

UTILIZATION OF TWO NONVERBAL CUES BY CHILDREN
GIVING MORAL JUDGMENT RESPONSES

A Dissertation
Presented to
The Faculty of the College of Education
The University of Houston

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Milton Onard Womack
August 1970

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ABSTRACT

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The present investigation was conducted to test the influence of two nonverbal cues as transmitters of experimenter bias and an experimental arrangement through which the amount of the bias may be varied. Specifically, it was expected that children would utilize the nonverbal cues (head nods and eye glances) as determinants of what the examiner believed to be the "right" answer and respond accordingly. The amount of bias was hypothesized to be a function of the nonverbal cuing condition and the response orientation of the child.

Children, ranging in age from six years, seven months to ten years, three months, were asked to respond to stories that contrasted good intentions and large negative consequences (an objective moral judgment response orientation) with bad intentions and small negative consequences (a subjective moral judgment response orientation). These stories were modified from items based

on the theories of Jean Piaget. The data on thirty-six boys and thirty-six girls were used for comparison and evaluation.

Each subject responded in an assessment phase to items devoid of any nonverbal cue. This score was used to determine his operant moral judgment response orientation. In the same testing session, the subject received one of three treatment conditions: the experimenter would look up and nod when the name used in an objective story was used; or the experimenter would look up and nod when the name in a subjective story was used; or the experimenter would look up and nod when a name from either of the stories would be used. Both phases of the experiment were presented on video-tape so all of the nonverbal cues would be the same.

The main findings were as follows:

1. Children holding an objective moral judgment response orientation give significantly different scores when presented with nonverbal cues that emphasize a subjective response as opposed to the same nonverbal cues that emphasize an objective response.

2. Children, regardless of their operant moral judgment response orientation, tend to give the most number of subjective responses when presented with subjective bias cues, the second largest amount of subjective responses when

presented with a combination of both subjective and objective bias cues, and the least amount of subjective responses when presented with objective bias cues.

3. The sex of the subject does not play a significant role in determining the response of the child, regardless of the operant moral judgment response orientation or the cuing condition.

It was concluded that head nods and eye glances can alter the responses of young children. Thus it behooves educators and psychologists to monitor their nonverbal behavior when administering a test where answers are derived from parts of the questions.

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CHAPTER I

INTRODUCTION

The responses given by a child to an adult in a testing situation are of considerable interest to educators and psychologists. These responses usually contribute to the determination of such factors as the child's intellectual or academic status. For example, the number of correct responses on a spelling test is a criterion for being promoted or retained in an academic grade. In like manner, the number of correct responses on an intelligence test classifies the child into one of seven levels of intellectual functioning, from mental defective to very superior (Wechsler, 1949). Although the teacher or psychologist may assume the answers given by a child are based on some cognitive knowledge about the problem under consideration, when he interacts with the child, his own attitudes, his attributes, and his expectations may prove to be significant determiners of the child's responses.

Rosenthal (1966) has delineated several ways that an experimenter might inadvertently influence the results

of his research. These could include, for example, an experimenter personal attribute effect (due to the experimenter's age, sex, personality traits, and other personal characteristics) and an experimenter bias effect (produced by the experimenter's expectancies, desires, or biases).

The investigation of these phenomena in the last decade has created an overwhelming amount of research literature, causing one observer (Levy, 1969) to state that the experimenter bias effect has become such an increasingly popular topic that it "bids fair to rival anxiety as a vehicle for the production of theses and journal articles (p. 15)." At least seven review articles encompassing almost eighty studies have been published (Barber and Silver, 1968; Kintz, Delprato, Mettee, Persons, and Schappe, 1965; Rosenthal, 1963, 1964a, 1964b, 1967), and three books have appeared on the subject (Friedman, 1967; Rosenthal, 1966; Rosenthal and Jacobson, 1968). In spite of the proportion of positive findings of the existence of the phenomenon of experimenter bias, very little has been discovered concerning the manner in which the bias is transmitted or the conditions that serve to maximize or minimize the phenomenon.

I. STATEMENT OF THE PROBLEM

The present investigation was designed to test the influence of two nonverbal cues as transmitters of experimenter bias and an experimental arrangement through which the amount of the bias may be varied. Specifically, it was expected that children would utilize the nonverbal cues as determinants of what the examiner believed to be the "right" answer and respond accordingly. The amount of bias was hypothesized to be a function of the nonverbal cuing condition and the response orientation of the child.

II. NEED FOR STUDY

Existence of Experimenter Bias

Probably the most widely used design for exhibiting the existence of experimenter bias involves a person-perception task developed by Rosenthal (1966). Prior to seeing any subjects, the experimenters are typically told (by the principal investigator) to expect either subjects who will rate faces in selected photographs as experiencing moderate failure or subjects who will depict the faces as experiencing moderate success. In addition, the experimenters are told that (a) the expected results have

been well established in previous studies which used the person-perception task, (b) they will conduct the experiment to obtain practice in duplicating experimental results as is done in chemistry, (c) if their results come out properly, they will be paid \$2 an hour, and (d) if their results do not come out properly, they will receive \$1 per hour (Rosenthal and Fode, 1963b). Using either this design or a slight variation, many investigators have found significant differences between the mean ratings obtained by experimenters expecting success ratings and those expecting failure ratings (Rosenthal and Fode, 1961, 1963b; Rosenthal, Persinger, Vikan-Kline, and Fode, 1963; Laszlo and Rosenthal, 1967).

The occurrence of experimenter bias in an educational context is illustrated in a study by Larrabee and Kliensasser (1967). Examiners administered the Wechsler Intelligence Scale for Children (WISC) to sixth-graders of normal intelligence. Each child was tested by two different examiners at separate times; one examiner administering the even-numbered items and the other examiner administering the odd-numbered items. For each child, one of the examiners was told the child was above average in intelligence, while the other was told the child was below average in

intelligence. When the verbal sub-tests of the WISC were considered, the expectation of superior performance yielded an advantage of more than ten IQ points ($p < .05$) than when inferior performance was expected.

It should be noted that in both this study and in the Rosenthal series, the experimenters are perfectly confounded with treatment effects, that is, one experimenter never runs subjects across the treatment conditions. This design raises a question as to whether to attribute differences between treatment conditions to instructional or biosocial variables. Thus, an investigation of experimenter bias effects should consider this problem.

On a larger scale, an investigation of the experimenter bias effect in relation to a pupil's achievement and his teacher's expectancy was undertaken by Rosenthal and Jacobson (1968). They administered a standardized, nonverbal group test of intelligence, (Flanagan's Test of General Ability), to all of the children in an elementary school. The test was disguised as a predictor of academic "blooming." There were eighteen classes, three at each of the six grade levels. Within each of the grade levels, one of the classes was above average in ability. A second class was of average ability children,

and the third class was of below average ability children. A table of random numbers was used to assign approximately 20 percent of the children in each of the eighteen classes to the experimental group. The teachers were given the names of these children since "they might find it of interest to know which of their children were about to bloom (p. 70)." When the children were retested with the same group intelligence test at the end of the year, those children purported to be bloomers showed a greater increase in IQ than did the control children. Although questions about the validity of the specific statistical techniques have been raised (Snow, 1969), the overall design and investigation illustrates the implications experimenter bias has for an educational setting.

There is therefore little doubt that experimenters, whether they are teachers in classrooms or psychologists in labs or clinics, expect or desire to obtain different results for subjects assigned to different treatment conditions. Furthermore, they rarely exclude the possibility that their results are affected by their biases.

Transmission of the Bias

In the interaction between an investigator and his subject, the verbal content of the experiment is held

virtually constant by the reading of the same instructions to each subject. Hence, the message containing any unintentional influence may be encoded nonlinguistically.

A review of the studies reporting systematic efforts to transcribe gestures and other nonverbal behaviors reveals three major areas of investigation: (a) body motion or kinesic behavior: gestures and other body movements, including facial expressions, eye movement, and posture; (b) paralanguage: voice qualities, speech non-fluencies, and such non-language sounds as laughing, yawning, and grunting; and (c) proxemics: use and perception of social and personal space. Of the three, body motion seems to be the most likely transmitter of bias.

One of the most easily identifiable nonverbal behavior in the area of body motion is known variously as visual interaction (Exline, 1963), use of the line of regard (Lambert and Lambert, 1964), and eye contact (Argyle and Dean, 1965). This behavior is thought to be of particular significance since it seems to facilitate communication by gaining the attention of the other person.

Eye contact has been explored in the area of experimenter bias with nebulous results. Friedman (1967) analyzed films taken from the Rosenthal (1966) experiments.

He reported that observers' ratings of the number of mutual glances between the experimenter and subject correlated negatively ($r = -.31$, $p < .02$) with the experimenter bias score (p. 50). LeCompte (1968) explains this relationship in terms of the possibility that the "experimenter is communicating directly with the subject via an informal channel (p. 12)." If an experimenter rarely glances at his subject, any single glance becomes more potent, thus emphasizing the part where the visual encounters occur. However, in his own study (1968), LeCompte found two mutual eye glances to be "too subtle in the sense that (they) failed to influence the subjects significantly even in the absence of focal, task relevant information (p. 56)."

