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The Ohio State University, Ph.D., 1976
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CHILDREN'S SOCIAL VALUES RELATED TO AGE, SEX,
AND PIAGETIAN LEVEL OF MORAL JUDGMENT

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
Thomas Rutledge Rosebrough, B.A., M.A.

* * * * *

The Ohio State University
1976

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CHAPTER I

INTRODUCTION

The values dimension of education has been receiving an increasing amount of attention in recent years and has attracted the interest and involvement not only of educators, but also of psychologists, social psychologists, sociologists, philosophers, and political scientists. A deep concern has surfaced in American society for what its children value and how they come to form their values. Educators have expressed this concern by developing various programs and techniques for the schools which for the most part are designed to give children experience in the valuing process.

A basic part of the values dimension is the social realm where children acquire behavior that accords with the mores of a particular culture or society. This study has assumed that many of the values which characterize adult behavior are learned during childhood. The proposition may then be made that the social actions and responses of children are the foundation of the social values of adults. This behavioral foundation is inseparable from the nature of the value itself; that
is, a value can assume meaning only in behavioral terms. It must be exhibited by the individual in word or deed and tend to have a persistence in the individual's life (Raths, Harmin, and Simon, 1966). Thus, it would seem worthwhile to study social behavior in children in order to understand better the basis for the development of specific social values.

A need exists in American society for the school to be recognized as serving a primary function of developing social values in children. Dewey (1909) has viewed the school as having no moral end apart from participation in social life: "We must take the child as a member of society in the broadest sense, and demand for and from the schools whatever is necessary to enable the child intelligently to recognize all his social relations and take his part in sustaining them" (p. 9).

Piaget has recognized the importance of socialization. He feels that peer interaction over extended time helps loosen the child from the grip of egocentrism. In the words of Flavell (1963):

There remains the question of the mechanism by which the child ultimately frees himself from the grip of egocentrism... It is not simply experience with objects and events in the real world; the child, says Piaget, can and does readily distort physical experience to fit his preexistent schemes. Rather, social interaction is the principal liberating factor, particularly social interaction with peers. In the course of his contacts (and especially, his conflicts and arguments) with other children, the child increasingly
finds himself forced to reexamine his own percepts and concepts in the light of those of others, and by so doing, gradually rids himself of cognitive egocentrism. (p. 279)

In recent times, however, the school can hardly be seen as having a primary concern for directing the socialization of its children. Bronfenbrenner (1973) has charged that "it is debarred by tradition, lack of experience, and preoccupation with the subject matter from concerning itself in any major way with the child's development as a person. Questions of conduct become of legitimate concern only if they 'interfere with the lesson'" (p. 120). The problem, as Bronfenbrenner views it, derives from the constitutional separation of church and state, which, as it freed the schools of religious control, also fragmented the process of education. In other words, cognitive learning is emphasized above affective, leaving a vacuum which is being filled by none of the primary institutions of society—the church, the home, or the school.

Durkheim (1961) has held that the school, not the church or the home, is the agency for accomplishing moral or values education because of its supposed emphasis on rationality. For Durkheim the church represents revelation, not necessarily reason, and the home involves highly personal relationships which inhibit the development of a highly abstract sense of duty that is a function of a rational
philosophy of morality. A person's social values can be considered a part of his philosophy of morality; indeed, according to Durkheim, society is the only source of morality.

**Focus of the Problem**

The social values chosen for investigation in this study were cooperation and sharing, both of which seem likely to remain relevant and significant in terms of the needs of society. The general problem considered was the relationship of three variables—Piagetian moral judgment level, age, and sex—to the social values of cooperation and sharing. Three levels of moral judgment were determined—low, medium, and high—according to the number and kind of response made by each subject. For the age variable, subjects were chosen from two grade levels, second and fourth. Male and female subjects composed the sex variable, making this study a 3 x 2 x 2 factorial design. These variables are discussed in more detail later in this chapter as well as in Chapter III.

Both cooperation and sharing have been studied by researchers who employed behaviorally based instruments known in the social psychological literature as experimental games. The experimental game is a useful tool for the investigator because it structures a situation in which behavior can be observed and systematically recorded. The games selected for this study are known as the
Prisoner's Dilemma Game (the cooperation instrument) and the Candy-Sharing Task (the sharing instrument), both of which are discussed in Chapter III of this study.

The other instrument employed in this study, the Piagetian Moral Judgment Stories, is an interview technique developed by Piaget (1932) to measure the moral-judgment level responses of children. It, too, is discussed in Chapter III.

In order to focus the general problem of this study (social values related to moral judgment level, age, and sex), it was necessary to formulate certain hypotheses based on a review of relevant research. The hypotheses are presented later in this chapter. The research foundation of the hypotheses, consisting of a review of the findings of numerous studies relating to the general problem of this study, is presented now.

A review of the research relating cooperation and age showed mixed results. Concha, Garcia, and Perez (1975) found that significant differences existed in the cooperative responses of the various age groups represented (10, 13, and 17 years old): the older the subject the more the cooperation. This finding verified the results of an earlier study. McKee and Leader (1955) found that older children cooperated more than younger children.
Others, however, have reported differing results after relating cooperative behavior with the age variable. Sjoberg, Bokander, Dencik, and Lindbom (1969) compared the responses of adults and children and reported that the older subjects showed less cooperative behavior than the younger. In a 1972 study of five- through ten-year-old children, Kagan and Madsen also found that the older children were less cooperative than the younger ones. A year later, Bethlehem (1973) reported no significant age differences in his study of cooperation.

A review of the work of researchers who have related sharing behavior to age shows a distinct direction in findings. The review shows that (without exception) older subjects share significantly more than their younger counterparts. Beginning with Ugerel-Semin in 1952 and ending with a study by Rushton in 1975, all the relevant research found by this investigator agreed in the findings that older subjects share more. In between the two studies above are like research findings by Handlon and Gross (1959), Crase (1973), and Green and Schneider (1974).

A look at studies concerned with either of the social values (cooperation or sharing) related to the sex variable reveals distinctly mixed findings. In research that related cooperative behavior to sex differences, McKee and Leader (1955) found that boys cooperated significantly less than girls. Tedeschi, Hiester, and Gahagan (1969)
agreed with this finding in their study of cooperation. Others, however, have either found the opposite to be true (Wasik, Senn, and Epanchin, 1969) or have discovered no sex differences at all (Steinfatt, 1973).

In research that related sharing behavior to sex differences, Grusec (1972) found at least one of his groups of boys sharing significantly less than the girls. Crase (1973) and McGuire and Thomas (1975) confirmed with their studies that boys were less generous than girls. Two other research findings, however, showed no sex differences in the sharing behavior of children. Both Ugerel-Semin (1952) and Handlon and Gross (1959) reported that boys and girls were virtually alike in their sharing behavior.

A review of the moral judgment literature indicates a strong relationship between children's responses and their age. Piaget (1932) contended on the basis of his study of moral judgment in children that the objective answer was more prevalent on the average at an earlier age than was the subjective answer. He found that seven was the average age for the objectively responsible answers and that nine was the average age for the subjectively responsible answers.

Using Piaget's clinical techniques, Bandura and McDonald (1963) found that subjective morality did indeed tend to increase with age—that the number of subjectively responsible responses increased
with age. Cowan, Lange, Heavenrich, and Nathanson (1969) replicated Bandura and McDonald's study and confirmed this finding. Ambron and Irwin (1975) studied moral judgment and discovered that seven-year-olds had significantly higher moral judgment scores than the five-year-olds studied.

Two studies, those of Peterson, Peterson, and Finley (1974) and Ambron and Irwin (1975), related the Piagetian Moral Judgment stories to sex and found no significant differences in the children studied.

No research was found by this investigator which related cooperative behavior to moral judgment in children. One study by Rushton (1975) did consider the relationship between sharing behavior and moral judgment level. It was found that the children with a low moral judgment score did not share as much as the children with the high moral judgment score. This finding, combined with the other research findings showing a strong trend toward sharing increasing with age and subjective morality increasing with age, have led this investigator to hypothesize that subjectively responsible older children will share more than objectively responsible younger children. No such hypothesis regarding cooperation is feasible because of the mixed results of studies which related cooperative behavior with age.
Purpose of the Study

The major purpose of this study was to determine whether moral judgment level, age, and sex were related to cooperative and sharing behavior. A secondary purpose was to determine whether sex- and age differences existed in the moral judgment responses of children.

Children were selected from four second grade classrooms and four fourth grade classrooms in two different suburban elementary schools (two second grades and two fourth grades from each school). The cooperation instrument required that the children work in dyads; the sharing and moral judgment instruments were presented to each child individually. From these situations it was anticipated that answers to the following questions might be found:

1. Are there differences between objectively responsible (OR) and subjectively responsible (SR) students in social values behavior?
2. Are there differences between second and fourth grade students in social values behavior?
3. Are there differences between boys and girls in social values behavior?
4. Are there differences between second and fourth grade students in moral judgment responses?
5. Are there differences between boys and girls in moral judgment responses?

**Hypotheses**

The foregoing questions and a review of the related research generated the following research hypotheses:

- \( H_1 \): Fourth grade children will show significantly more sharing behavior than second grade children.

- \( H_2 \): Subjectively responsible fourth grade children will show significantly more sharing behavior than objectively responsible second grade children.

- \( H_3 \): Fourth grade children will make significantly more subjective moral judgments than second grade children.

**Definition of Terms**

A number of workable definitions had to be acquired in order to facilitate discussion in this study. The term *values* has been variously defined. Shaver (1972) defines values as "standards or principles of worth" (p. 3). Another writer calls them "general guides to behavior, what we do with our time and energy" (Miguel, 1974, p. 10). Superka (1974) sees them as "criteria for determining levels of goodness, worth, or beauty which guide the thoughts, feelings, and actions of persons" (p. 1).
The term is general in nature, and it becomes even more general when placed in the context of the values of a particular society. However, for the purpose of this study, the definition of social values offered by Thompson (1952) served very well:

There are two different kinds of values that children need to develop in order to live harmoniously in a given society: values that are related to the relative desirability of different goal objects (books, drama, churches, schools, art, and the like), and values that pertain to the relative desirability, or undesirability, of fairly stable patterns of behavior (going to church, being honest, supporting charities, contributing to the arts, supporting the government, and the like) (pp. 552-553).

Of the two different kinds of values distinguished by Thompson, the latter one (pertaining to patterns of behavior in a society) was the more useful for this study.

When the term social values is used in this study, it will be collective in nature. It will refer to cooperation and sharing, the social values selected for investigation. A useful definition of cooperation has been set forth by Johnson (1975) as "the coordination of behavior among individuals to achieve mutual goals" (p. 241). The other social value selected for study, sharing, usually has been considered by social psychologists as a kind of altruistic behavior, a term synonymous with generosity. Fischer (1963) has conceptualized it rather frankly as "a process in which children learn to give away something
in order to get something else" (pp. 240-241). Thus both cooperation and sharing seem to involve goal-oriented behavior.

The other factor in addition to age and sex used in the study of cooperation and sharing was the level or moral judgment. The term moral judgment level is Piagetian in origin and refers to one of two levels or stages, the stage of objective responsibility (also referred to as moral realism) and the stage of subjective responsibility (also called moral relativism). In detail, Piaget admits that they are not easily differentiated. However, he states that "it cannot be denied that the notion of objective responsibility diminishes as the child grows older. We did not come across a single case of it after the age of ten" (1965, p. 124).

