggressiveness, it's possible that the Nonaggressive program condition simply reflects a regression to the mean over time, and therefore that the Aggression program condition, by not decreasing, is the one exerting influence on the subjects, preventing them from becoming less aggressive. If this were true, the direction of influence from the Aggressive programs would still be exactly opposite from males, where the Aggressive programs decreased subjects' aggressiveness. As in the previous two figures, there is again a suggestion of developmental influences in females. Fifth graders show the smallest difference between the Aggressive and Nonaggressive conditions, and indeed this difference is significant only at $p < .20$.

Let me summarize briefly what I think are the major conclusions to be drawn from the study: Most importantly, it suggests that the impact of televised violence on children's aggressive behaviors is a complex matter and something not as straightforward as is frequently argued.

In this study, using commercial network television programs and examining behavior in a natural setting, males decreased their aggressive behavior after viewing aggressive programs; females who were initially high in aggression were influenced much differently, either "modeling" the nonaggressive shows or

perhaps having the aggressive programs prevent their aggressive behavior from decreasing. Furthermore, across these measures a developmental influence was apparent. Kindergarteners--who understood the shows the least--were consistently the most influenced, whereas fifth graders--who understood the shows best--showed the weakest effects.

What these results suggest is that the influence of violent television on children will depend--perhaps crucially so--on the sex of the child and the child's developmental level.

Future research should be directed toward further clarifying what these interrelationships might be. There are important issues of policy as well as of theory that hang in the balance.

Thank You.

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Table 1

Behavioral Categories and Examples of Behavior

1. Physical Threat - Attack without contact, fist waving, threatened slap or kick, chase.
2. Physical Attack - Physical contact of sufficient intensity to potentially inflict pain on the victim.
3. Verbal Aggression - Verbal interaction with hostile intent such as namecalling, teasing, taunting, etc.
4. Noninterpersonal Physical Aggression - Hitting or kicking an inanimate object.
5. Noninterpersonal Verbal Aggression - An angry outburst with no clear social target.
6. Self-Aggression Verbal - An aggressive statement addressed toward the self.
7. Self-Aggression Physical - Hitting oneself on the head or jumping wildly around when disappointed.
8. Alone Active - Walking, running, or playing an active game.
9. Alone Passive - Sitting, lying, standing alone.
10. Yell - Yelling loudly with or without communicative value.
11. Social Interaction Active - Playing game such as basketball.
12. Social Interaction Passive - Standing and talking.
13. Social Interaction Aggressive - Arguing over the rules of a game, etc.