Researchers, having studied the effects of visual interaction using such variables as speaking versus listening and the sex of the interactants, have found that both males and females make more use of the line of regard when listening than when speaking (Duncan, 1969). Exline, Gray, and Schuette (1965) found that females look more in general than males when the interaction has an aversive quality. In positively toned interactions, females tend to increase their looking while males decrease it (Exline and Winter, 1965). Stated more parsimoniously, the research

shows that girls spend more time in eye contact than boys under all conditions.

Another equally identifiable area of kinesic behavior is head nods. Ekman and Friesen (1967) included head orientations--such as nods--as one of the four types of body cues that convey information. Rosenfeld (1966) has reported head nods to be of special significance when approval from a naive subject is solicited. Dittman and Llewellyn (1968) found that head nods, as well as vocal responses, occurred between phonemic clauses and therefore serve as social reinforcers.

Eye contact and head nods seem to be the most pervasive cues in the area of body motion. Thus, an investigation into the strength of the combination of these cues as transmitters of experimental bias was deemed appropriate.

Theoretical Framework of the Task

As noted earlier in this chapter, most of the formal experimental studies that have attempted to demonstrate the experimenter bias effect used a person-perception task as the criterion instrument. In this task, the subject is shown a series of photographed faces and is asked to rate on a scale whether each of the persons

depicted has been "experiencing failure" or has been "experiencing success." The photographs each had a pre-test mean rating of 0; that is when the experimenter did not have special expectancies, subjects perceived the person depicted as "neutral" with respect to having experienced failure or success (Rosenthal, 1966, p. 144). LeCompte (1968) has raised the question concerning the validity of the use of a "neutral" photograph. Since neutral stimuli minimizes information for the subject, the precision of the experiment may be increased but the probability of generalizing the results is made more difficult (p. 6). Seldom are subjects, either in an educational or psychological situation, asked to rate a neutral or irrelevant stimulus. A possible exception to this would be the use of projective techniques.

The task chosen for the present investigation was derived from a social learning context. According to social learning theory, the sequence of developmental change is considered to be primarily a function of reinforcement contingencies and other learning variables (Bandura and McDonald, 1963). If these variables are altered by the manipulation of nonverbal cues to emphasize any particular bias, then the examiner, as the one "in control" of the

situation, can further define the rules for acceptable behavior of the subject. Hence, the child will look to the adult for a definition of the situation, especially in regard to any responsive action. A study involving moral judgment responses of children would therefore seem to lend itself readily to an experimenter bias study since it is a developmental problem to which instrumental conditioning can be applied.

Most of the theories and knowledge about the acquisition of personal values and the patterns of moral development and the socialization in children come from the extensive descriptions by Sigmund Freud and Jean Piaget. Freud has been primarily concerned with the emotional and motivational aspects of personality structure. His psychoanalytic theory focuses on one or the other of its own concepts--such as identification or guilt--and studies individual differences and the role of the parent (Hoffman, 1968).

Piaget and his followers, on the other hand, have focused on the cognitive aspects of the child's concept of justice, his attitudes toward rules and violations of moral norms. Piaget (1948) and more recently Kohlberg (1964) have probed the establishment of developmental sequences which

are more or less universal and deal with the child's understanding of causality, of physical and temporal reality, and of ethics and moral judgments. According to Piaget (1948), moral judgments can be separated into two discernable stages. He considers the broad division of these stages to occur at approximately seven years of age. The younger children tend to regard as most immoral, those acts which have the most serious consequences, i.e., the amount of material damage, and disregard the intentionality of the actor. Such children are considered to be objective in their moral orientation. Older children tend to take into account the motives and intent behind the act rather than its material damage. These children are considered to have a subjective moral orientation.

The present investigation was conducted within the framework of Piaget's theories of moral judgment. This was done since Piaget deals with the universal and cognitive aspects of development as opposed to the inner conflict model of psychoanalytic theory. Also, by utilizing Piaget's theories, a reference point in the concept of morality for the child (either an objective moral response orientation or a subjective moral response orientation) can be determined and an experimental treatment applied. Since the task has

relevance to the child, any changes as a result of the treatments would be more generalizable than with the use of a neutral stimulus.

It must be emphasized, however, that the theories were used only as a vehicle to measure the influence of the two nonverbal cues. Piaget makes a distinction between responses to tests and the general organization or structure underlying the responses. A demonstration of change in the invariant sequences of the stages of development would require the use of explanatory data along with simple responses. In addition, since all developmental theories accept the fact of short term change, it would be incumbent upon any investigator to demonstrate that the effects were long term. Such demonstrations were beyond the purpose of this investigation.

An experiment similar to the present study was conducted by Bandura and McDonald (1963). Their study was designed to test the relative efficacy of social reinforcement and modeling procedures in modifying moral judgment responses utilizing Piaget's theories. One group of children observed adult models who expressed moral judgments counter to the group's orientation and the children were reinforced with approval for adopting the model's evaluative responses. A second group observed the

models but received no reinforcement for matching their behavior. A third group of children had no exposure to models but were reinforced for moral judgments that ran counter to their dominant evaluative tendencies. Following the treatments, the children were tested for generalization effects. The experiment produced substantial changes in the children's moral judgment responses when models were used, but the operant conditioning was not of statistical significance. Cowan, Langer, Heavenrich, and Nathanson (1969) obtained similar results in a replication and analysis of Bandura and McDonald's study. Although both studies were able to modify the moral judgment responses of children in both developmental directions, neither study could directly affirm or deny any of Piaget's theories.

III. HYPOTHESES OF THE STUDY

To briefly review the theoretical arguments that have been presented in this chapter, it has been maintained that the phenomenon known as experimenter bias is of concern to educators and psychologists. The existence of this influencing variable has been documented but the nature of the transmission of the bias has not been isolated. A search of the literature indicates that eye glances and head nods by the experimenter may be a channel for the

communication of the expectations of the examiner. By using Piaget's theories of the moral judgment response orientation of children, a reference can be determined and specific manipulations of the nonverbal cues could be effected. Therefore, the present investigation was carried out to evaluate the following hypotheses:

1. Nonverbal cues would be utilized by the children to determine the "correct" moral judgment response. Responses to items biased toward an objective moral orientation would differ from responses to items biased toward a subjective moral orientation. Items biased toward both orientations at the same time would produce responses that vary from both extremes.

2. The transmission of bias from experimenter to subject would be related to the operant moral judgment response orientation of the child. Thus, the influence of the nonverbal cues in altering the responses is predicted to be the strongest in the treatment using opposite cues, secondly in the treatment using the combination of cues, and weakest in the same directional response cuing condition.

3. As a corollary, the sex of the subject will be treated as a variable since there is some suggestive

evidence this factor is critical in the transmission of the bias.

IV. ORGANIZATION OF THE STUDY

Chapter I has presented the problem, the need for the study, and the hypotheses. Chapter II presents a review of literature and research related to experimenter bias and nonverbal communication. Chapter III explains the methods and procedures for conducting the experiment. Chapter IV presents the analyses of the data and Chapter V discusses the results and conclusions of the investigation.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

I. EXPERIMENTER BIAS

As mentioned in Chapter I, the investigation of the phenomenon of experimenter bias has created a burgeoning research literature within the last decade. Most of the studies have been presented in at least one of the seven review articles that have been published (Barber and Silver, 1968; Kintz, et al., 1965; Rosenthal, 1963b, 1964a, 1964b, 1967) and/or in at least one of the three books that have appeared (Friedman, 1967; Rosenthal, 1966; Rosenthal and Jacobson, 1968). Some of the more poignant of these studies involving both animal and human subjects will be presented in this section.

Animal Studies

Rosenthal and Fode (1963a) told one half of a group of experimenters that they would be running "bright rats" through a simple maze and the other half were told that their rats were "dull." The rats were actually drawn at random for a homogeneous animal colony. The mean number

of correct responses obtained from each animal on any one day was 2.3 for "bright" animals and 1.5 for "dull" animals, a statistically significant difference. These findings were duplicated in a subsequent study by Rosenthal and Lawson (1964). Experimenters running supposedly bright rats obtained significantly faster learning from their animals on stimulus discrimination and stimulus generalization.

In a similar design, Cordaro and Ison (1963) asked students to record the number of "contractions" and "head turns" manifested by tiny flatworms during a two second period when the worms were exposed to a conditioned stimulus (a light). Some of the students were told that their planaria had already been conditioned and would probably show high responses. The other students were told that their planaria had not been conditioned and therefore that not too much should be expected of them. The students that were told by the instructor that their flatworms should show a high response reported twice as many head turns and three times as many body contractions than the students told not to expect too much.

A study involving learning in rats was carried out by Ingraham and Harrington (1966). Students were asked to judge the number of times that rats pressed a bar. However,

what was to be judged as "bar pressing" was not defined for them. Each student was required to set his own criterion. The students running "bright rats" recorded more bar presses than those running "dull rats" during the first part of the experiment. The differences were interpreted as being a function of the ambiguity of the task of defining what is "bar pressing."

These studies appear to indicate that when students are given prejudiced information or ambiguous criteria for judging animal responses, their judgments will be influenced by the instructor's stated opinion of their animals.