Piaget goes on to define them as two distinct processes, one of which precedes the other in the moral development of the child, although the two partially synchronize. He found that actions were evaluated by children in terms of both consequence (e.g., the child who breaks the larger number of dishes is naughtier) and intention (e.g., the child is judged not on the number of dishes broken, but on how the accident came to happen), the two types of answers existing side by side up to the age of ten. Piaget contends, however, that the objective answer (a judgment based on consequence) is more prevalent on the average at an earlier age than is the subjective answer (a judgment based on intention).
For the purposes of this study, in order to operationalize moral judgment level as an independent variable, it was necessary to group children into one of three moral judgment levels: low, medium, and high. These three levels were based on the number of subjective answers each subject gave during the moral judgment interview. A more detailed description of the three levels and the interview instrument is found in Chapter III. An objectively responsible (OR) student is at the low moral judgment level; a subjectively responsible (SR) student is grouped in the high moral judgment level.

One further differentiation was necessary. A moral judgment response is one judgment made by a child on one of the five pairs of Piagetian Moral Judgment Stories. A subject's moral judgment level was determined by the number of subjective moral judgment responses he gave.

Summary

The purpose of this study has been to investigate the social values of children in relation to three variables: Piagetian level of moral judgment, age, and sex. The social values chosen for study were cooperation and sharing. This study has been conducted to add to the body of knowledge with regard to the social values of cooperation and sharing, as well as to contribute to the developmental literature with regard to moral judgment in children.
The next chapter presents a review of the literature associated with this study of social values in children. The review is an attempt to give an overall perspective of the studies relating to social values behavior and to place this study within that perspective. Chapter III details the methods and procedures utilized in this study, and Chapter IV is an analysis of the data gathered with an examination of the hypotheses generated by this study. The final chapter summarizes the study, with discussion, conclusions, and recommendations for further research.
CHAPTER II

A REVIEW OF THE LITERATURE

The topic of social values has been receiving increasing attention in the literature of psychology and education. It can be considered a part of the growing concern in education for the affective environment of school children. This review centers around three areas: (1) cooperation as a social value; (2) sharing as a social value; and (3) the development of moral judgment in children.

Cooperation Social Value

Cooperation is a social value which has received much attention, particularly from social psychologists and child development specialists. It has been studied by researchers using a wide variety of factors and varying instrumentation. The following review of this literature is divided into three areas: (1) cooperation studies that are cross-cultural in nature; (2) cooperation studies which employ group and reward structure as variables; and (3) cooperation studies which use the Prisoner's Dilemma Game as a research instrument.
Cross-Cultural Studies

Cooperative and competitive behavior have been studied in many cultures, including Israel, Mexico, Canada, Blackfoot Indian-America, Cuban-America, Zambian-Africa, and Colombian-South America. Shapira and Madsen (1969) looked at the cooperative-competitive behavior of kibbutz and urban children in Israel. In the first part of the study, both groups cooperated adaptively (to their economic advantage) under group reward. With a change from group to individual reward, the urban children began to compete in a nonadvantageous manner while the kibbutz children continued to cooperate.

In a later study involving three different experiments, Shapira and Madsen (1974) compared Israeli kibbutz and city children from the United States (ages eight through eleven) on cooperative-competitive behavior. In Experiments I and II, groups of four children (all from Israel) played a cooperation board game in which subjects represented themselves as individuals under one condition and represented a group in another. Kibbutz groups were found to be more cooperative and more strongly influenced by the group representation conditions than were the city groups. In Experiment III, groups from Israel and the United States were compared in their selection of a group versus an individual goal. Kibbutz children cooperated more often to the group than did other Israeli or United States children, even under a condition in which the group-oriented response was economically nonadvantageous.
Madsen (1971) studied developmental and cross-cultural differences in the cooperative and competitive behavior of Mexican and Anglo-American children. Using a marble-pull game, a two-person experimental task, the investigator found a higher level of cooperation among Mexican than among Anglo-American children, and an increase in nonadaptive competition with age among Anglo-American children.

In another study focusing on rivalry or competition in Anglo-American and Mexican children of two different age levels (five- and six-year-olds, eight- through ten-year-olds), Kagan and Madsen (1972) used a set of simple choice cards involving the manipulation of marbles to operationalize rivalrous behavior. It was found that the older children were significantly more competitive than the younger ones, and that the Anglo-American children were significantly more competitive than the Mexican.

Miller and Thomas (1972) studied cooperation and competition among Blackfoot Indian and urban Canadian children. Using a game requiring cooperation under two reward conditions, the researchers recorded the behavioral responses of the seven- to eleven-year-old children. Under group reward, both groups cooperated effectively. Later, when the subjects were rewarded individually, the Blackfoot children continued to cooperate even more effectively than
under the group reward situation, while the urban Canadian children showed individually competitive behavior which grossly impaired their performances on the games task.

Using Anglo-American and Cuban-American children as subjects in a study of cooperation and competition, Concha, Garcia, and Perez (1975) tested three different age levels: seventeen-year-old high school seniors, thirteen-year-old eighth graders, and ten-year-old fifth grade students. With the Madsen Cooperation Board as the research instrument, the investigators found that the Anglo-Americans cooperated to a greater extent than the Cuban-American students, and also that as age increased cooperation increased for both groups.

Bethlehem (1973) looked at cooperation, competition, and altruism among school children in Zambia. Using a Prisoner's Dilemma Game to compare the responses of upper class African whites and Zambians from needy families, the researchers found no significant differences between the eight- to sixteen-year-old whites and African Zambians.

A group of researchers has studied cooperation as a function of place of residence in Colombian children. One hundred sixty-eight first grade children of urban and rural towns in Colombia, South America, were paired and run through ten trials of the Madsen Cooperation Board. By using place of residence, degree of communication, and
sex pairing as factors, Marin, Mejia, and Oberle (1975) found that: (1) males and females cooperated in a similar number of trials; (2) communication as a factor did not influence cooperation; and (3) rural children cooperated more than urban children.

Other researchers have studied the cooperative behavior of children in relation to socio-economic status and race. McKee and Leader (1955) studied preschoolers to determine the role of socio-economic origin in the development of competition. As they built constructions from toy plastic bricks, children were systematically observed for competitive behavior (defined as behavior in which the intent seemed to be to excel or to communicate the notion of one's superiority to the partner). Competition was found to be more frequent and more vigorous among children of lower socio-economic origins. Analysis also showed that competition was positively related to age (less with older children) and sex (more common among boys than girls).

Wasik, Senn, and Epanchin (1969) studied cooperation and sharing behavior among culturally-deprived preschool children. Black and white kindergarten children were paired in like-sex dyads in a game situation in which subjects received a marble for cooperative responses. The results showed significantly more cooperative responses than noncooperative ones. Males were more cooperative than females and whites more than blacks.
In another study of cooperative-competitive behavior among preschool black and white youngsters, Goodman (1952) found that black children were more competitive than white children of the same age. However, using a two-person non-zero-sum game, Sampson and Kardush (1965) found white children to be more competitive than black.

Findings from the studies reviewed in this section tend to support the contention that Anglo-American children and urban children are more competitive than children from other ethnic groups and rural children in general. Results were mixed in relation to age, sex, and race.

**Studies Using Group and Reward Structure**

Cooperative behavior has been studied with group makeup and reward structure as factors. Workie (1974) investigated cooperation and competition in both intragroup and intergroup conditions. Two hundred forty male high school students were asked to play card games in groups of four. The games were played either as individual or as partnership games with monetary payoffs given in proportion to the game scores. After using six different group conditions, the researcher found that cooperation was significantly more productive than competition both in intragroup and intergroup conditions.
Competition has been found to be an important social motivator which has both positive and negative consequences. The findings in the literature are mixed, with Hurlock (1927), for example, finding that group rivalry as an incentive can improve the quality of performance, and with Williams (1956) emphasizing the effects of competition between groups as harmful to the quality of performance.

Johnson (1975) compared the predisposition to cooperate with the ability to take the perspective of other individuals (empathy) both physically and emotionally. A series of three tasks—a marble-pull task, a picture-rating task, and a choice-card task—were used to operationalize cooperation and empathy. No relationship was found between cooperation and the ability to take the physical perspective of other individuals, but a strong relationship was found between cooperation and the ability to take the emotional perspective of other individuals. Also, no relationship was discovered between physical and emotional empathizing.

Other studies have focused on magnitude of reward and its effect on cooperative behavior. Scinto, Sistrunk, and Clement (1972) investigated magnitude of reward (real money or game points), sex, and instructional set (individualistic or cooperative) as independent variables in a Prisoner's Dilemma Game. Eighty undergraduate subjects played the PDG for ten trials with no communication. The findings
generally confirmed those of Oskamp and Kleinke (1970) in suggesting no systematic main effect of the level of reward related to cooperation.

Gumpert, Deutsch, and Epstein (1969), on the other hand, in their study of the effect of magnitude of incentive upon cooperation, found that cooperative behavior tended to decrease as the size of reward increased.

Other studies show contrasting results. Solomon and Kaufman (1972) investigated the effects of reward structure and partners' cooperation upon cooperative game strategy. Two hundred ninth graders played a modified PDG under one of four incentive conditions with either a cooperative or competitive partner. Money reward was found to solicit significantly more cooperation than playing for points.

A similar finding was the result of a study by Gallo, Funk, and Levine (1969). Using a Prisoner's Dilemma Game, the researchers studied reward size, method of presentation, and number of alternatives upon cooperative game behavior. Eighty subjects (undergraduates) played for points, and eighty played for money. The subjects who played for money were more cooperative than the subjects who played for points.

Studies using group makeup and reward structure as variables were reviewed in this section. Support was found for the contention that cooperation enhances the quality of performance, and competition,
while sometimes productive, can become detrimental in a group rivalry situation. Another study found a strong positive relationship between empathy and cooperation. The final group of studies showed contrasting findings on the effect of magnitude of reward upon cooperation.

The Prisoner's Dilemma

Game Studies

A wide variety of factors have been used with the Prisoner's Dilemma Game (see Chapter III for a description of this instrument) in the study of cooperative behavior, including the effects of communication (or lack of it), the physical distance between the subjects playing the game, level of prejudice, effect of like versus dislike, sex, and age.

Wichman (1970) studied the effects of isolation and communication on cooperation in a PDG. Four conditions were used in the game: (1) subjects (eighty-eight college females) could neither see nor hear each other (as in the typical PDG); (2) subjects could see but not hear each other; (3) subjects could hear but not see each other; and (4) subjects could both see and hear each other. The results showed an increasing amount of cooperation through all four conditions, especially when players could see each other. The experimenter concluded that the high degree of competitiveness typically found in the PDG may be largely a function of the isolation imposed on the subjects by the experimenter.
Steinfatt (1973) looked at the effects of communication under conditions or real reward. Two experiments were conducted to investigate the effect of communication upon cooperative choice during game playing. No major sex differences were found in the number of cooperative choices either across or within communication conditions.

Another study looked at cooperation in the PDG as a function of interpersonal distance. Sensenig, Reed, and Miller (1972) seated twenty male dyads either physically close or substantially distant as they played the PDG. It was found that with the greater distance, significantly fewer mutually cooperative choices were made, with smaller earnings.