Figure 1

Story Comprehension

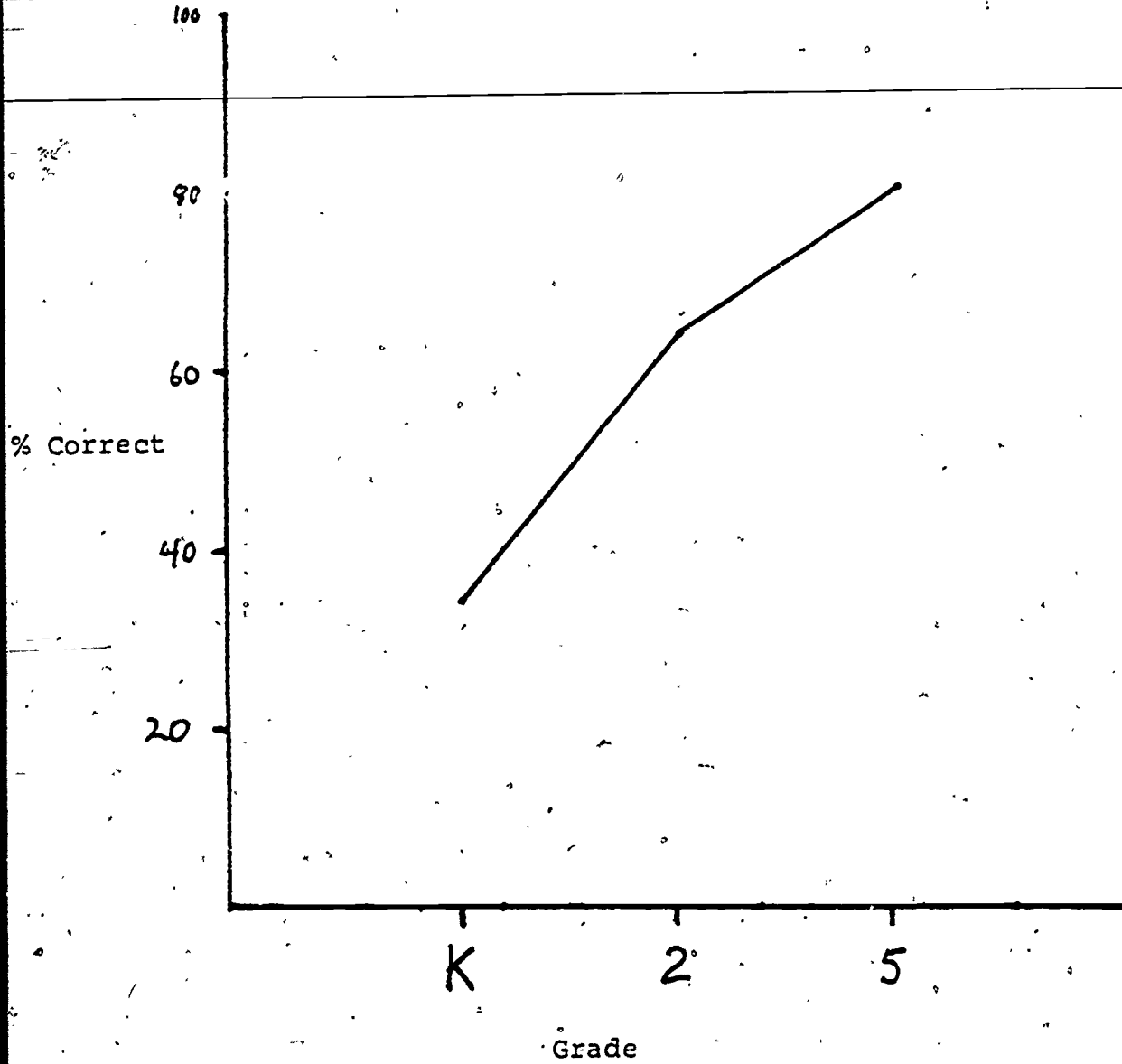


Figure 2

Change in aggressiveness from baseline to experimental period, males only:

Aggression Index

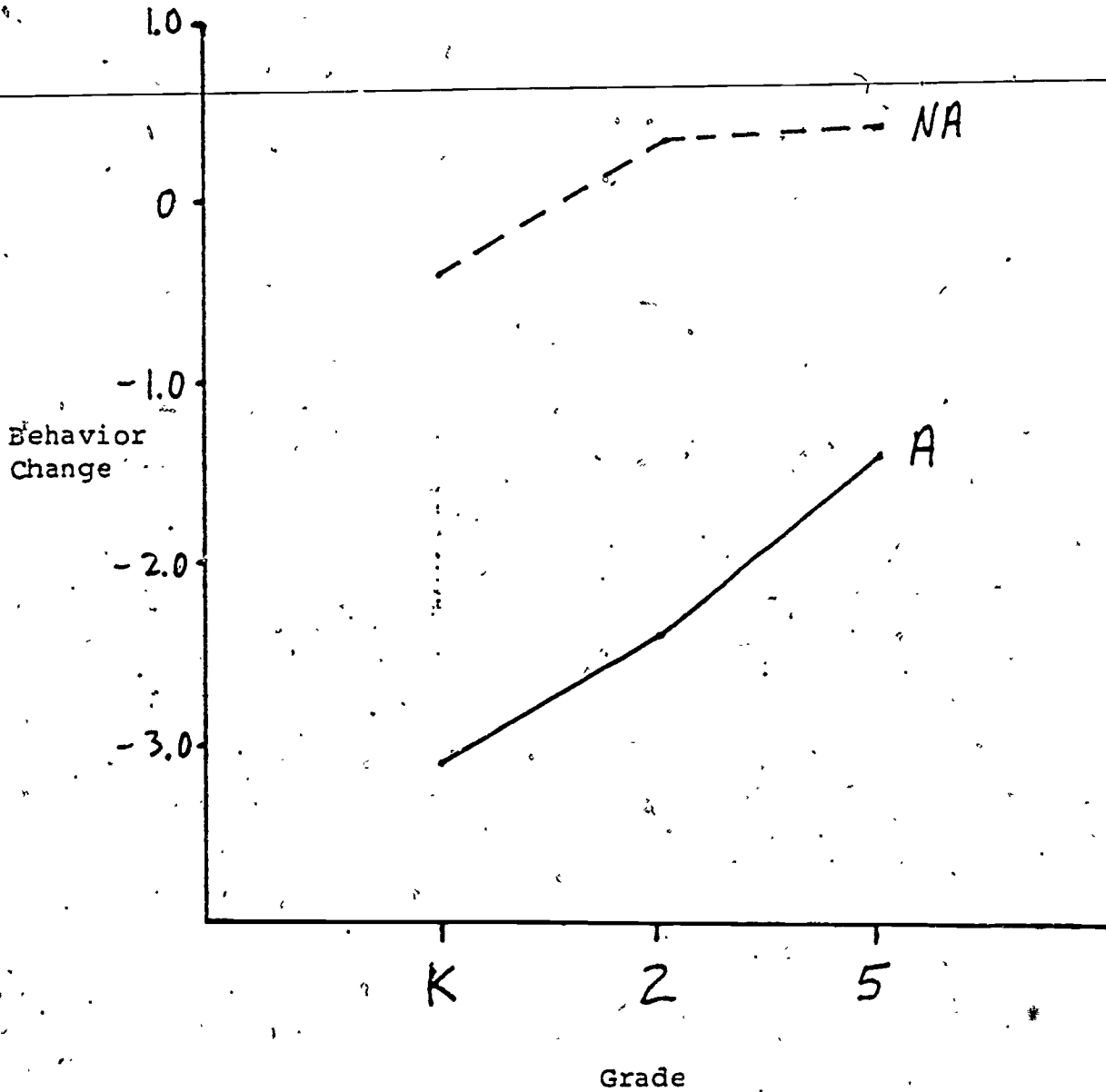


Figure 3

Change in aggressiveness from baseline to experimental period, males only:
Aggressive Social Interaction

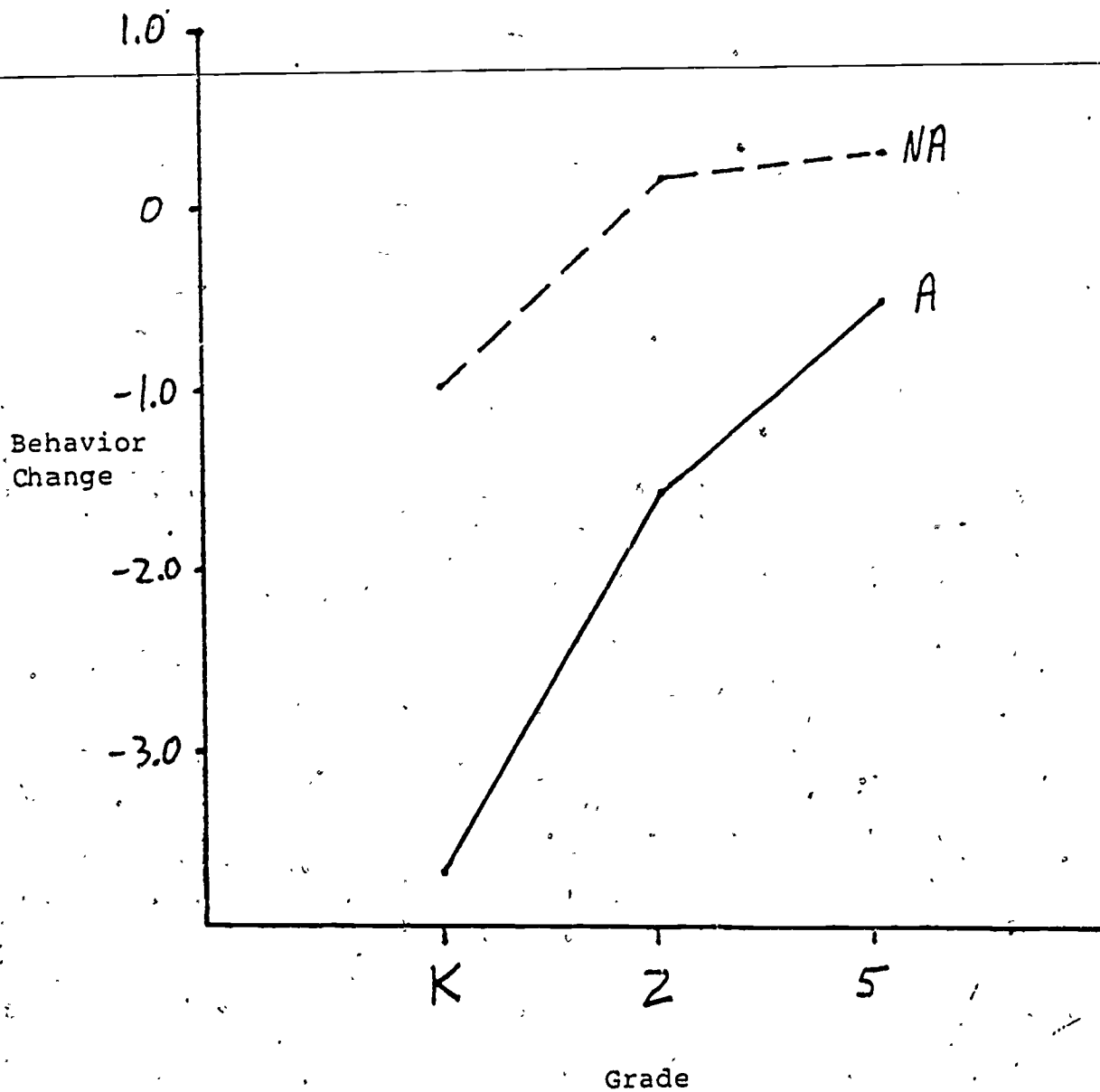


Figure 4

Change in aggressiveness from baseline to experimental period:
Females initially high in aggression