Other studies indicate that animals pick up expectations and discriminate between experimenters. Christie (1951) has detailed how experienced observers in an animal laboratory could judge which of several experimenters had been handling a rat by the animal's behavior in a maze or while being picked up. Gantt (1964) noted how a dog's heart rate could drop dramatically (from 160 to 140) simply because a certain experimenter was present. The importance to an animal's performance of its relationship to the experimenter has also been pointed out for horses (Pfungst, 1911), sheep (Liddell, 1943), and porpoises (Kellogg, 1961).

Human Studies

The cognitions of the experimenter may also affect the human subject's responses by shepherding them into the desired or perhaps expected direction. As noted in Chapter I (page 9), experimenters using the person perception task have consistently obtained significant results (Rosenthal and Fode, 1961, 1963b; Rosenthal, Persinger, Vikan-Kline, and Fode, 1963; Laszlo and Rosenthal, 1967). Other tasks, however, have also exhibited evidence of this phenomenon.

Masling (1965) told students that a good measure of their skill in administering the Rorschach test was the extent they could secure either animal or human responses. Significantly more animal responses were obtained by examiners told to show their skill by obtaining such responses than by experimenters attempting to exhibit proficiency by obtaining human responses.

A similar task was assigned by Marwit and Marcia (1967). Prior to administering a modified form of the Holtzman Inkblot Test, half of the experimenters were asked whether they expected to obtain many or few responses to the inkblots from their subjects. The other experimenters were told to expect either many or few responses. Both sets

of experimenters obtained results significantly related to their expectations.

In an experiment using a word association test, Silverman (1966) told one half of the experimenters that the purpose was to establish norms for association time. The other experimenters were told that one half of their subjects were scheduled to take an examination. Conditions were randomly assigned without regard for real examination schedules. The latter experimenters were also led to expect that subjects under the examination condition, as compared to those under the no-examination condition, would show a greater latency of association time to examination-related words. The results were in the expected direction. The latencies to examination-related words were significantly higher under examination conditions than under the norm establishing condition, and tended to be higher under the examination condition than under the no-examination condition.

Thus, it seems reasonable to assume from these data that the results of an experiment may be significantly influenced, at least in part, by the expectations of the experimenter.

II. NONVERBAL COMMUNICATION

Head nods and eye glances belong to the area of nonverbal communication known as body motion. This section will deal with two theoretical approaches to kinesics and some of the empirical research.

Theoretical Approaches

Detailed and comprehensive systems for transcribing body motion have been developed by Birdwhistell (1959). His work with body motion has been devoted to developing a coherent account of its structure, closely following the model and methodology of the American Structural linguists. This approach emphasizes the careful construction of linguistic systems by starting at the lowest prestructural level of language (phonetic) and working up through the successive levels in structural hierarchy (phonemic, morphemic, syntactic). Linguists of this school hold that work on a higher level can have little validity unless based on solid systematic knowledge of all lower levels. Starting at the lowest level, Birdwhistell (1952) published his microkinesic recording system, analogous to the linguists' phonetic transcription system.

Birdwhistell (1966) has since reported that his research findings permit viewing "body motion, at least

insofar as American English is concerned, as a system directly comparable to spoken language (p. 9)." Analogous to the phoneme, morpheme, and syntactic units, Birdwhistell (1965) has reported finding, respectively kineme and various types of kinemorphs which combine to form higher level syntactic structures, similar to those in speech.

Where Birdwhistell has studied in more minute detail the internal structure of communication units as might be emitted by any single communicant, Scheflen (1966) has focused more broadly on communication on the social level--that is, the interpersonal structures of communication. Scheflen is less interested in the personalities of the communicants than in the structure of the communication behavior. For Scheflen (1969) the structure of communication does not consist of people or their total behavior, but of certain actions abstractable at a given level of content.

Scheflen (1966) defines a structural unit as "a regular organization or complex of components occurring in specific situations or contexts. A structural unit, then, has: (1) a given set of component parts; (2) a definite organization; and (3) specific location in a larger system (p. 271)."

Empirical Research

Ekman and Friesen have developed a large scale program to investigate the kinds of information conveyed by nonverbal behaviors. On the basis of a series of studies (1967), they differentiate four types of body motion cues, as noted in Chapter I. Ekman and Friesen (1968) found in a subsequent study that body motion provides, "information about effect, the on-going interpersonal relationship, and psychodynamics and ego defenses, and that there are complex interrelationships between nonverbal behavior and content or content aspects of speech (p. 213)."

Charney (1966) drew on Sheflen's (1964) notion of postures of the interactants being congruent or noncongruent to study the postures of client and therapist during a single therapy hour. He found a progressive increase in congruent postures during the hour.

Dittman, Parloff, and Boomer (1965) studied the utilization of visual cues in inferring mood by a group of psychotherapists and a group of professional dancers. The two groups rated the pleasantness of affect shown by a patient on silent film segments. The groups differed in that the therapists tended to rely more heavily on the

facial cues, while the dancers were more responsive to the rest of the body as well.

Most researchers have controlled the experimenter's half of the visual interaction by requiring the experimenter to maintain a steady gaze at the subject. This produces an unnatural situation. Gibson and Pick (1963) studied the stability of subjects to determine whether or not they were being looked at. They found that, "the ability to read eyes seems to be as good as the ability to read fine print on an acuity-chart . . . (p. 394)."

Taking an ethological point of view, Hutt and Ounstead (1966) noted that persistent gaze aversion is one of the cardinal behavioral manifestations of childhood autism.

Taken together, these studies of body motion, including eye contact, demonstrate a remarkable consistency of findings. As Duncan (1969) has postulated, that despite the newness of the area, there is virtually none of the confusion of conflicting results or failures of replication so often encountered in psychological literature. Instead, the typical case has been mutual verification and extension of results.

CHAPTER III

METHOD

I. EXPERIMENTAL DESIGN FOR TESTING HYPOTHESES

Chapter I concluded with statements of the hypotheses for this investigation. The major hypotheses indicated that the utilization of the nonverbal cues would be a function of the cue condition and the moral response orientation of the child. In addition, the sex of the subject was considered to be an independent variable and therefore its significance would be tested in relation to the major hypotheses. Since interaction effects were predicted, an analysis of variance design was deemed most appropriate for testing the hypotheses. As noted in the summary of the experimental design presented in Table I, the factors of the operant level of moral response orientation, the cuing conditions, and the sex of the subjects were the basis for the design of the investigation and the classification of the data.

Participants

The subjects, ranging in age from six years, seven months, to ten years, three months, were from the campus

TABLE I

SUMMARY OF EXPERIMENTAL DESIGN

Phase	I	II					
Purpose	Assessment of operant level of moral response orientation	Experimental Treatments					
Presentation of stimulus items	No bias cues	Objective bias cues		Subjective bias cues		Both sets of cues	
Subjects	Objective moral orientation N = 36	N = 12		N = 12		N = 12	
		Males	Females	Males	Females	Males	Females
		6	6	6	6	6	6
Subjects	Subjective moral orientation N = 36	N = 12		N = 12		N = 12	
		Males	Females	Males	Females	Males	Females
		6	6	6	6	6	6

school of Middle Tennessee State University in Murfreesboro, Tennessee. This school serves a predominately white, middle class community. Many of the parents of the students are on the faculty of the University.

A total of 105 children were initially selected and tested in the first two weeks of March, 1970. This sample comprised the entire population of the first, second, and third grades of the school. After testing, the subjects were catagorized as to moral judgment orientation, treatment condition, and sex. An additional twelve students from the fourth grade were tested one week later in order that an equal number of subjects could be drawn from each category and treatment condition. The data on seventy-two subjects, partitioned into cells according to operant level of moral orientation, treatment received, and sex, and randomly selected within the cells, were used for comparison and evaluation. The study, therefore, involved twelve cells, with six subjects per cell.

Two experienced psychological examiners served as the experimenters for the investigation. Both were females since the elementary schools have predominately female professional personnel. One experimenter has a Ph.D. in school psychology and has been administering individual

tests to children for fifteen years. The other experimenter is completing her Ph.D. in child psychology. She has over ten years of extensive experience testing children. Both were similar in physical appearance and age.

Selection of Stimulus Items

A pilot study was conducted to select the stimulus items. Following a procedure developed by Piaget (1948) and modified by Bandura and McDonald (1963), ten children were individually presented with parts of stories which contrast good intentions and large negative consequences (objective moral orientation) with bad intentions and small negative consequences (subjective moral orientation). Stories developed by Bandura and McDonald (1963) were presented without any attempt of bias. An example of these stories is given below:

One day when Peter's father had gone to work, Peter thought it would be fun to play with his father's fountain pen. First, he played with the pen and then he made a little blot on the table cloth.

One day when Johnny's father was away, Johnny noticed that his father's fountain pen was empty. He thought that he would help his father by filling the pen with ink so that the pen would be ready when his father needed it. But while he was opening the ink bottle, he made a big blot on the table.

These stories generated questions instead of simple responses. When asked to tell which child did the naughtier thing, most of the subjects would ask questions such as, "Which one did what?" or "What did the first boy do?"