The effects of competition and cooperation on the level of prejudice was the focus of a study done by Silverthorne, Chelune, and Imada (1974). Sixty male Caucasian college students were given two instruments, the PDG and a Multifactor Racial Attitude Inventory, which assessed the subject's level of prejudice. The subjects were then randomly assigned to one of two experimental strategies, an eighty-five percent cooperative strategy (17 cooperative choices out of 20 trials) or an eighty-five percent competitive strategy (17 competitive choices of 20 trials). The two strategies were adopted by either a black or a white partner. It was found that involvement in the PDG led to a reduction in
prejudice when white subjects had white partners who cooperated or competed, or a black partner who cooperated. A non-significant increase in prejudice occurred when the black partner competed.

Jones and Panitch (1971) investigated whether an individual's belief that another person likes or dislikes him actually produces those feelings in other people. Twenty-eight male and twenty-eight female undergraduates played the PDG in dyads. The results showed that the subjects had more positive feelings for the partner in a "like" than in a "dislike" condition, but that only the male receivers were relatively more cooperative in the "like" condition.

Sex role identification in a PDG comprised a study by Mack, Auburn, and Knight (1971). Twenty-four male and twenty-four female adults played one hundred trials of a typical PDG with a simulated partner. One-half of the subjects were told their partner was the same sex (Treatment 1) and the remainder were told that their partner was the opposite sex (Treatment 2). The subjects under Treatment 1 were more competitive than the subjects under Treatment 2 for each sex, and overall, the males were more cooperative than the females.

Age was the primary variable used by Sjoberg, Bokander, Dencik, and Lindbom (1969) in comparing the cooperative responses of children and adults on a Prisoner's Dilemma Game. Using four- to six-year-old children and twenty-year-old female subjects, the researchers
found that the children exhibited more cooperative behavior than the adults, and showed a stronger tendency to make a cooperative move after their defection to a competitive one.

Tedeschi, Hiester, and Gahagan (1969) sought to apply the PDG to a preadolescent population. Forty-eight males and forty-eight females were divided into dyads, drawn from third and fourth grade students. Monopoly money and candy were used as payoffs. A minimum of five and a maximum of ten practice trials were given to all subjects. After each trial, the experimenter indicated both subjects' responses aloud and made appropriate money exchanges. Fifty trials were played. It was found that the simplified procedure of the PDG could be utilized with a preadolescent population. It was also found that females were generally less competitive than males. The present study utilizes in general the simplified PDG procedures described here.

This section has dealt with a review of the PDG-cooperation literature. It was found that: (1) cooperation increased with increased communication between PDG players; (2) involvement in the PDG led to a reduction in prejudice in whites (when blacks cooperated in the PDG); (3) liking or disliking one's PDG partner made little difference in level of cooperation; (4) partners of the opposite sex (adults) tended to compete more than partners of the same sex; (5) children tended to
cooperate more than adults; (6) mixed findings were evident in studies comparing male and female PDG-cooperation; and (7) a simplified PDG could be successfully used with a preadolescent population.

**Sharing Social Value**

Another one of the values in children prized by society is sharing. The study of children's acquisition of sharing responses, in comparison to cooperation research, has been the object of a relatively small amount of research. This review of the sharing behavior literature is organized around three areas: (1) sharing studies that employ social situation or type of reinforcement as the primary variable; (2) sharing studies which use modeling influence; and (3) sharing research employing various demographic factors.

**Studies Using Social Situation and Type of Reinforcement**

Two variables that have been extensively used are social situation and type of reinforcement. Wright (1942) compared two groups of preschool children on sharing with friends and sharing with strangers. Thirty-one children first ranked toys along four degrees of attractiveness. Each child could give away either an undesirable toy or a desirable one. It was found that children who gave away the desirable toy did so regardless of the social situation. The idea of having children rank items according to attractiveness before sharing is employed in the present study.
Two different social influence factors were set up by Long and Lerner (1974) in a study of altruistic behavior. Fourth grade students were divided into two treatment groups, one which believed itself to be overpaid for a task and one which believed itself to be properly paid. All children were given the opportunity to donate some of their earnings to charity for “poor orphan children.” The other factor in the study consisted of the following: each child’s donation would either be anonymous, known by the experimenter and teacher, or known by subsequent subjects. No differences were found attributable to social influence condition, but the overpaid condition did produce significantly greater donations.

Masters and Pisanowicz (1975) employed another type of social condition in a study of sharing and other altruistic behavior. Second grade parochial school boys and girls were asked to copy words and definitions. When they had neatly copied a word and definition, they were given the opportunity to self-administer token rewards, either in accord with what they had earned or with what they wanted. The children were then given the opportunity to donate some of their accrued tokens to help buy prizes for deaf children. No attempt was made to encourage a child to do so; he was told children sometimes donate a lot of tokens and sometimes none at all; and he was free to do whatever he wished with his tokens. It was found that the youngsters self-dispensed
rewards more generously following simple altruism (which in this case was a matter of telling the subjects that the writing task was to help a toy company develop a game for deaf children). Generosity or sharing was significantly reduced following remedial altruism (writing task was to help a toy company) when prior self-reward was "take as you want."

One investigator (Fisher, 1963), using a sample of twenty-four preschool children, studied the effects of material and verbal reinforcement conditions in the acquisition of sharing responses. Material reinforcement (bubble gum) was found to be significantly more effective than verbal reinforcement ("Yes, that's nice.") in inducing the child to share. It was found that as the number of possessions (marbles) increased, the more a subject tended to give away. Also shown was a strong relationship between intelligence and the rate at which children learned to share.

Generosity in children has been studied as a function of the subject's emotional state and of the subject's perception of his father. Rosenhan, Underwood, and Moore (1974) induced a state of happiness or sadness in their subjects by leading them into reminiscing about happy or sad matters. They found that the happy children contributed more than either the controls or the unhappy children.
A study by Rutherford and Mussen (1968) related generosity data (children, given candy, could divide it into three bags) to data derived from responses in family doll play, a situational test of competitiveness, and a series of twenty-one teacher ratings. The experimenters found support for two hypotheses: that the boys' generosity was related to perceptions of their fathers as warm and nurturant, and that generosity is part of a pattern of moral characteristics, including altruism.

Sharing research using social situation and type of reinforcement as variables was reviewed in this section. Researchers found that: (1) children shared desirable toys with friends and strangers alike; (2) children who believed themselves to be overpaid for a task shared more than those properly paid; (3) the relative anonymity of the sharing act made no difference in the amount shared; (4) children who rewarded themselves "as they wanted" after remedial altruism (writing sentences to help a toy company develop a game) shared less than children who were rewarded with "earnings" after simple altruism (writing sentences to help develop a game for deaf children); (5) material reinforcement was more effective in inducing sharing than verbal reinforcement; (6) happy children shared more than unhappy children (and the controls); and (7) a positive relationship existed between boys who perceived their fathers as warm and nurturant and the boys' sharing behavior.
Modeling Influence on Sharing

Another factor enjoying frequent use in the study of altruism and which can be found in a number of studies of sharing behavior is modeling. Using a sample of one hundred children, Grusec (1972) compared the effects on sharing behavior of verbal modeling (adult model who said he was going to donate to a needy children's fund), performance modeling (actually donating to the fund in the view of a child), and no modeling at all (control group). Eleven-year-old boys and girls and seven-year-old girls were found to share under both performance and verbal modeling while seven-year-old boys shared only under performance conditions.

A study by Midlarsky, Bryan, and Brickman (1973) explored the relationship between modeling and reinforcement in training donation behavior in sixth grade girls. It was found that approval of donation behavior from altruistic models is rewarding while selfish models' approval is aversive to donating behavior.

Rushton (1975) looked at the effects of modeling, preaching, and moral judgment on generosity in children. Children played an electronic bowling game, rewarded themselves with tokens, and could if they wished donate some or all of them to a "Save the Children Fund" (tokens to go into a bowl beneath a poster depicting a poorly clothed child with a caption reading "Please Give"). A model played the game
first and either donated one of two tokens he had won (generous model) or kept both himself (selfish model). At the same time, he preached either generosity, selfishness, or provided neutral conversation. Two months later a retest was given under similar conditions and under dissimilar conditions (a different experimenter of the opposite sex from before and a different poster—this time depicting three starving Asian children). The moral judgment factor was operationalized by using six stories adapted from Piaget, with the children's responses recorded on tape.

The findings were as follows: (1) generous models who preached selfishness produced less donating than generous models who preached generosity or who had made neutral comments—selfish models who preached neutral comments produced less giving than selfish models who preached either generosity or selfishness; (2) there were no significant age differences on generosity or upon subjects' evaluation of the model; (3) a highly significant age difference was found on donation behavior on the retest, with the older children giving more than the younger ones; (4) preaching was highly effective in the follow-up; and (5) some support was found for a moral judgment relationship with generosity: those with a low moral judgment score (few subjective responses)
did not share as much as those with a high moral judgment score (many subjective responses). Grusec is the only researcher found who used moral judgment as a factor with sharing.

The effect of modeling on sharing was reviewed in this section. Findings show that: (1) performance and verbal modeling produced no difference in the boys and girls studied, excepting the seven-year-old boys who shared only under performance modeling; (2) altruistic modeling increased sharing while selfish modeling had an adverse effect; (3) the type of verbal modeling done by generous and selfish models produced differences in sharing; (4) older children shared more than younger; and (5) a positive relationship existed between moral judgment scores and sharing.

Demographic Factors in Sharing

A number of sharing behavior studies have used such demographic variables as age, sex, or size of family. Ugerel-Semin (1952) employed a sharing situation with a sample of two hundred ninety-one children to study the relationship between age and the development of generosity. Each youngster of a four to sixteen age range in Istanbul, Turkey, was required to divide an unequal amount of nuts. It was found that the older children shared more, that no significant sex
differences were evident, and that children from large families were significantly more generous. The present study uses the idea of having children share an unequal amount of candy.

In a similar study, Handlon and Gross (1959) investigated the development of sharing as a function of age, sex, and number of siblings, and found similar results. The objects shared were pennies or seals earned by forty-three preschool and elementary school children by performing a cooperative task. The investigators found that sharing significantly increased with age and that the sex variable and the number of siblings did not affect sharing.

The effects of sex, competence, and competition on sharing behavior in children was the subject of research done by McGuire and Thomas (1975). Fourth and fifth grade boys and girls participated in a bowling game during which they acquired chips that could be exchanged later for prizes. Some of the children received chips contingent upon their performance in the game (competition), whereas others were rewarded irrespective of their scores (no competition). The subjects were then given the opportunity to share some of their tokens with another child who had not been allowed to acquire chips while playing the game. Some subjects were told that their scores were much higher than the other child's (high competence); some were told that their performances were the same (equal competence); and others were told their
performance was worse than the other child's (low competence). As predicted, males in the competition–low competition group were the least generous. The sharing behavior of females was unaffected by either variable.

An explanation of differences in sharing behavior due to differing sex roles has been suggested. Schopler (1967) argues that males may feel their status is threatened when they have competed for rewards and are then asked to share with an individual of perceived superior ability.