The stories were then modified by reducing them in length. Care was taken to retain the emphasis on intentions and consequences. The modified version of the above story is:

Peter was playing with a fountain pen and made a little mark on the tablecloth.

Johnny was filling the fountain pen with ink for his father and spilled the whole bottle of ink on the table.

An additional eight subjects were then individually given twenty-four pairs of modified stories. However, the attention span of these subjects did not hold beyond twelve to fifteen sets of stories. Therefore, twelve pairs of modified stories, six for each phase of the experiment were selected. These items, along with the instructions, are contained in Appendices A and B.

After each set of stories, the experimenter would ask, "Who did the naughtier thing, _____ or _____?" The appropriate names were inserted for each set of stories. There were no replications of names in the twelve sets.

II. PROCEDURES

The presentation of the stimulus items were divided into two phases, assessment and experimental treatment conditions. Both phases were presented in the same testing session. The subjects, randomly selected and tested in groups of four, were assigned to a treatment condition prior to receiving the assessment items.

Assessment Phase

In the first phase of the experiment, the children were presented with six pairs of stories to furnish measures of the operant levels of objective and subjective moral judgments. The stories were presented with the experimenter looking up while giving instructions and looking down while giving the stimulus items.

Experimental Treatments Phase

In the objective bias cue condition, the experimenter would look up and nod each time she said the name that appeared in the objective story. She would also look up and nod when she said the objective story name as she asked "Who did the naughtier thing, _____ or _____?"

The subjective bias cuing condition was the reverse of the previous treatment. The experimenter would look up and nod each time she said the name that appeared in the subjective story and again when she asked the children to make the response.

The combination bias cuing condition consisted of combining both objective and subjective bias cue conditions. The experimenter would look up and nod for each name in both stories of each item when she asked for the response.

Since there were no instructions during the experimental treatment phase, the experimenter did not look up except to give a specific cue.

Presentation and Response Procedures

The presentation of the stimulus items for both phases of the experiment were video-taped and presented to the subjects on a twenty-one inch television monitor. Video-tape was used in preference to live presentation so that all subjects would receive the exact same manipulation of cue conditions. Data from previous studies indicate that such a manner of presentation is as potent as live experimenters. For example, Bandura, Ross, and Ross (1963), found that children imitate aggressive behavior depicted in films as much as with live models.

Within each grade level and class, the treatment conditions were rotated, i.e., every third group of subjects received the same treatment condition, and the experimenters were alternated in sequences of three, i.e., every sixth group of subjects received the same treatment from the same experimenter.

Each child listened individually to the instructions and stimulus items through a set of headphones. The use of the headphones served two purposes. First, it insured that the verbal content of the experiment was audible to each subject at the same level. Secondly, it helped eliminate both outside detractors and verbal interchange between subjects.

For response purposes each child had a microphone attached to an individual cassette tape recorder. This recorder was activated simultaneously with the video-tape playback unit. The subjects responded to the stimulus items by answering into the microphones. The responses were later transferred from the audio-tape to a scoring sheet.

The children were tested in the school conference room. They sat four abreast eight feet away from the television monitor. Their backs were to a screen which

concealed the video-tape playback equipment, headphone jacks, and the tape recorders.

Scoring and Classification

Since the natural sequence of change is toward a subjective moral judgment response orientation, the scale used for classification and comparison was based on the number of subjective names given. If the subject gave 0, 1, or 2 subjective story name responses during the assessment phase, he was considered to be objective in his moral judgment orientation. If, however, he gave 4, 5, or 6 subjective story name responses, he was classified as subjective in his moral judgment orientation. Subjects that gave three subjective story name responses during the assessment phase were not included in the analysis of the data for two reasons:

1. The subjects could not be considered to have a predominate moral response orientation since they gave an equal number of objective and subjective responses.

2. The stimulus items were presented with the objective story first in items 2, 4, and 6 and the subjective stories first in items 1, 3, and 5. Therefore, a score of 3 each could be a function of the presentation

order rather than judgment. On the basis of previous studies (Bandura and McDonald, 1963; Cowan, et al., 1969), a bimodal distribution of scores was expected. This dichotomy occurred with only 10 percent of the total subjects tested giving three subjective story name responses.

The subjective scale was also used for scoring during the experimental treatment phases. All of the scores were used for comparison since the subjects were catagorized and selected on the basis of the first six items.

Control of Audio Cues

In a study of filmed experimenter-subject interaction in Rosenthal's (1966) situation, Duncan and Rosenthal (1968) found a correlation of $+0.72$ between the subjects' subsequent ratings on the experimental task and a differential emphasis score based on elements of the experimenter's intonation and paralanguage. In order to control such variables, five judges (two psychology professors, two speech therapists, and one speech professor from Middle Tennessee State University) listened to the audio portion of the experiment. The judges found no variation in emphasis, intonation, or inflection between stories, items, experimenters, or phases.

III. OPERATIONAL STATEMENT OF THE HYPOTHESES

The experimental hypotheses can be stated operationally in terms of the design for the investigation that has been presented in this chapter. These hypotheses are listed below in the same order in which they appeared at the close of the introductory chapter.

1. A significant difference between the mean scores for each of the cuing conditions is predicted.

2. A significant difference in the Moral Judgment Response Orientations is hypothesized with the mean scores for each orientation predicted to be highest in the subjective cuing condition, next largest in the combination cuing condition, and smallest in the objective cuing condition.

3. A significant interaction effect for the Sex of the Subject X Cuing Condition X Moral Judgment Response Orientation is predicted.

CHAPTER IV

RESULTS

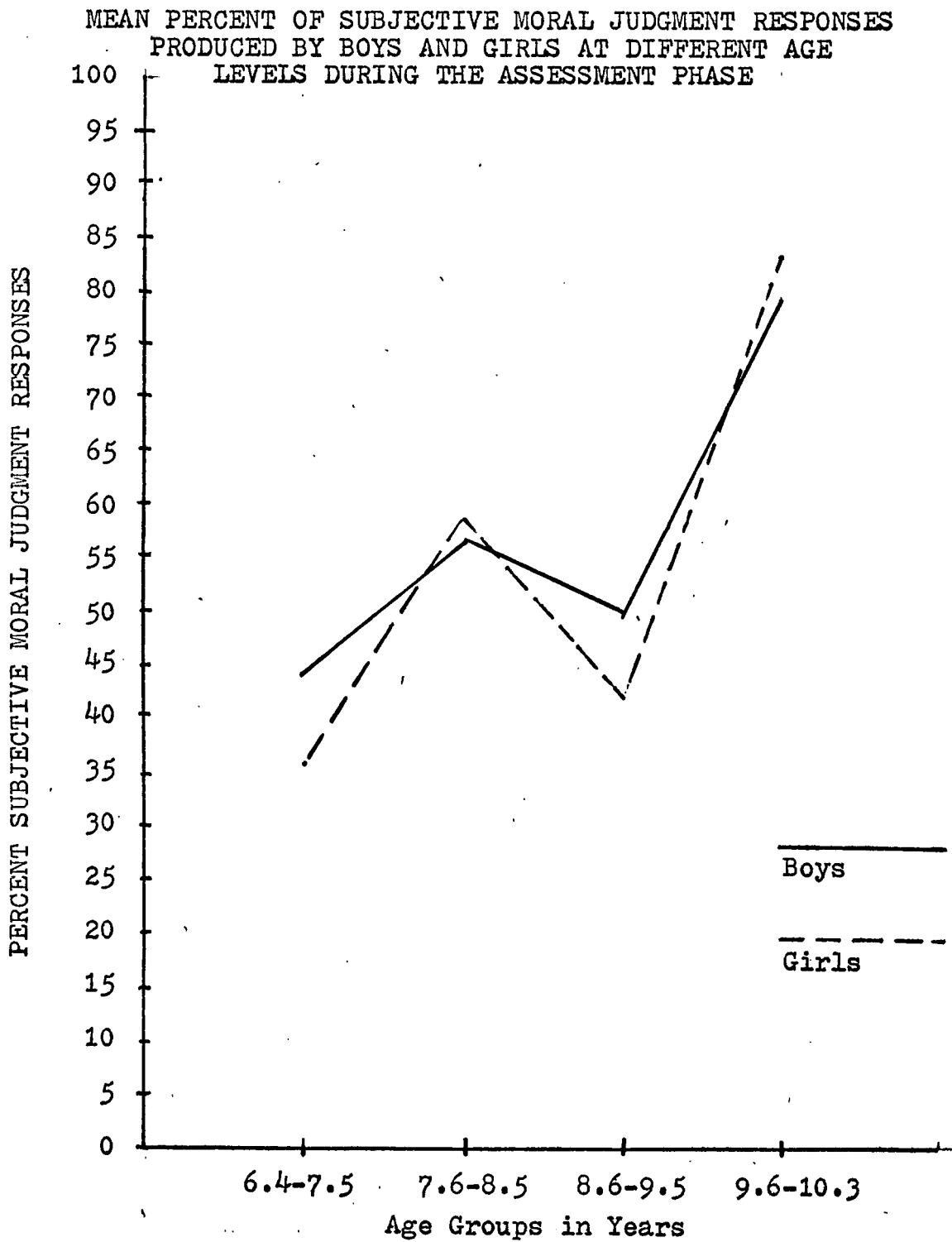
I. JUDGMENTAL RESPONSES AS A FUNCTION OF AGE

An examination of the responses given during the assessment phase would lend credence to Piaget's theory that judgmental responses are positively associated with age. The mean percentage of subjective moral judgment responses for boys and girls at one year intervals is presented in Figure 1. The shape of the curves is similar with a common age range to the curves displayed in earlier studies (Bandura and McDonald, 1963; Cowan, et al., 1969). These findings suggest that, for this age range, objective and subjective judgments may exist together in varying degrees. The marked reduction of subjective responses by the 8.6 to 9.5 age group may have further implications for the theories of both Piaget and Freud.

II. GENERAL PLAN OF DATA ANALYSIS

Two different analyses of variance were computed with the subjective scores of the subjects in the experiment proper. The second analysis of variance provided

FIGURE 1



a more specific test of the major hypotheses which were stated at the close of the preceding chapter. Since the major hypotheses were concerned with definite order and relationship among the means involved, the overall F tests in the two analyses were followed up with tests of multiple comparisons between means where they were appropriate. For this purpose, a rather stringent statistical procedure of keeping all tests at a constant level of rejection was applied.

In addition to the procedures described above, each half (Items 1, 2, & 3 and Items 4, 5, & 6) of each treatment condition was compared to its appropriate counterparts. This comparison was made by the use of t -ratios. The analysis was used to determine if the utilization of the nonverbal cues were related to a learning factor.

Finally, the two video-taped experimenters were compared for their effects by a t -test for independent samples, with subjects summed across the treatment conditions.

III. ANALYSIS OF ALL FACTORS

The first analysis was performed with the factors of the cuing conditions, the operant moral judgment orientation, and the sex of the subjects as independent

variables. The cuing conditions contained three levels: objective bias cuing, subjective bias cuing, and a combination of objective and subjective bias cuing. The operant moral judgment orientation contained two levels: objective orientation and subjective orientation. The sex factor of the subjects contained two levels, of course. The results of this analysis are presented in Table II.

TABLE II

ANALYSIS OF VARIANCE: ALL FACTORS

Source	df	MS	F
Cuing Condition (CC)	2	14.89	9.44*
Operant Moral Judgment Orientation (OMJO)	1	20.06	12.71*
Sex of Subject (S)	1	0.00	---
CC X OMJO	2	1.05	---
CC X S	2	3.17	2.01
OMJO X S	1	2.00	1.27
CC X OMJO X S	2	1.17	---
Within Group (error)	60	1.58	

* $p < .01$

Inspection of Table II indicates that as predicted, the main effects of the cuing conditions and the operant moral judgment response orientation are significant at or beyond the 1 percent level. The sex of the subject was not significant as a main effect nor in interaction with either of the other two variables.

The major hypotheses were also concerned with the order and relationships between the means of the cells. Figure 2 presents graphically the mean number of subjective responses produced by objective oriented children in both phases of the experiment. Figure 3 presents the same data for the subjective oriented children.

The Newman-Keuls procedure for making individual comparisons between all possible pairs of means within a logical grouping (Winer, 1962, p. 309) was applied to the means in Figures 2 and 3. This involves a ranking of the means that are included and an adjustment of the level of significance in accordance with the distance between the means of ranking, in order to keep every comparison at the same level of significance. Table III contains the results of the Newman-Keuls procedure for the set of six means in the operant moral judgment orientation and the cuing condition. The results are presented schematically

FIGURE 2

MEAN NUMBER OF SUBJECTIVE MORAL JUDGMENT RESPONSES
PRODUCED BY OBJECTIVE ORIENTED CHILDREN DURING
ASSESSMENT PHASE AND TREATMENT CONDITIONS

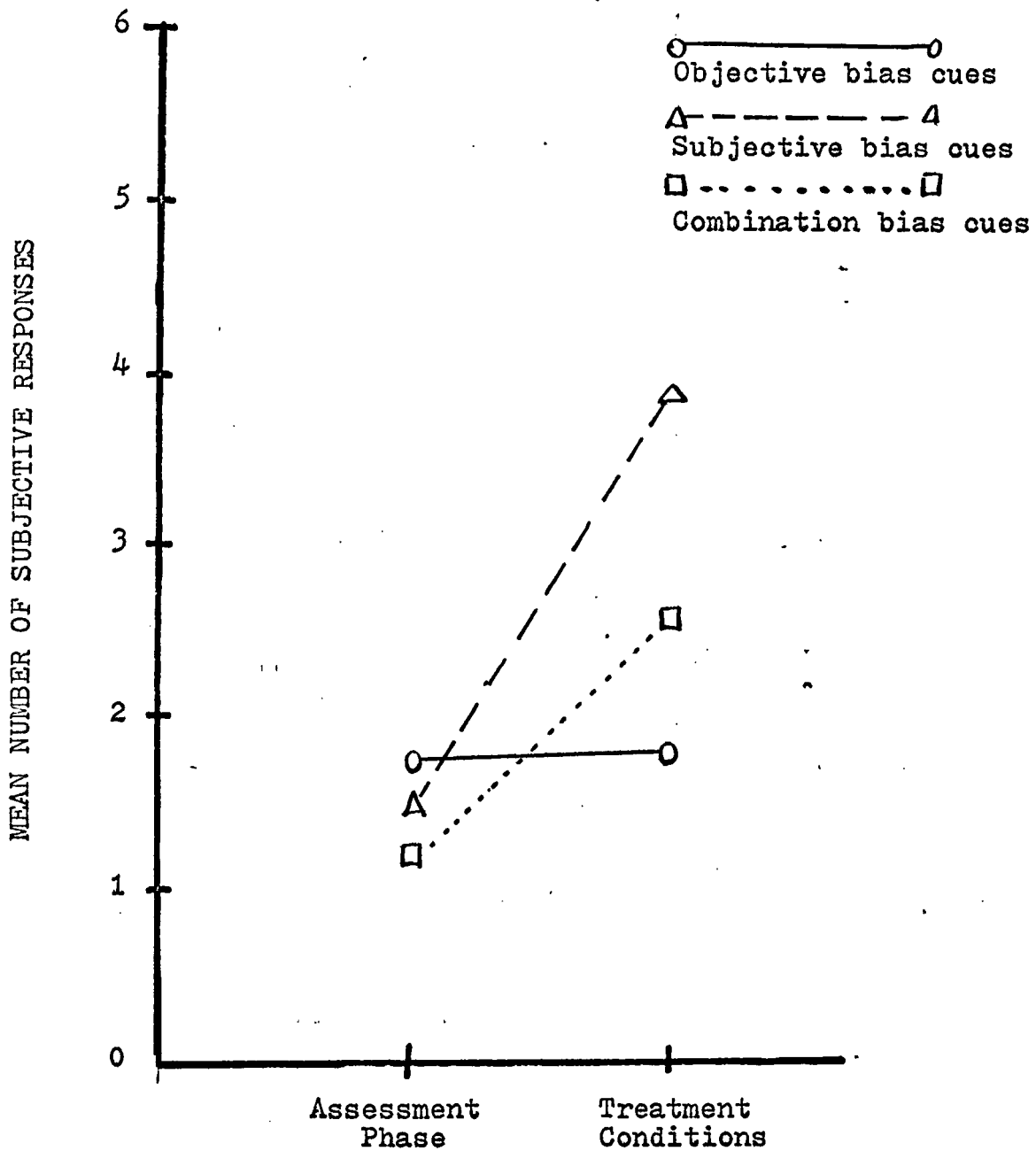


FIGURE 3

MEAN NUMBER OF SUBJECTIVE MORAL JUDGMENT RESPONSES
PRODUCED BY SUBJECTIVE ORIENTED CHILDREN DURING
ASSESSMENT PHASE AND TREATMENT CONDITIONS