Another possible explanation focuses on the positive feelings accompanying success or high status. Midlarsky and Midlarsky (1970) have suggested that individuals who perceive themselves as more competent than a dependent other may be more likely to aid out of a sense of noblesse oblige. Barnett and Bryan (1974) in a study of the effects of competition with outcome feedback on children's helping behavior report that fifth grade boys who were successful in a competitive game were more generous than boys who had either competed and lost, competed and tied, or not competed for rewards. Sharing behavior was measured by the number of tokens subjects gave to a charity fund for crippled children.
The factors of age and sex in relation to sharing behavior have been the object of two different investigations. Crase (1973) studied sharing as a function of age, sex of the sharer and sharee, and sharing tasks in children five to eleven years old. The subjects performed four tasks: throwing darts, throwing balls, riding an ergometer, and controlling a racing car. Significant differences in sharing behavior were found with respect to age (older children shared more than younger ones) and with respect to sex (girls shared more than boys).

The behavior of boys as related to three measures of altruism—sharing, helping, and volunteering—was investigated by Green and Schneider (1974). Twenty-four male students (ages five to fourteen) were given three opportunities to display altruistic behavior: sharing candy with peers, helping the experimenter pick up items he dropped, and volunteering to work for needy children. The results showed that sharing increased steadily with age, that helping increased until age ten (at which time virtually all subjects helped), and that volunteering to work showed no relationship with age.

Findings from the studies in this section tend to strongly support the contention that the amount of sharing by children increases with age. Results were mixed in relation to the sex variable and the size of family variable.
Development of Moral Judgment

To the developmentalist, a child moves along, both intellectually and morally, from one sequential stage to the next. The theories and research of two developmentalists, Jean Piaget and Lawrence Kohlberg, dominate the moral judgment literature. The following review is organized around their work and includes many other studies which relate to it. The review is divided into six sections: (1) a description of Piaget's moral judgment work; (2) a description of Kohlberg's work; (3) studies which use Piagetian techniques to determine moral judgment level; (4) research that uses the Kohlberg interview; (5) recent work which questions Kohlberg's theory of moral judgment; and (6) recent attempts at application of Kohlberg's work.

Piaget's Theory of Moral Development

Piaget's (1965) general theory of development claims to describe changes in stages of cognitive organization. He identifies two stages in a child's cognitive-moral development. **Constraint** is characterized by obedience to the authority or constraint exercised by adults. According to Piaget, children under ten years old practice a "moral realism" in which they obey the letter rather than the spirit of the law; that is, a lie is wrong in terms of its falseness, not in terms of a person's motives. **Cooperation** is a stage that appears about nine or ten years of age and is identified by the appearance of a "moral
relativism" or "subjective responsibility" and a diminishing of "objective responsibility." A child that is objectively responsible concerns himself usually only with the act itself, while the subjectively responsible child views intentions or motives as more important.

In studying the moral judgment of the child, Piaget used two procedures: observations of and interviews with children at play, and interviews with a child about actions contained in stories that are told to him. The latter has been considered Piaget's clinical method for the study of moral judgment in children. The method consists of presenting to a child pairs of dilemma stories, each pair involving two judgmental factors: (1) consequence of action and (2) intention. The child is asked to judge which of the two actors in the stories is naughtier and give the reason why. The child's explanation of his moral judgment concerning who is naughtier is just as important as the choice itself. The present study uses this clinical method.

Piaget does not classify his stages of moral judgment as age specific. The two types of answers exist side by side up to the age of ten. He contends, however, that the objective answer is more prevalent on the average at an earlier age than is the subjective answer. He found that seven was the average age for the objectively responsible answers and that nine was the average age for the subjectively responsible answers.
Kohlberg's Study of Values

In his developmental study of values, Kohlberg (1958) uses a moral interview technique, a series of nine incisive stories containing moral dilemmas, to identify a child's specific stage of cognitive-moral development. One story, for example, is set in Nazi Germany and involves a little girl who is faced with the dilemma of whether she should endanger the lives of her and her parents by hiding her Jewish girlfriend from the Gestapo. Based on a child's judgment and his rationale for the judgment, he is classified (using the "Moral Judgment Scale") according to one of six stages of cognitive-moral development:

1. The punishment and obedience orientation. The physical consequences of action determine its goodness or badness.

2. The instrumental-relativist orientation. Right action consists of that which satisfies one's own needs and occasionally the needs of others.

3. The interpersonal concordance or "good boy-nice girl" orientation. Good behavior is that which pleases or helps others and is approved by them.

4. The "law and order" orientation. There is orientation toward authority, fixed rules, and the maintenance of the social order.
5. The social-contract, legalistic orientation.
Right action tends to be defined in terms of
general individual rights and standards which
have been critically examined and agreed upon
by the whole society.

6. The universal-ethical-principle orientation.
Right is defined by the decision of conscience
in accord with self-chosen ethical principles

Kohlberg groups these six stages into three more convenient ones:
preconventional (stages one and two), conventional (stages three and
four), and postconventional or autonomous (stages five and six).

His original study (1958) was longitudinal, involving boys
age ten, thirteen, sixteen, and nineteen, and cross-cultural, having
been conducted in Taiwan, Malaysia (an aboriginal village), Turkey,
and the United States. The following findings, reported in 1966, indi­
cated the following: (1) the six stages were sequenced in an invariant
order—all individuals must pass through each stage in a step by step
fashion; (2) the number of subjects in the first two stages decreased
with age; the number in the next two stages increased until age thirteen
and then stabilized; the number of subjects in the last two stages con­
tinued to increase from age thirteen to sixteen; (3) a person could
become fixated at a particular level of moral development (genuine moral conflict is needed to stimulate development); (4) the cross-cultural data suggested similar sequencing in all cultures, although they suggested that the last two stages did not deviate clearly in pre-literate villages or tribal communities; and (5) differences in socioeconomic class did not make for differences in basic moral values.

Piagetian Moral Judgment Studies

A large amount of follow-up work has been conducted using the clinical techniques of Piaget concerning moral judgment. Piaget's findings have been questioned by Bandura and McDonald (1963). They designed an experiment to test the relative efficacy of social reinforcement and modeling procedures in modifying moral judgmental responses in children. One group of children observed adult models who expressed moral judgments counter to the group's orientation, with the children reinforced by approval for adopting the model's evaluative responses. A second group observed the models but no reinforcement was given 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. The experimental treatments produced substantial changes in the children's moral judgment responses. According to the experimenters, the results do show that subjective
morality tends to increase with age but fail to substantiate Piaget's theory of demarcated sequential stages of moral development. Objective and subjective judgments existed together at all age levels.

Another study was conducted to test the findings of Bandura and McDonald. Cowan, Lange, Heavenrich, and Nathanson (1969) used Piagetian pairs of moral judgment stories to study social learning in children. The basic results of the Bandura-McDonald experiment were replicated. However, the experimenters questioned the theoretical aspects of the above study, concluding that the findings do not necessarily have negative implications for Piaget's theory primarily because the diagnosis of stage and the opportunities for diagnosis of moral reasoning in both studies were limited to operations consistent with the social learning point of view.

Social learning theory tends to be skeptical about the notion of stages, preferring to discuss or measure general classes of stimulus-related behavior. Piaget's theory of development claims to describe changes in stages of cognitive organization. Bandura and McDonald did not distinguish between responses to tests and the structure of reasoning underlying the responses (except on the pretest); while to Piaget, according to the authors of this replication study, the child's explanation of his moral judgment is just as important as the choice itself. In the end, this study could neither affirm nor deny the
conclusions of Piaget or Bandura and McDonald, although it did point out some theoretical fallacies in the latter's criticism of Piaget.

Other studies have dealt with modeling and training effects upon moral judgment. Ahr (1971) administered to one hundred children, six- to ten-years-old, a moral judgment questionnaire of sixteen story pairs which varied the elements of intentionality and consequence of actions. Forty-one subjects who demonstrated consistent levels of subjective and objective moral reasoning were then down and up trained (subjects were modeled toward objective or subjective reasoning) respectively. The modeling training resulted in significant changes in the moral judgment orientation of the four training groups.

In a study of moral judgments one year after intentional or consequence modeling (where adults attempted to influence children either to judge actions according to the motives of the actor or by the material damage done), Sternlieb and Youniss (1975) observed children (seven to eleven years old) who had originally shown intention or consequence orientations in moral judgment. The subjects had been grouped according to their consistency of moral orientations. They had been given eight dilemmas contrasting the two actions. After one year all subjects tended toward the intention orientation.
In 1968, Crowley, using Piagetian-type dilemma stories, studied the effect of training upon the objectivity of moral judgment in grade school children. First grade parochial school students who were objectively oriented were trained by means of pairs of stories in which size of damage was kept constant so that attention was directed solely to intentionality. All training groups made significantly more mature judgments than controls who received no training. Two years later, Glassco, Milgram, and Youniss (1970) replicated Crowley's study using second grade students from a suburban elementary school and reported similar results.

Two studies which also involved Piagetian moral judgment stories were conducted in order to describe possible age and sex differences. Peterson, Peterson, and Finley (1974) looked for differences among preschoolers, second grade children, and college students. Preschool children were not significantly different in their judgmental responses (objective and subjective) or according to sex. The second grade students were significantly different in objective and subjective responses but not along sex lines. The college adults showed differences both in type of response and according to sex, with the males more consequence or objectively oriented.
Ambron and Irwin (1975) crossed a role-taking variable with moral judgment in their study of five- and seven-year-olds. Three dimensions of role-taking (perceptive, cognitive, and affective) and the two dimensions of moral judgment were examined. A significant correlation was found between role-taking and moral judgment. Although no significant sex differences were shown, age differences were discovered, with the seven-year-olds having higher scores than the five-year-old children on total moral judgment.

Findings from Piagetian moral judgment follow-up studies support the contention that subjective responses increase with age and that boys and girls do not differ significantly in moral judgment. It was also shown that moral judgment is significantly affected by modeling and training techniques and is positively related to role-taking.

Follow-ups of Kohlberg Studies

Recent follow-up work has been done using Kohlberg's theory of cognitive-moral development and employing his "Moral Judgment Scale." In two separate studies (1966, 1974) Turiel first tested two of Kohlberg's propositions: (1) that the stages form an invariant sequence, and (2) that more learning results from exposure to the stage directly ahead. The hypotheses were confirmed. In the second study, Turiel studied the role of conflict in adolescent moral development. He
found that transition from one stage to the next involved a phase of conflict or disequilibrium, during which the existing mode of thinking was reevaluated and a new mode was constructed.

LeFurgy (1969) used Kohlberg's interview dilemmas to group adolescents as either morally realistic or relativistic and found that the realists showed long term and immediate shifts in judgments when exposed to social influence while the relativists showed only short term shifts.

Possible environmental causes of stages in moral reasoning was the object of a study by Denney and Duffy (1974). Both children (ages six, ten, fourteen) and their mothers were interviewed using the Kohlberg dilemmas. The results showed that as the age of the children increased, both the level of the children's moral reasoning and their mothers' levels increased.

Fodor (1969) used the moral development interview to study black and white male adolescents. No significant difference was found between the two groups. When moral judgment was examined as a function of the subjects' mothers' education, the ones with mothers who had high school degrees were significantly higher than those without.
Using a Wechsler Intelligence Scale and Kohlberg's moral interviews, Campagna and Harter (1975) studied moral judgment in sociopathic and "normal" children. It was found that the level of moral reasoning is higher for normal children than for sociopathic children, suggesting a general cognitive factor underlying moral development. The experimenters suggested that lack of opportunity for role-playing and identification in the families of the sociopathic children might be a major factor for consideration.