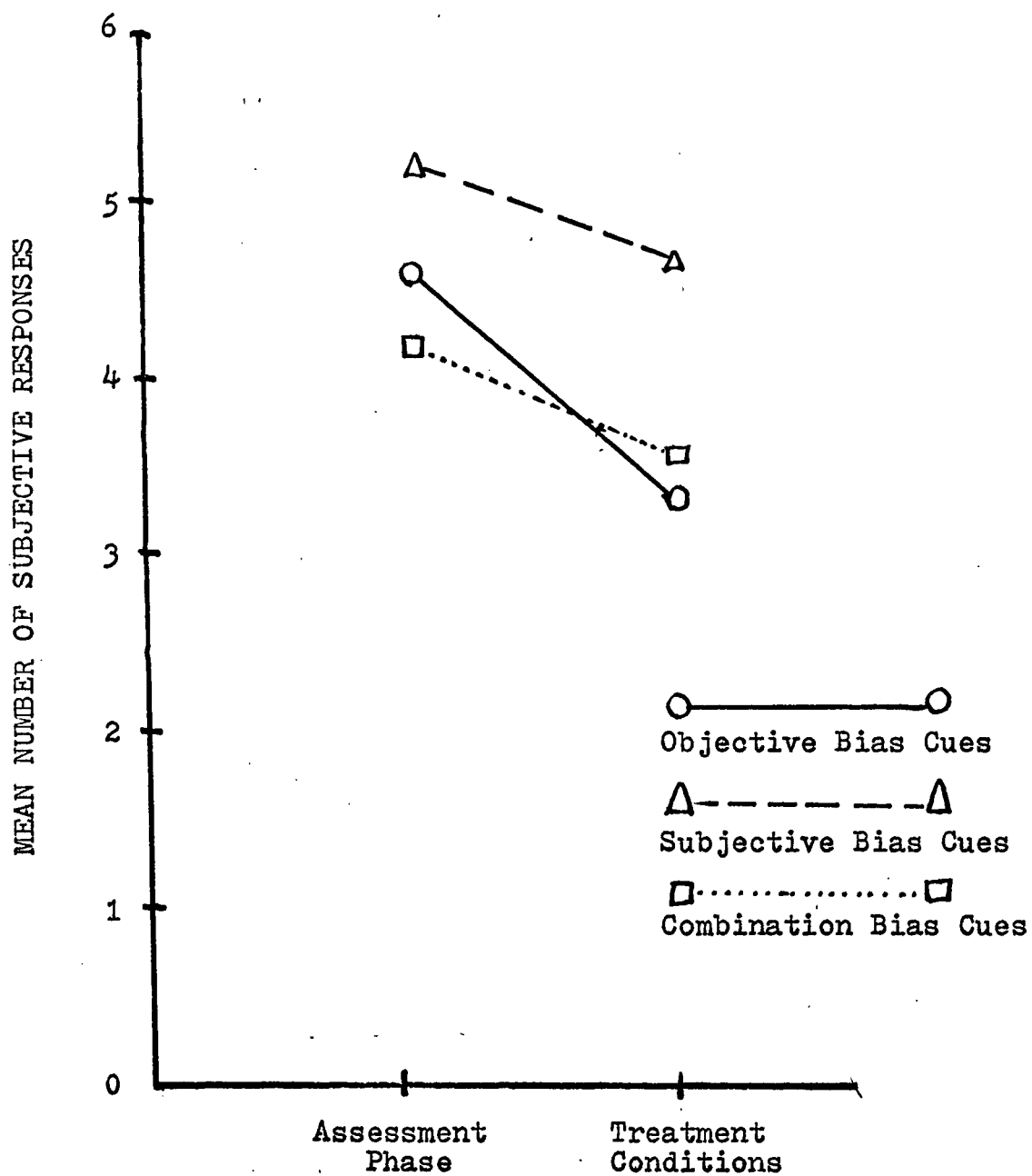


TABLE III

NEWMAN-KEULS TEST OF SIGNIFICANCE FOR MEANS OF OPERANT
MORAL JUDGMENT ORIENTATION AND CUING CONDITION

Orientation	Cuing Condition		
	Objective	Subjective	Both
Objective	1.833 (a)	3.750 (b)	2.417 (c)
Subjective	3.333 (d)	4.417 (e)	3.417 (f)

RANK ORDER OF MEANS^a

a c d f b e

Note: Form of table adapted from Winer (1962, p. 309).

^aLetters joined by a common line denote means that do not differ significantly. Any two letters not joined by a common line denote means that are significantly different ($p < .05$).

at the bottom of the table, where the various means are identified by letters indicating the groups from which they come. An unbroken line joining two or more means indicates that they are not significantly different from each other.

The predicted rank order of means is supported by the statistical analysis. The means for each of the orientations are largest in the subjective bias cuing condition, next in the combination of bias cuing condition, and smallest in the objective bias cuing condition.

The results of the multiple comparisons between means indicate that the responses given by the children when they are presented with objective bias cues do not differ from when they are presented with the combination of both objective and subjective bias cues. However, the results do indicate that the responses given by both objective and subjective oriented children are significantly different ($p < .05$) when they are given objective bias cues as opposed to when they are given subjective bias cues.

IV. SPECIFIC ANALYSIS OF MORAL JUDGMENT AND CUE CONDITION

The second analysis of variance was computed as a more specific test of the main hypotheses. By omitting the third treatment condition and by summing across the

insignificant sex factor, the design reduces to the critical levels of the two significant factors. In the second analysis of variance, the cuing condition with the levels of subjective bias cues and objective bias cues and the two levels of the operant moral judgment orientation were used as independent variables. The results of this analysis are presented in Table IV.

TABLE IV
ANALYSIS OF VARIANCE: TWO FACTORS

Source	df	MS	F
Cuing Condition (CC)	1	27.00	19.32*
Operant Moral Judgment Orientation (OMJO)	1	14.08	10.08*
CC X OMJO	1	2.08	1.49
Within Group (error)	44	1.40	

*p < .01

Again the cuing condition main effect was significant at the 1 percent level as was the main effect of the operant moral judgment orientation. As in the first analysis, the interaction was not significant.

The Newman-Keuls procedure for multiple comparisons was also applied to this set of means. The means and the results are presented in Table V. The results of the multiple comparisons reveal that the mean for the objective

TABLE V

NEWMAN-KEULS TEST OF SIGNIFICANCE: SECOND ANALYSIS

Orientation	Cuing Condition	
	Objective	Subjective
Objective	1.833 (a)	3.750 (b)
Subjective	3.333 (c)	4.417 (d)

RANK ORDER OF MEANS^a

a c b d

Note: Form of table adapted from Winer (1962, p. 309).

^aLetters joined by a common line denote means that do not differ significantly. Any two letters not joined by a common line denote means that are significantly different ($p < .05$).

oriented children given objective bias cues is significantly different ($p < .05$) from the other three means. Hence, the objective children's moral judgment response orientation can be altered by the use of nonverbal cues, but the subjective children's are more resilient.

V. COMPARISON OF ITEMS 1, 2, & 3 WITH ITEMS 4, 5, & 6

An examination of the percent of subjective responses per item for all subjects in the treatment conditions is of interest. Figure 4 presents these curves. The first three items (1, 2, & 3) suggest similar curves from each of the bias cue conditions. The last three, (4, 5, & 6) however, have strikingly different shapes. The relationship between the responses given in the first half of the treatment conditions and the second half was analyzed by t-ratios. The results of these comparisons are presented in Table VI. Items 1, 2, & 3 of the objective bias cue condition were significantly ($p < .05$) different from Items 4, 5, & 6, but not from Items 1, 2, & 3 of the other two conditions. The first three items of the subjective bias condition were not different from the second three items nor from the first three items of the other two condition. Items 4, 5, & 6 of the subjective bias cue condition, however, are different from Items 4, 5, & 6 of