A brief review of some of the Kohlberg follow-up studies supports Kohlberg's original findings concerning the invariant sequencing of stages and the learning effects resulting from exposing subjects to the moral reasoning (and moral conflict) contained in the stage directly ahead (or above). Other findings showed: (1) that moral relativists (subjects who tended to respond subjectively) are less susceptible to judgment shifts than moral realists (subjects who tended to respond objectively); (2) that the level of moral reasoning increases with age; and (3) that sociopathic children reason at a lower moral level.

Kohlberg's Work Questioned

Some of Kohlberg's assumptions and findings have been called into question. The classic work done by Hartshorne and May (1928-30) can be regarded as challenging a basic assumption of
Kohlberg's since it seems to suggest that moral education inside or outside school can have no lasting effect. The researchers included in their study of character the following modes of conduct: honesty, helpfulness and cooperation, inhibition, and persistence. They concluded that moral conduct is situational and must be understood in terms of the child's needs, his group's values, and the demands of the situation. Another interpretation of the Hartshorne and May study is that moral character is a psycho-analytic function: moral instruction is ineffective because of previous early formation of deep emotional tendencies and defenses at home.

More recent research has questioned Kohlberg's work. An analysis was made by Simpson (1974) of the evidence supporting Kohlberg's hierarchy of moral reasoning and the claims put forth for the cross-cultural universality of the cognitive-moral development theory. The findings suggest that the definition of stages and the assumptions underlying them, including the view that the schema is universally applicable, are ethnocentric and culturally biased. For example, Simpson claims that Kohlberg's pluralism is strictly confined to the Western philosophy of Kant, Mill, Hare, Ross, Rawls, and Dewey. In Kohlberg is seen the "ascendancy of the normative philosopher over the empirical scientist" (p. 106), as indicated by Kohlberg's reported acknowledgement that stage six is a utopian ideal rather than a reality.
Kurtines and Grief (1974) evaluated the Kohlberg model empirically. A systematic review of the literature suggested several conceptual and methodological problems with the Kohlberg approach: (1) derivation, administration, and scoring of the model's primary measurement device; (2) lack of evidence for both the reliability and validity of that device; and (3) absence of direct evidence for the basic assumption of the theory. The authors conclude that the empirical utility of the model has yet to be demonstrated.

Holstein (1972) took a detailed look at Kohlberg's cross-sectional and longitudinal data on moral reasoning. The researcher found no direct evidence that development over the three-year period proceeded in stepwise fashion. The study also showed considerable skipping of stages and much regression among the final stages for both sexes, and no support for the notion of invariant sequence due to cross-sectional sex differences in the model responses. The study seemed to indicate that Kohlberg's six developmental stages may not be useful.

Fraenkel (1976) has expressed a number of reservations about Kohlberg's theory. First, he argues against the universality assumption, saying that the nine cultures Kohlberg tested are a rather small sample from which to conclude that all people fit his description of moral development. A second reservation held by Fraenkel is concerned with the assertion that the higher the stage, the better the
reasoning. Such an assertion would preclude an individual at a lower stage from understanding the reasoning at a higher stage, thus preventing his moral growth. Thirdly, the theory places unrealistic demands on classroom teachers once they do engage students in moral discussions. Teachers continually must be one step above the moral level of the child if they are to lead the child through effective growth—a problem for the laws of probability if only ten percent of the population ever reaches stages five and six (Kohlberg, 1975).

This section reviewed some of the expressed criticisms and reservations concerning Kohlberg's theory of cognitive-moral development. Critics have questioned his basic assumption that moral education can be effective, claiming that conduct is indeed situational (dependent on the demands of the situation). Others claim his work is ethnocentric, culturally biased, and unproven in the reliability and validity of instruments. Still others have questioned the notion of invariant stages and pointed out practical problems in the application of the theory.

**Applications of Kohlberg's Theory**

Kohlberg's theory has been the focus of recent models and techniques which seek to apply it to the classroom. Kohlberg himself (1969, 1973, 1975) has pointed out the classroom potentialities for this theory, indicating that a child needs to go beyond values
clarification, which he claims is based on values-relativism (the notion that no absolute right or wrong exists, only right or wrong for the individual). In its stead he advocates developmental moral education because it is non-indoctrinative in its objectives and methods (like values clarification), but more concrete in its aims of moving from one stage of moral reasoning to the next. In addition to having more definite aims than values clarification, claims Kohlberg, the moral development approach limits values education to justice, which has a firm footing both in terms of direction of development and in terms of a clear mandate from the public schools.

Galbraith and Jones (1975) have sought to devise teaching strategies for moral dilemmas in order to apply Kohlberg's theory of moral development. Writing for a Carnegie-Mellon University research group, the authors identify four steps in the teaching process for leading a good discussion of a moral dilemma: (1) students should be confronted with the dilemma; (2) each student should state a position; (3) each student through group discussion should test his reasoning; and (4) each student must be given time to reflect on his decision.

Beyer (1976) has also devised a strategy for guiding moral discussions. He suggests five distinct activities: (1) to confront a dilemma; (2) to recommend tentative courses of action to resolve the dilemma; (3) to discuss reasonings in small groups; (4) to examine as
a class their reasoning as they justify solutions to the dilemma; and 
(5) to reflect on this reasoning as they bring temporary closure to the 
discussion.

One writer (Superka, 1974) has listed eight different values 
education approaches: evocation, inculcation, awareness, moral 
reasoning (which corresponds to Kohlberg's approach), analysis, clari-
fication, commitment, and union. Purposes, methods used, and illus-
trative activities are discussed for each approach. Kohlberg's work 
continues to spark wide interest in the application of his theories.

Summary of Review of Literature

Researchers have looked at various aspects of the social 
values selected for this study, cooperation and sharing, and theorists 
and researchers have considered many aspects of children's moral 
judgment. The instrumentation for studying cooperative behavior, 
sharing behavior, and moral judgment level is well developed, as this 
review shows. Certain instruments have been used extensively, among 
which is the Prisoner's Dilemma Game. This instrument dominates the 
literature concerned with the systematic study of cooperative behavior. 
It is a prime example of what social psychologists term experimental 
games.
Such tools for personality research are also employed in
the study of sharing behavior. While these sharing tasks have not
been formalized to the point of having adopted standardized names as
is the case with many of the cooperation games, they all involve an
experimenter systematically recording observed sharing responses.

The determination of a child's moral judgment level has
rested upon two procedural instruments, one developed by Piaget (1932)
and the other developed by Kohlberg (1958). The latter has enjoyed
extensive popularity recently, but has also been the object of recent
scholarly attacks concerning its validity. On the other hand, Piaget's
interview instrument is still employed by many researchers and has
weathered the test of time in relation to its theoretical base.

The major purpose of this study was to determine whether
moral judgment level, age, and sex differences in cooperative and
sharing behavior existed. A secondary purpose was to determine
whether sex and age differences existed in the moral judgment level of
children. This chapter contains a review of the major literature rele­
vant to the study of cooperation and sharing as well as a review of the
research in the moral judgment of children. In the next chapter the
design of the study and the procedures used to conduct the study will
be described.
CHAPTER III

METHODS, PROCEDURES, AND DESIGN OF THE STUDY

Chapter III contains a description of the sample population, instruments, procedures, and design of the study. Statistical treatment for the three hypotheses is presented.

Sample

One hundred twelve second and fourth grade children from two schools in a suburban Columbus, Ohio, school district participated in this study. The children were chosen within each of eight elementary classrooms, from a population of two hundred nineteen subjects. The subjects were randomly selected, fourteen from each of two second grade classrooms and two fourth grade classrooms in School A, and from each of two second grade classrooms and two fourth grade classrooms in School B (see TABLE 1). The classes were chosen with one criterion in mind, that they all be heterogeneous in pupil population. The teaching may be characterized as basically traditional although some teachers were moving toward a more informal approach.
<table>
<thead>
<tr>
<th>Classroom</th>
<th>School</th>
<th>Grade</th>
<th>Size</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>2</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td>2</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>4</td>
<td>27</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>A</td>
<td>4</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>B</td>
<td>2</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>B</td>
<td>2</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td>B</td>
<td>4</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td>8</td>
<td>B</td>
<td>4</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td><strong>219</strong></td>
<td><strong>112</strong></td>
</tr>
</tbody>
</table>

Both participating schools are located in mixed-working and middle class communities. Each elementary school had a grade range of K-5, with School A enrolling 650 pupils and School B enrolling 550 students. The school district is located southwest of Columbus and is one of the ten largest in Ohio in pupil enrollment.
Instrumentation

The instruments used in this study were developed by the experimenter after a review of the related research. To aid in the process of development, a one-week pilot study was run with a second-grade class and a combination third-fourth-fifth-grade class. The children in these two classes offered suggestions that were used to clarify the wording of directions and simplify the format of the instruments.

Three instruments were employed in the study:

Prisoner's Dilemma Game. According to Middlebrook (1974), this experimental game is based on an old detective-movie cliché. Its name comes from the situation in which two suspects have been apprehended by the police, are being questioned separately, and have the option of either confessing or not confessing to the alleged crime. If one confesses and the other remains silent, the one who has confessed will be released for turning state's evidence, and the other will receive the maximum penalty. If both confess, both will be convicted, but they will be given some leniency. The dilemma for each suspect, then, is to decide whether to remain silent (cooperate) and trust that the other is doing the same with the hope that they both will eventually go free, or to confess (compete), thus focusing on the greater immediate gain.
The experimenter used a simplified version of the PDG, modeled after one utilized by Tedeschi, Hiester, and Gahagan (1969), which had been shown to be effective with a preadolescent population (third and fourth grade students). The game is played by two subjects seated on either side of a screen, placed so that neither can see the other. At a given signal from the experimenter, the subjects symbolize their desire to either cooperate or compete by displaying one of two different-colored choice cards.

If both subjects are cooperating (in this study if both show green choice cards), both gain three reward units (3 dollars in play money). If neither is cooperative (if both display red cards), both gain only one reward unit (1 play dollar). If one is cooperative (shows a green card) and the other is not (displays a red card), the non-cooperator or competitor gains five reward units (5 play dollars) while the cooperator gains zero units. Figure 1 depicts the reward structure used in this PDG.

![Figure 1. PDG Reward Structure](image-url)
Pruitt (1967) discusses the PDG's resemblance to the reward structure of many real-life situations. Looking at the situation narrowly, cooperative behavior does not pay. One is better off tending exclusively to his own task, regardless of what the other does. Yet, if both parties take this selfish approach, both will be worse off than if both are willing to be cooperative. As in many real-life situations, cooperation in the PDG involves a willingness to sacrifice immediate self-gain and a willingness to trust and work with another to achieve some common goal.

Harris (1971) looked at the game's uniqueness as an instrument for the study of cooperation.

So compelling is the feeling that mutual noncooperation in the PDG is stupid, no matter what game theory might say, that almost all researchers in this area devote their theoretical effort to explaining why subjects defect (fail to cooperate) so often when, from the game theorist's point of view, they should try to explain why any cooperative responses are observed. (p. 243)

Thus, the game involves mixed motives: the choice between cooperation or competition and the striving for immediate or long term rewards (again the resemblance to real-life situations).
**Candy-Sharing Task.** An experimental game task patterned after those used by Ugerel-Semin (1952), Wright (1942), and Grusec (1972) was employed as an instrument for the study of sharing behavior. Each of the three researchers used instruments whose characteristics were to some extent incorporated into the CST.

Ugerel-Semin’s instrument for the study of sharing behavior required each subject to divide an unequal number of nuts between himself and another child. Wright’s procedure involved the ranking of toys along four degrees of attractiveness before asking the children to give one toy (either a desirable one or less desirable one) away to either a friend or a stranger. Grusec studied sharing behavior by having the children win marbles in a bowling game and then suggesting that they may share their marbles with poor children by placing them in a box before they left.

In the CST the children were told that they could choose seven (7) pieces of candy as a reward for participating in the study. Before choosing, however, the subjects were asked to rank three different kinds of candy according to desirability. After they had chosen their seven pieces of candy (chosen from all three varieties of candy), the subjects were told that they could share their candy with their classmates who had not been selected for the study by placing it in a "sharing box" before leaving the research room. They were told that
they could share all, some, or none of the candy, whatever amount they wished. The shared sweets were subsequently counted. A sharing score was produced by multiplying the subject's desirability-ranking of the candy by the amount shared. The form used to systematically number and rank the shared candy in order to produce a sharing score is found in Appendix C.

Piagetian Moral Judgment Stories. The level of moral judgment is determined by soliciting the child's verbal ideas on morality (Piaget, 1932). The child is invited to say what he thinks about actions that are described to him. He is read sets of stories, each set including an action which lends itself to judgment in terms of material result or consequence (e.g., a child unintentionally breaks a set of dishes), and an action which can be judged in terms of motive or intent (e.g., while sneaking some cookies from a cookie jar, a child breaks a cup). The five sets of moral judgment stories used in the present study were originally developed by Piaget, but the experimenter found it necessary to revise and adapt them in terms of modern language and relevancy of story content (see Appendix D).

A subject made an objectively responsible judgment when he judged according to consequence (e.g., he judged as naughtier the character who broke the most dishes). A subject made a subjectively
responsible judgment when he chose according to intention (e.g., he judged as naughtier the character who sneaked cookies in defiance of his parents' wishes).

Based on the child's responses to or judgment of the actions of two characters in each set of the five sets of stories, he was categorized as low, medium, or high in moral judgment level. If none or one of his judgments was subjectively responsible, he was described as being low in moral judgment level. If two or three of his judgments were subjectively responsible, he was described as being medium in moral judgment level. If he made four or five subjective responses, he was categorized as high in moral judgment level. (Appendix D includes the form used to record and classify the moral judgment responses of the children.) In this study a child low in moral judgment level was synonymous with a child who is objectively responsible; high in moral judgment was equated with subjective responsibility.

Procedures

The researcher first met with the teachers, staff development directors, and principals of the selected schools to present a summary of the study and a description of the instruments. From the total of sixteen classes represented, eight were randomly chosen. A discussion of the intent and procedures of the study followed.
The research data was collected over a two-week period in late autumn. A total of three days was spent in data collection in each of the two schools. The study was conducted in rooms set aside for the researcher; in School A, the main room adjoined the library, and in School B, the main room adjoined the office.

Using a class roster obtained from the participating teachers, the researcher randomly selected fourteen children from each of the eight classes (mean: 27.5). A lesson plan to introduce the study to the classes was developed, based on an analysis of procedures in the pilot study (see Appendix A). After introducing the research plan to a particular class, the experimenter announced the names of two children and led them to the research room. Approximately twenty minutes later, the time required to operationalize the research instruments (a few minutes longer were needed for the second grade children), the two subjects were returned to their class and two more subjects were escorted to the research area.

**Moral Judgment Instrumentation**

Upon arrival in the research room, each of the subjects was shown to his place where the Moral Judgment Instrument was to be administered. To insure independent judgments, it was important that neither of the children could hear or see his counterpart during the administration of the Moral Judgment Stories. Adjoining the larger
research room was a small room where one of the subjects was given the instrument. In School B, it was necessary to administer the instrument in two physically separate places, the school library and the research room. The experimenter's wife worked with one subject while the experimenter was working with the other. The format for operationalizing the Piagetian Moral Judgment Stories was based on Piaget's procedures (1965, pp. 112-124), being further systematized after studying the pilot procedures. (The actual format used in the study is to be found in Appendix D.)

**Cooperation Instrumentation**

Following the administration of the Moral Judgment Instrument, the two children were reunited in order to play a "game," the Prisoner's Dilemma Game. The two subjects were seated on either side of a wooden screen, handed an 8-1/2 x 11 inch card—colored green on one side and red on the other, shown a chart (see Figure 2) to help brief them on the amount of candy they could possibly win (the candy itself was in full view of both participants), and told that the object of the game was to win as much play money as they could because it was redeemable for candy at the game's end.

The experimenter then explained how the PDG was played as the children went through the motions of displaying either the red or the green side of their respective cards—as per request of the
<table>
<thead>
<tr>
<th>Play Money Won</th>
<th>Packages of Candy Won</th>
</tr>
</thead>
<tbody>
<tr>
<td>$30</td>
<td>1</td>
</tr>
<tr>
<td>$40</td>
<td>2</td>
</tr>
<tr>
<td>$50</td>
<td>3</td>
</tr>
<tr>
<td>$60</td>
<td>4</td>
</tr>
<tr>
<td>$70</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: All children received at least 1 package of candy even if winnings did not total $30 (4 of the 112 S's were in this category). Nineteen children achieved the maximum: winnings of $70 and 5 packages of candy.

Figure 2. PDG Money-for-Candy Chart

The experimenter's wife (who was seated directly in front of the subjects) distributed the play money during the game explanation just as she would in the actual play. Following the explanation (in which each of the possible combinations were presented: green-green, red-red, green-red, and red-green), the children played from four to six practice trials, depending on how fast they understood the options involved in the game.

The experimenter administered the PDG by standing directly in front of the two subjects (and behind his seated wife). After completing the practice trials, the children were told that they now would
play thirty trials of the game "for real." They were reminded that they must not communicate with each other during play, that it would "ruin" the game. After each child's cooperating or competing response, the researcher's wife placed the appropriate amount of play money on the table surface near the subjects. It was important that each subject receive immediate, tangible reinforcement after each trial so that each could see the results of his cooperative or competitive response. The researcher also gave oral reinforcement after each trial by announcing the winnings for each subject (as he recorded the responses and winnings on the PDG form).

Following the thirtieth trial, the game's end, the researcher computed each subject's earnings by simply adding the recorded scores (it was too time-consuming and more error-prone to physically count the play money won by each child). The children's winnings were then redeemed for packages of candy as stipulated by the play money-for-candy chart shown the subjects at the game's beginning. (The detailed instructions for the PDG are found in Appendix B.)
Sharing Instrumentation

After the PDG's end, the two children were taken to a table where three types of penny-candy (small pieces of candy valued at one cent each) were displayed. Each of the subjects in turn was asked to point to the kind of candy he liked best, second-best, and least. Their responses were recorded on the CST form.

The children were then told that they could choose a total of seven pieces of candy in any combination from the three boxes of candy. After they had chosen, they were told that it was a special kind of candy they were holding. It was "sharing candy" because they were going to have the opportunity to share any or all of it with their classmates who were not getting the chance to "play games and win candy as they were." It was emphasized that they could share any amount they wanted, and they could do it by simply dropping the amount in one of two designated "sharing boxes" (placed so that the subjects could not see how much the other was sharing). It was also emphasized that they were not to share their "earned candy" (from the PDG), only the penny-candy. (See Appendix C for the actual instructions given in the CST.)

After the children had shared and left the room to return to class, the candy they had shared was taken from the box (separated from nine pieces which were always left in the box to convince the
children of the validity of their sharing) and counted. The subject's sharing scores were recorded, based on the desirability-ratings and the number of each kind shared.

Design of the Study

Major Purpose

The major purpose of the study was to determine how children of varying moral judgment level, age, and sex differ in their cooperative and sharing behavior. The data collected from the PDG (cooperative behavior), the CST (sharing behavior), and the Piagetian Moral Judgment Stories were analyzed to test for significance between the responses of the various groups of subject.

The children were grouped by moral judgment level (three levels), by age (two levels), and by sex (two levels). These three groups of subjects were compared by performing a multivariate analysis of variance (MANOVA). Subsequent univariate ANOVA's served to compare the group means within each social value (within cooperation and within sharing). Fisher's $t$ test for a priori multiple comparisons of factor-cell means (Fisher's LSD) was applied when significant univariate $F$ tests justified the comparisons. The hypotheses presented in Chapter I were rewritten in the null form for statistical analysis purposes. The null hypotheses follow:
$H_1$: Fourth grade children will not show significantly more sharing behavior than second grade children.

$H_2$: Subjectively responsible fourth grade children will not show significantly more sharing behavior than objectively responsible second grade children.

**Secondary Purpose**

A secondary purpose in this study was to determine whether sex and age differences existed in the moral judgment responses of children. The data collected from the Piagetian Moral Judgment Stories were analyzed to test for significant differences between the responses of children grouped by age (two levels) and by sex (two levels). These two groups of subjects were compared by performing an analysis of variance (ANOVA). Fisher's $t$ test for *a priori* multiple comparisons of factor-cell means (Fisher's LSD) was applied when an $F$ test indicated significant differences within factor-cells. Hypothesis 3, first presented in Chapter I, was rewritten in null form for statistical treatment.

$H_3$: Fourth grade children will not make significantly more subjective moral judgments than second grade children.
In the present chapter, the procedures and design of this study were outlined in detail. Three instruments were employed by the researcher to yield data for the comparison of cooperation and sharing responses of children grouped by age, sex, and moral judgment level.

One hundred twelve children from eight classrooms in two schools participated in this study. The dependent variables were operationalized with the use of experimental game instruments. The moral judgment instrument involved an interview technique.

The following chapter will present the data collected and discuss appropriate analysis of the data.
CHAPTER IV

ANALYSIS OF THE DATA

The general purpose of this study was to investigate social values behavior in children. More specifically, the primary objective of this study was to determine the relationship of the cooperation and sharing to moral judgment level, age, and sex. A secondary concern of the study was with moral judgment in children as related to age and sex.

This investigation was composed of five problem areas. The first area studied was the relationship between objectively responsible and subjectively responsible students in social values behavior. The second area was concerned with possible differences between second and fourth grade students in social values behavior. The third dealt with the relationship between boys and girls in social values behavior. The fourth sought to identify the relationship between second and fourth grade students in moral judgment responses. The fifth was concerned with possible differences between boys and girls in moral judgment responses.
This chapter consists of three major divisions, each divided into a number of sub-divisions. The first major division consists of a description of the collected data, the second is a description of the data analysis, and the third is a report of the results of the study.

**Description of Collected Data**

Three instruments were used to gather the data for this research. Two of the instruments are experimental games, the Prisoner's Dilemma Game for collection of the cooperation data and the Candy Sharing Task for the collection of the sharing data. The third instrument employs an interview technique, the Piagetian Moral Judgment Stories for the collection of the moral judgment data. All three instruments have their basis in the research literature with certain modifications made by the investigator for this study (see Chapter III).