FIGURE 4

49

MEAN PERCENT OF SUBJECTIVE RESPONSES PER ITEM
IN TREATMENT CONDITIONS

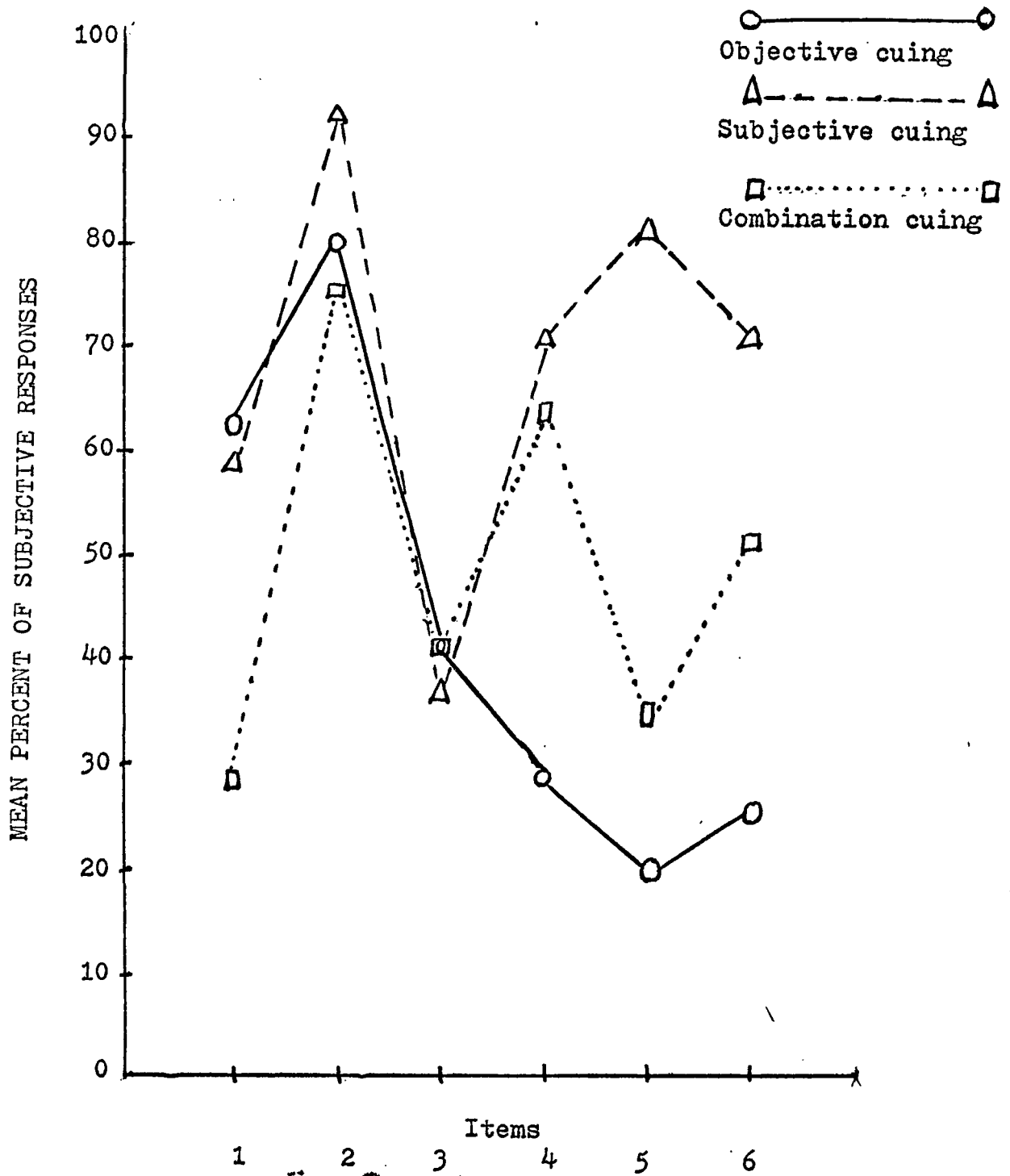


TABLE VI

COMPARISON OF EACH HALF OF EACH TREATMENT CONDITION

Bias Cue Condition	Items	Bias Cue Condition	Items	t
Objective	1,2,3	Objective	4,5,6	3.30*
Objective	1,2,3	Subjective	1,2,3	---
Objective	1,2,3	Combination	1,2,3	---
Objective	4,5,6	Subjective	4,5,6	13.10**
Subjective	1,2,3	Subjective	4,5,6	---
Subjective	1,2,3	Combination	1,2,3	---
Subjective	4,5,6	Combination	4,5,6	---
Combination	1,2,3	Combination	4,5,6	---
Combination	4,5,6	Objective	4,5,6	---

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

the objective bias cue condition ($p < .05$) but not from Items 4, 5, & 6 of the combination bias cue condition. Items 1, 2, & 3 and Items 4, 5, & 6 of the combination bias cue condition are not different from each other nor from any other mean.

These results would tend to suggest that the children did not pick the cues up until the middle of the bias conditions.

VI. COMPARISON OF EXPERIMENTERS

Since two experimenters were used in the investigation, an analysis was made across bias conditions between experimenters to ascertain if any difference existed due to individual experimenters. The results of the t-ratios are presented in Table VII. As noted, no significant difference was found between experimenters in any bias condition.

TABLE VII

COMPARISON OF MEANS ACROSS BIAS CONDITIONS
BETWEEN EXPERIMENTERS

Bias Condition	Experimenter		t-ratio
	A	B	
Objective	2.6	2.6	0.00
Subjective	3.8	4.3	.21
Combination	2.6	3.1	.18

CHAPTER V

DISCUSSION AND SUMMARY

The present investigation was concerned with the utilization of two nonverbal cues by children giving moral judgment responses. This chapter will examine the fate of the specific hypotheses and the relative influence of head nods and eye glances in altering the children's responses will be discussed. Some implications will be postulated. Recommendations for further study will be made and a general summary will also be presented.

I. DISCUSSION

Evaluation of the Hypotheses

The first hypothesis stated that children would utilize the nonverbal cues to determine the "correct" answers. A significant difference between the mean scores for each of the cuing conditions was predicted. This hypothesis was supported only in comparing the mean scores made by objective oriented children during the objective bias condition and the subjective bias condition.

The second hypothesis stated that the transmission of the bias from experimenter to subject would be related to the operant moral judgment response orientation of the child. A significant difference in the moral judgment response orientation was hypothesized with the mean scores for each orientation predicted to be highest in the subjective cuing condition, next largest in the combination cuing condition, and smallest in the objective cuing condition. This hypothesis was accepted with the order of the mean scores for each orientation supporting the predictions.

The third hypothesis predicted a significant interaction effect for the sex of the subject by cuing condition by moral judgment response orientation. This hypothesis was not accepted.

Effectiveness of Cuing Conditions

Three different cuing conditions were presented across two operant levels of moral judgment response orientation. One condition consisted of looking up and nodding when the name used in an objective judgment story was spoken. Another condition involved looking up and nodding when the name used in a subjective judgment story

was spoken. The final condition involved looking up and nodding while speaking both the objective and the subjective story name.

Analysis of the data reveals that for children holding an objective moral judgment response orientation, the condition presenting subjective bias cues elicited a significantly different mean number of subjective responses as compared to the condition presenting objective bias cues. The condition that contained the combination of both bias cues apparently had no effect on the responses of the children. The combination cue condition mean did not differ significantly from either of the other two means. This combination rather exhibited a check on the structure of the stimulus items. Since the means of the combination cue condition fell between the means for the objective and the subjective bias cue conditions, the stimulus items themselves seemed to be neutral in construction.

The nonverbal cues proved too mild to influence, beyond a nonsignificant trend, the mean number of subjective responses given by children holding a subjective moral judgment response orientation. There was no significant difference in the mean number of responses given during the subjective bias cuing condition and the objective bias cuing

condition. Again, the combination cuing condition did not elicit a significantly different mean response from the other two bias cuing conditions. Therefore, it can again be interpreted as exhibiting a check on the structure of the stimulus items.

The subtle nature of the cues is illustrated by a conversation held with a subjective oriented girl immediately after completion of the experiment. She had been presented with the condition that contained objective bias cues. When asked what she thought about the presentation, she stated, ". . . that lady was trying to trick us." The girl was asked what she meant by "trick." She replied, "I don't know what she was doing but she was trying to trick us." Even after an extended conversation, the child was unable to isolate what prompted her feeling.

Perhaps the subtle nature of the cues may account for the significant differences found when the mean number of subjective responses on the last half of the objective bias cuing condition (Items 4, 5, & 6) were compared with the mean number of subjective responses on the first half of the objective bias cue condition (Items 1, 2, & 3) and the last half of the subjective bias cuing condition (Items 4, 5, & 6). As LeCompte (1968) has pointed out, ". . . a

stronger signal than the exchange of a couple of glances (p. 56)" is needed for transference of bias. The children apparently did not start picking up cues until after the third stimulus item. After that, for Items 4, 5, & 6, the responses were very strongly related to either the objective or subjective bias condition, regardless of operant moral judgment orientation.

The findings of the present investigation show that younger children, i.e., those predominately objective in their moral judgment orientation, are susceptible to nonverbal cues. Older children, i.e., those with subjective moral judgment response orientation, seemed to resist change that would reverse development. These conclusions support earlier findings that changes occur more readily in the direction of spontaneous development than in the reverse direction. In some studies using Kohlberg's (1964) technique for diagnosing stages of moral development, Turiel (1966, 1969) hypothesized and found that subjects exposed to moral judgments in a stage directly above their dominant stage change in that direction more than subjects exposed to examples below their dominant stage.

Implications

Three factors were specifically incorporated into the design of the present investigation to allow for a broader generalization of any significant results. First, moral judgments, which are relatively meaningful tasks when compared to neutral stimuli, were chosen as the catalyst for responses. Also the experimenter gave the items and cues across treatment phases, permitting the bias to be a function of instructions rather than bio-social factors. Finally, since audio cues were kept at a negligible level, any differences between treatments could be attributed to the nonverbal variable.

The significant results would therefore indicate that young children can be influenced to change their responses in spite of their own beliefs. This influence can be exerted through the use of nonverbal cues, specifically head nods and eye glances. The young children apparently depend upon things other than just cognitive knowledge to determine their responses.

These findings would imply that standardized tests must contain instructions for the nonverbal behavior of the examiner as well as for the verbal content, especially with younger children.

The use of a television monitor for the presentation vehicle raises a secondary, but pertinent, question. If the moral judgment of young children can be altered by the use of nonverbal cues presented over a television monitor, then what effects does or can public television programs have on the moral and intellectual development of children. Such a question seems to have implications for not only educators and psychologists, but for society at large.

Recommendations for Further Study

Further investigation into the present problem should take into account the following recommendations:

1. The experimental treatment conditions should contain more stimulus items. This would allow for a more stringent test of the utilization of the nonverbal cues after an initial learning period of two or three items.
2. A control group should be given the treatment items devoid of any nonverbal cues. Such a group would provide the basis for a more critical comparison as the combination cuing condition did not prove significant.
3. The cues of head nods and eye glances should be separated and tested individually, thereby further isolating specific transmitters of nonverbal cues.

II. SUMMARY

The present investigation was conducted to test the influence of two nonverbal cues as transmitters of experimenter bias and an experimental arrangement through which the amount of the bias may be varied. Specifically, it was expected that children would utilize the nonverbal cues (head nods and eye glances) as determinants of what the examiner believed to be the "right" answer and respond accordingly. The amount of bias was hypothesized to be a function of the nonverbal cuing condition and the response orientation of the child.