**Prisoner's Dilemma Game**

The Prisoner's Dilemma Game is an experimental game designed to measure the tendency to cooperate. The game is played by two subjects at a time under the direction of the researcher and employs candy as a reward incentive. Approximately ten minutes were required for completing the game. The mean score for the subjects completing this cooperation instrument was 7.41, with a range of 0 to 16 and a
standard deviation of 5.60. The relatively large standard deviation and the wide range of scores indicate a degree of variability of scores (see TABLE 2).

**TABLE 2**

GRAND MEANS, STANDARD DEVIATIONS, AND RANGES FOR SUBJECTS COMPLETING THE COOPERATION AND SHARING INSTRUMENTS

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation Responses</td>
<td>7.41</td>
<td>5.60</td>
<td>0-16</td>
</tr>
<tr>
<td>Sharing Responses</td>
<td>7.82</td>
<td>2.19</td>
<td>6-16</td>
</tr>
</tbody>
</table>

Note: The within cell correlation between cooperation and sharing was .17.

**Candy Sharing Task**

The Candy Sharing Task is an experimental task designed to measure the sharing response. Following the investigator's instructions, each of the subjects first ranked three types of candy according to desirability before placing an amount of candy (0 to 7 pieces) in a specified "Sharing Box." The receivers of the shared candy, the "less fortunate" ones in this study, were the classmates who did not get chosen to participate in the study (approximately 50 percent of the
class). Approximately five minutes were required for the completion of this task. The mean score for the subjects completing this sharing instrument was 7.82, with a range of 6 to 16 and a standard deviation of 2.19. The relatively small standard deviation indicates a small degree of subject variability on this instrument (see TABLE 2).

**Piagetian Moral Judgment Stories**

Piaget (1932) first developed this interview technique to measure the moral judgment responses of children. The moral judgment instrument consists of five pairs of stories, with each pair containing one story that represents an objectively responsible orientation and one story that is subjectively responsible in orientation (see Appendix D). The subjects were individually interviewed by the experimenter who read the stories to the children and asked questions about the stories. The subjects were classified according to the number of subjectively responsible judgments made on the five pairs of stories. Three moral judgment levels were formulated:

1. low—0 or 1 subjectively responsible judgment;
2. medium—2 or 3 subjectively responsible judgments;
3. high—4 or 5 subjectively responsible judgments.
Of the 112 subjects interviewed, 59 subjects were low in moral judgment level (53 percent), 26 subjects were in the medium category (23 percent), and 27 subjects were high in moral judgment level (24 percent) (see TABLE 3). Focusing on the judgmental responses, 356 of the total 560 responses were objectively responsible in orientation (64 percent), leaving 204 subjectively responsible judgments (36 percent).

**TABLE 3**

NUMBER AND PERCENTAGE OF SUBJECTS AT THREE LEVELS OF MORAL JUDGMENT

<table>
<thead>
<tr>
<th>Subjective Responses</th>
<th>Moral Judgment Level</th>
<th>Number of Respondents</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 0-1</td>
<td>Low</td>
<td>59</td>
<td>53</td>
</tr>
<tr>
<td>2. 2-3</td>
<td>Medium</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>3. 4-5</td>
<td>High</td>
<td>27</td>
<td>24</td>
</tr>
</tbody>
</table>

Note: Only 204 of the total 560 responses were subjective in nature (36 percent).

**Data collected.** Randomly selected second and fourth grade students were subjects in this study. Either from the administration of the three instruments or from demographic data sources (age and sex), the following data were collected for each student:
1. a cooperation score
2. a sharing score
3. a moral judgment level
4. the subject's age
5. the subject's sex

Scoring and analysis. The three research instruments used in this study were scored by an assistant and checked by the investigator. Data cards were punched by the investigator and run through the facilities of The Ohio State University Instruction and Research Computer Center. Selection of computer programs for the three-factor multivariate analysis of variance (MANOVA) and the two-factor univariate analysis of variance (ANOVA) was made in cooperation with the computer consultant supplied by The Ohio State University College of Education. All other statistical analysis, including eta coefficients and Fisher t tests, were hand-computed by the investigator. In all cases, the .05 level of significance is considered grounds for acceptance of the three hypotheses to be examined.

Description of Data Analysis

Problem Areas I, II and III

This section gives a general overview of the statistical tests used to analyze the data relating to the study's five problem areas. The first three problem areas are concerned with the major purpose of this
study: to determine the relationship of social values behavior to moral judgment level, age, and sex. Two of this study's three hypotheses fall under these three problem areas. In this section Hypotheses 1 and 2 are grouped with a description of the methods of statistical analysis used to test them. Restated in null form, they are:

\[ H_1: \text{Fourth grade children will not show significantly more sharing behavior than second grade children.} \]

\[ H_2: \text{Subjectively responsible fourth grade children will not show significantly more sharing behavior than objectively responsible second grade children.} \]

In seeking rejection of the null for each of the two hypotheses, three statistical tests were employed: an analysis of variance, the t ratio for multiple comparisons, and the accompanying eta coefficient. The first two tests are indices for measuring the significance of relations, and the latter is an index that measures the magnitude of the relation.

A multivariate analysis of variance (MANOVA) was performed to test the significance of variations in student responses between and within the three treatment groups (moral judgment level, age and sex) on social values behavior (cooperation and sharing). A subsequent
univariate analysis of variance (ANOVA) was run for the purpose of comparing group means on each variable on each social value alone. "In its simplest form the analysis of variance is used to test the significance of the differences between the means of a number of different samples" (Ferguson, 1966, p. 281).

While the ANOVA is valuable in providing the researcher a way to test the significance of differences between sample means, it is limited in the sense that it does not provide any information which is not obtainable through the direct testing of specific comparisons. The t ratio is a statistical tool for the direct testing of specific comparisons, for a priori hypotheses (which this study was designed to test). To test the specific comparison involved in Hypothesis 2, the researcher used a more convenient form of the t test, termed Fisher's t ratio (Fisher's LSD) by Kennedy (1975).

The third statistical test employed in the analysis of the data related to Problem Areas I, II, and III (and Hypotheses 1 and 2 was the eta coefficient. It was used with the analysis of variance to show the degree of relation between independent and dependent variables. To calculate E, usually called the correlation ratio, one simply takes the sum of squares from the analysis of variance table. If E is squared, E^2 indicates, in essence, the variance shared by the independent and dependent variables.
Problem Areas IV and V

The last two problem areas are concerned with the secondary purpose of this study: to determine the relationship of moral judgment responses to age and sex. Hypothesis 3 falls under these two problem areas, and is restated here in null form:

\(H_3: \) Fourth grade children will not make significantly more subjective moral judgments than second grade children.

In seeking rejection of the null for Hypothesis 3, two statistical tests were employed: an analysis of variance and the accompanying eta coefficient. The first test is an index for measuring the significance of relations, and the latter is an index that measures the magnitude of the relation.

A univariate analysis of variance (ANOVA) was performed to test the significance of variations in student responses between and within the two treatment groups (age and sex) on moral judgment.

The eta coefficient was used with analysis of variance to show the degree of relation between independent variables (age and sex) and the dependent variable (moral judgment responses). An \(E^2\) will show the proportion of the variance of the number of subjective moral judgments attributable to age and sex.
Reporting of the Results

This section reports the results of the statistical analysis previously discussed, as those results relate to the three hypotheses tested.

Problem Areas I, II, and III

The first three problem areas relate to the major purpose of this study: to find the relationship between social values behavior and three variables—(1) moral judgment level, (2) age, and (3) sex. TABLE 4 displays means and standard deviations of social values responses by the three independent variables. An examination of TABLE 4 tentatively suggested that children of a high moral judgment level shared more than children at the low and medium moral judgment levels, and that children of a medium moral judgment level cooperated more than children at the low or high moral judgment level. It also tentatively suggested that subjects in the second grade cooperated and shared more than subjects in the fourth grade. An examination of TABLE 4 showed little difference between boys and girls in cooperative and sharing behavior.

To test these initial observations, the three factor-groups were compared by performing a multivariate analysis of variance (MANOVA). The purpose of the MANOVA was to find possible significant
<table>
<thead>
<tr>
<th>Variable</th>
<th>Moral Judgment Level</th>
<th>Age</th>
<th>Sex</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Low (N = 59)</td>
<td>Medium (N = 26)</td>
<td>High (N = 27)</td>
</tr>
<tr>
<td>I. Cooperation</td>
<td>7.19 5.43</td>
<td>8.17 4.68</td>
<td>6.87 6.70</td>
</tr>
<tr>
<td>II. Sharing</td>
<td>7.76 2.01</td>
<td>7.68 1.93</td>
<td>8.36 2.49</td>
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</tbody>
</table>
differences in social values behavior not predicted in the a priori hypotheses. TABLE 5 displays the resultant F ratios, all of which fell short of the .05 level of significance.

Subsequent univariate analyses of variance (ANOVA's), run for the purpose of comparing group means within the cooperation problem area and within the sharing problem area, and accompanying eta coefficients, run for the purpose of describing the amount of variance explained by the cooperation and sharing variables within each analysis, served to reinforce the viability of the multivariate results. The univariate F tests and eta coefficients are presented in TABLE 6.

Problem Area I was concerned with the question, "How is moral judgment level related to social values behavior?" The multivariate analysis (see TABLE 5) produced an F ratio of 0.45 (df = 4/198), which fell far short of significance. These results indicate that children of differing moral judgment levels (low, medium, and high) did not differ significantly in their amount of cooperation and sharing.

Problem Area II was concerned with the question, "How is age related to social values behavior?" The multivariate analysis (see TABLE 5) produced an F ratio of 0.88 (df = 2/99), which fell far short of significance. Hypothesis 1 was formulated from this area, and predicted that "fourth grade children will share more than second grade
<table>
<thead>
<tr>
<th>F ratio</th>
<th>df</th>
<th>Probability Level</th>
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<tbody>
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<td>4/198</td>
<td>ns*</td>
</tr>
<tr>
<td>0.88</td>
<td>2/99</td>
<td>ns</td>
</tr>
<tr>
<td>0.02</td>
<td>2/99</td>
<td>ns</td>
</tr>
<tr>
<td>1.68</td>
<td>4/198</td>
<td>ns</td>
</tr>
<tr>
<td>0.20</td>
<td>4/198</td>
<td>ns</td>
</tr>
<tr>
<td>0.44</td>
<td>2/99</td>
<td>ns</td>
</tr>
<tr>
<td>0.27</td>
<td>4/198</td>
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*p < .05
TABLE 6
UNIVARIATE ANOVA'S OF SOCIAL VALUES SCORES

<table>
<thead>
<tr>
<th>Moral Judgment Level</th>
<th>Social Values</th>
<th>Univariate F tests (df = 2/100)</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cooperation</td>
<td>.54</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Sharing</td>
<td>.23</td>
<td>.005</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Social Values</th>
<th>Univariate F tests (df = 1/100)</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>.03</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Sharing</td>
<td>1.79</td>
<td>.02</td>
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</tbody>
</table>

<table>
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<th>( \eta^2 )</th>
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<tbody>
<tr>
<td></td>
<td>Cooperation</td>
<td>.01</td>
<td>.0001</td>
</tr>
<tr>
<td></td>
<td>Sharing</td>
<td>.02</td>
<td>.0002</td>
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</table>
### Moral Judgment Level and Age

<table>
<thead>
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<th>Social Values</th>
<th>Univariate F tests (df = 2/100)</th>
<th>$\eta^2$</th>
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</thead>
<tbody>
<tr>
<td>Cooperation</td>
<td>.56</td>
<td>.01</td>
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<tr>
<td>Sharing</td>
<td>3.19*</td>
<td>.10</td>
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### Moral Judgment Level and Sex

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<th>$\eta^2$</th>
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</thead>
<tbody>
<tr>
<td>Cooperation</td>
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<td>.002</td>
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<tr>
<td>Sharing</td>
<td>.15</td>
<td>.003</td>
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### Age and Sex

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<th>Univariate F tests (df = 1/100)</th>
<th>$\eta^2$</th>
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</thead>
<tbody>
<tr>
<td>Cooperation</td>
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<td>.005</td>
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<tr>
<td>Sharing</td>
<td>.26</td>
<td>.003</td>
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</table>

### Moral Judgment Level, Age and Sex

<table>
<thead>
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<th>Social Values</th>
<th>Univariate F tests (df = 2/100)</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation</td>
<td>.37</td>
<td>.01</td>
</tr>
<tr>
<td>Sharing</td>
<td>.28</td>
<td>.005</td>
</tr>
</tbody>
</table>

*p < .05*
children" (see Chapter I). A more detailed description of the findings related to this problem area and hypothesis is found below in the section on Hypothesis 1.