Children, ranging in age from six years, seven months to ten years, three months, were asked to respond to stories that contrasted good intentions and large negative consequences (an objective moral judgment response orientation) with bad intentions and small negative consequences (a subjective moral judgment response orientation). These stories were modified from items based on the theories of Jean Piaget. The data on thirty-six boys and thirty-six girls were used for comparison and evaluation.

Each subject responded in an assessment phase to items devoid of any nonverbal cue. This score was used to

determine his operant moral judgment response orientation. In the same testing session, the subject received one of three treatment conditions: the experimenter would look up and nod when the name used in an objective story was used; or the experimenter would look up and nod when the name in a subjective story was used; or the experimenter would look up and nod when a name from either of the stories would be used. Both phases of the experiment were presented on video-tape so all of the nonverbal cues would be the same.

The main findings were as follows:

1. Children holding an objective moral judgment response orientation give significantly different scores when presented with nonverbal cues that emphasize a subjective response as opposed to the same nonverbal cues that emphasize an objective response.
2. Children, regardless of their operant moral judgment response orientation, tend to give the most number of subjective responses when presented with subjective bias cues, the second largest amount of subjective responses when presented with a combination of both subjective and objective bias cues, and the least amount of subjective responses when presented with objective bias cues.
3. The sex of the subject does not play a significant role in determining the response of the child,

regardless of the operant moral judgment response orientation or the cuing condition.

It was concluded that head nods and eye glances can alter the responses of young children. Thus it behooves educators and psychologists to monitor their nonverbal behavior when administering a test where answers are derived from parts of the questions.

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APPENDIX A

INSTRUCTIONS FOR EXPERIMENT AND ASSESSMENT ITEMS

INSTRUCTIONS

Note: All underlined material must be presented while looking into the television camera.

I am going to tell you some stories about some boys and girls and I want you to tell me who did the naughtier thing, O.K.? When I ask you a question, speak right into the microphone in your hand. First I want you to tell me your name now. Speak into the microphone.

****ten second pause****

Thank you. Now while I am telling you the stories, be sure to look into the television set at all times and listen very carefully.

****ten second pause****

ASSESSMENT ITEMS

Note: All items must be given while you are looking down. Do not look up until you give the instructions at the end of the assessment items. Look up only when you come to the underlined part.

When Henry was trying to steal a cookie from the cabinet, he broke one cup. When John was helping his mother set the table, he broke ten cups. Who did the naughtier thing, Henry or John?

****ten second pause****

As Tony is building a tower with a friend, he accidentally trips and knocks it all down. Because Harry couldn't play with some boys, he knocks one block off of their tower. Who did the naughtier thing, Tony or Harry?

****ten second pause****

Peter was playing with a fountain pen and made a little mark on the table cloth. Johnny was filling the fountain pen with ink for his father and spilled the whole bottle of ink on the table. Who did the naughtier thing, Peter or Johnny?

****ten second pause***

When the teacher asked Susie to water the flowers, she knocks the vase on the floor and it breaks. When the

teacher leaves the room, Jenny writes on the board and breaks the teacher's chalk. Who did the naughtier thing, Susie or Jenny?

****ten second pause****

Because her little brother is in all of the pictures, Norma makes a mark on one with a crayon. When she is looking at some pictures, Claudia accidentally spills root beer on twenty of them. Who did the naughtier thing, Norma or Claudia?

****ten second pause****

Judy let a bird that did not belong to her out of a cage so it wouldn't be locked up anymore. Ann took a piece of candy from a box her mother was saving for a party when her mother was not at home. Who did the naughtier thing, Judy or Ann?

****ten second pause****

Now I am going to tell you some more stories. Be sure to keep your eyes on the television set and listen very carefully.

****ten second pause****

APPENDIX B

TREATMENT ITEMS

TREATMENT ITEMS

OBJECTIVE BIAS

NOTE: Look up only when you come to a name that is underlined. Then look up and nod as you say that name.

When Paul's father tells him not to bother him while he is painting the fence, Paul takes a stick and dribbles some paint on the ground. When Floyd is helping his father paint the fence Floyd steps back to see and he kicks over a can full of paint. Who did the naughtier thing, Paul or Floyd?

ten second pause

Ned and his friends are building a tree house. As Ned is lifting a big board, it drops out of his hand and the whole tree house falls down. Jim was watching some boys build a tree house. When they went to lunch, Jim climbed up and kicked off a board because they wouldn't let him help. Who did the naughtier thing, Ned or Jim?

ten second pause

Jane was playing with some scissors on her bed when her mother was not home and she cut a little hole in her blanket. Mary was helping her mother cut some pictures out

and she cut a big hole in her blanket on her bed. Who did the naughtier thing, Jane or Mary?

ten second pause

Jimmy has some brothers and sisters that are hungry so he climbs over a fence and takes ten apples from a tree he doesn't know who owns. Denny had just eaten lunch but he climbs over a fence and takes one apple from a tree that belongs to a man he doesn't like. Who did the naughtier thing, Jimmy or Denny?

ten second pause

Joe plays a trick on a man and tells him the wrong direction to go but the man really didn't get lost because he found his way. Because Ed thinks he knows the right direction but really doesn't, a man gets lost and can't find his way. Who did the naughtier thing, Joe or Ed?

ten second pause

Oscar is helping his father pull weeds out of the gardens. He doesn't know the difference between weeds and flowers so Oscar pulls all the flowers up also. Lee asked a friend to play with him. When the friend says no, Lee pulled one leaf off of a flower in the friend's yard. Who did the naughtier thing, Oscar or Lee?

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TREATMENT ITEMS

SUBJECTIVE BIAS

NOTE: Look up only when you come to a name that is underlined. Then look up and nod as you say that name.

When Paul's father tells him not to bother him while he is painting the fence, Paul takes a stick and dribbles some paint on the ground. When Floyd is helping his father paint the fence Floyd steps back to see and he kicks over a can full of paint. Who did the naughtier thing, Paul or Floyd?

ten second pause

Ned and his friends are building a tree house. As Ned is lifting a big board, it drops out of his hand and the whole tree house falls down. Jim was watching some boys build a tree house. When they went to lunch, Jim climbed up and kicked off a board because they wouldn't let him help. Who did the naughtier thing, Ned or Jim?

ten second pause

Jane was playing with some scissors on her bed when her mother was not home and she cut a little hole in her blanket. Mary was helping her mother cut some pictures out

and she cut a big hole in her blanket on her bed. Who did the naughtier thing, Jane or Mary?

ten second pause

Jimmy has some brothers and sisters that are hungry so he climbs over a fence and takes ten apples from a tree he doesn't know who owns. Denny had just eaten lunch but he climbs over a fence and takes one apple from a tree that belongs to a man he doesn't like. Who did the naughtier thing, Jimmy or Denny?

ten second pause

Joe plays a trick on a man and tells him the wrong direction to go but the man really didn't get lost because he found his way. Because Ed thinks he knows the right direction but really doesn't, a man gets lost and can't find his way. Who did the naughtier thing, Joe or Ed?

ten second pause

Oscar is helping his father pull weeds out of the garden. He doesn't know the difference between weeds and flowers so Oscar pulls all the flowers up also. Lee asked a friend to play with him. When the friend says no, Lee pulls one leaf off of a flower in the friend's yard. Who did the naughtier thing, Oscar or Lee?

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TREATMENT ITEMS

COMBINATION BIAS

NOTE: Look up only when you come to a name that is underlined. Then look up and nod as you say that name.

When Paul's father tells him not to bother him while he is painting the fence, Paul takes a stick and dribbles some paint on the ground. When Floyd is helping his father paint the fence Floyd steps back to see and he kicks over a can full of paint. Who did the naughtier thing, Paul or Floyd?

ten second pause

Ned and his friends are building a tree house. As Ned is lifting a big board, it drops out of his hand and the whole tree house falls down. Jim was watching some boys build a tree house. When they went to lunch, Jim climbed up and kicked off a board because they wouldn't let him help. Who did the naughtier thing, Ned or Jim?

ten second pause

Jane was playing with some scissors on her bed when her mother was not home and she cut a little hole in her blanket. Mary was helping her mother cut some pictures out and she cut

a big hole in her blanket on her bed. Who did the naughtier thing, Jane or Mary?

ten second pause

Jimmy has some brothers and sisters that are hungry so he climbs over a fence and takes ten apples from a tree he doesn't know who owns. Denny had just eaten lunch but he climbs over a fence and takes one apple from a tree that belongs to a man he doesn't like. Who did the naughtier thing, Jimmy or Denny?

ten second pause

Joe plays a trick on a man and tells him the wrong direction to go but the man really didn't get lost because he found his way. Because Ed thinks he knows the right direction but really doesn't, a man gets lost and can't find his way. Who did the naughtier thing, Joe or Ed?

ten second pause

Oscar is helping his father pull weeds out of the garden. He doesn't know the difference between weeds and flowers so Oscar pulls all the flowers up also. Lee asked a friend to play with him. When the friend says no, Lee pulls one leaf off of a flower in the friend's yard. Who did the naughtier thing, Oscar or Lee?

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