Problem Area II was concerned with the question, "How is sex related to social values behavior?" The multivariate analysis (see Table 5) produced an F ratio of 0.02 (df = 2/99), which fell far short of significance. These results indicate that boys and girls did not differ significantly in their cooperative and sharing behavior.

The multivariate analysis (see Table 5) produced no significant interaction F ratios, first order or second order, at the .05 level of significance. The interaction effects of moral judgment level and age resulted in an F ratio of 1.68 (df = 4/198), nonsignificant. Hypothesis 2 was concerned with this interaction, and predicted that "subjectively responsible fourth grade children will share more than objectively responsible second grade children" (see Chapter I). A more detailed description of the findings related to this interaction and hypothesis is found below in the section on Hypothesis 2.

The interaction of moral judgment level and sex produced an F ratio of 0.20 (df = 4/198), which fell far short of significance.

The positing of a priori hypotheses predicting significant differences between specific group means justified pursuing group comparisons beyond the multivariate F tests. A more detailed description
of the findings concerning Hypotheses 1 and 2, with statistical comparison of specific group means when appropriate, is now presented.

**Hypothesis 1.** The relationship between sharing behavior and age was explored in Hypothesis 1. TABLE 7 shows the univariate ANOVA table for sharing behavior and age and reveals a main effect of 1.78 (df = 1/100), short of significance at the .05 level of probability. A look at TABLE 4 further reveals that second grade subjects shared more (mean = 8.15) than fourth grade subjects (mean = 7.72), indicating a trend just the opposite of that predicted by Hypothesis 1.

The first hypothesis for this study, advanced early and formulated consistent with other previous research findings, was not supported by the analysis of the data. The statistical findings prevented rejection of the null form of Hypothesis 1, that "fourth grade children would not share significantly more than second grade children" (see Chapter III). No significant difference was found in the sharing behavior of second and fourth grade children.

**Hypothesis 2.** The relationship between sharing behavior and moral judgment level and age was explored in Hypothesis 2. TABLE 7 shows a significant interaction between moral judgment level and age on sharing behavior: F (2/100) = 3.19, significant at the .05 level of probability. Even though the multivariate F test (see TABLE 5) was not significant, the significant univariate F ratio for the interaction and the
### TABLE 7

**UNIVARIATE ANALYSES OF VARIANCE TABLES FOR COOPERATIVE AND SHARING BEHAVIOR**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F ratio</th>
<th>Probability Level</th>
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<tbody>
<tr>
<td><strong>Cooperative Behavior Related to Moral Judgment Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>31.64</td>
<td>2</td>
<td>15.82</td>
<td>0.54</td>
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<tr>
<td>Within groups</td>
<td>28745.34</td>
<td>98</td>
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<td><strong>Sharing Behavior Related to Moral Judgment Level</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
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<td>2</td>
<td>1.17</td>
<td>0.23</td>
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<tr>
<td>Within groups</td>
<td>498.82</td>
<td>98</td>
<td>5.09</td>
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<tr>
<td>Total</td>
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* $p < .05$
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<td>1.78</td>
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<td>F ratio</td>
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### Confirmatory Table 7—Continued

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<td></td>
<td></td>
</tr>
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<td>2</td>
<td>1.40</td>
<td>0.28</td>
<td>ns</td>
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<tr>
<td>Within groups</td>
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<td>98</td>
<td>5.00</td>
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<tr>
<td>Total</td>
<td>492.80</td>
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</table>
posed a priori hypothesis (which predicted a significant interaction)
justified a closer examination of the specific cell-means.

The statistical tool used to examine the cell-means was Fisher's $t$ ratio (Fisher's LSD). To lessen the chance of committing a Type 1 error (falsely rejecting a null hypothesis), only the specific comparison consistent with Hypothesis 2 was performed. Thus, two groups were compared: subjectively responsible fourth grade subjects and objectively responsible second grade subjects. TABLE 8 shows the means and standard deviations of the four cells formed by the interaction of moral judgment level and age on sharing behavior. An examination of TABLE 8 reveals that objectively responsible second grade children shared more (mean = 8.32) than the subjectively responsible fourth grade children (mean = 7.67), indicating a trend just the opposite of that predicted by Hypothesis 2.

Despite the cell-means which showed results contrary to those predicted, the results appeared interesting enough to merit further comparison of the cell-means for significance. Fisher's $t$ ratio comparing the two groups was 1.00, nonsignificant at the .05 level or probability ($t = 1.98; \ df = 2/99; \ p < .05$). The null form of Hypothesis 2, which said "subjectively responsible fourth grade children will not share more than objectively responsible second grade children" (see Chapter III) was retained.
TABLE 8

INTERACTION OF MORAL JUDGMENT LEVEL AND AGE ON SHARING BEHAVIOR: MEANS AND STANDARD DEVIATIONS

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low MJL—2nd Graders</td>
<td>8.32</td>
<td>2.41</td>
</tr>
<tr>
<td>Medium MJL—2nd Graders</td>
<td>7.08</td>
<td>1.11</td>
</tr>
<tr>
<td>High MJL—2nd Graders</td>
<td>9.05</td>
<td>2.74</td>
</tr>
<tr>
<td>Low MJL—4th Graders</td>
<td>7.21</td>
<td>1.62</td>
</tr>
<tr>
<td>Medium MJL—4th Graders</td>
<td>8.29</td>
<td>2.74</td>
</tr>
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<td>High MJL—4th Graders</td>
<td>7.67</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Graphical representations of the significant sharing interaction effect were also prepared. Figure 3 displays cell means plotted two ways, first as a function of levels of the \( A \) variable (moral judgment level) and then as a function of levels of \( B \) (age).

The interaction graphs lend themselves to analysis and interpretation. In the first graph, it can be seen that the sharing scores of low and high moral judgment children \( (A_1 \text{ and } A_3) \) decrease with age while those of the medium moral judgment children \( (A_2) \) increase with age. It can also be noted that the sharing scores of children high in moral judgment level \( (A_3) \) were generally superior to those of children low in moral judgment level \( (A_1) \).
I. Moral Judgment Level (A) as a Function of Age (B)

II. Age (B) as a Function of Moral Judgment Level (A)

Note: Graph I represents levels of A (moral judgment level) over B (age) while Graph II represents levels of the B variable over the A variable.

Figure 3. Interaction Graphs of Sharing Responses
An examination of the second graph reveals that the sharing scores of second graders ($B_1$) decrease from the low to medium moral judgment groups, and increase from the medium to high moral judgment groups. Meanwhile, the sharing scores of fourth graders ($B_2$) increase from the low to medium moral judgment groups, and decrease from the medium to high moral judgment groups.

These observations support the MANOVA findings previously reported of no significant main effects for the moral judgment level variable and for the age variable. No clear effect on sharing scores could be attributed to the $A$ or $B$ variable.

On the other hand, one could see in the second graph particularly that disordinal interaction has occurred. Graph II shows that the significant interaction probably occurred between high moral judgment second graders ($A_3, B_1$) and low moral judgment fourth graders ($A_1, B_2$), a comparison the experimenter was not justified in performing because: (1) the MANOVA $F$ test was not significant for the $AB$ interaction; and (2) without a significant MANOVA $F$ test, one runs a great risk of making a Type 1 error by making any further comparisons (unless they were specifically predicted a priori).
Summary of Findings in Problem Areas I, II, and III

Analysis revealed no significant relationships between the variables in the first three problem areas. Children of differing moral judgment levels did not differ significantly in their cooperative or sharing behavior. Second grade children did not differ significantly from fourth grade children in their cooperative and sharing behavior. Boys and girls were not significantly different in their cooperative and sharing behavior. No significant interaction between variables occurred. Thus, Hypotheses 1 and 2 were not accepted and no significant statistical findings emanated from the first three problem areas.

Problem Areas IV and V

The fourth and fifth problem areas are concerned with the secondary purpose of this study: to determine the relationship of moral judgment to age and sex. TABLE 9 displays means and standard deviations of the subjective moral judgment responses by the two independent variables. An examination of TABLE 9 tentatively suggested that children in the fourth grade group made more subjective responses (mean = 2.30) than children in the second grade group (mean = 1.36). It also suggested little difference between the amount of subjective responses made by boys (mean = 1.75) and girls (mean = 1.91).
TABLE 9

MEANS AND STANDARD DEVIATIONS OF SUBJECTIVE MORAL JUDGMENT RESPONSES BY AGE AND SEX

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2nd Grade (N = 56)</td>
<td>4th Grade (N = 56)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>I. Subjective Responses</td>
<td>1.36</td>
<td>1.45</td>
</tr>
</tbody>
</table>

Note: The grand mean for number of subjective responses was 1.83. The standard deviation for all respondents was 1.68, with a range of 0-5.
To test these initial observations, the two factor-groups were compared by performing a two-factor analysis of variance (ANOVA). It provided a test for the significance of differences between the means of the various groups. TABLE 10 displays the ANOVA table. An examination of TABLE 10 reveals a significant main effect for the age variable: $F(1/109) = 8.10, p < .01$.

A tool for measuring the magnitude of the relationships between the groups, the eta coefficient, accompanied the two-factor ANOVA. The eta coefficients were run for the purpose of describing the amount variance explained by the moral judgment variable within each group. The $\eta^2$ shows the proportion of the variance of the number of subjective responses attributable to age and sex. The univariate $F$ tests and eta coefficients are presented in TABLE 11.

Problem Area IV was concerned with the question, "How are moral judgment responses related to age?" Hypothesis 3 was formulated from this area, and predicted that "fourth grade children will make significantly more subjective moral judgments than second grade children" (see Chapter I). A more detailed description of the findings related to this problem area and hypothesis is found below in the section on Hypothesis 3.
## Table 10

**Two-Factor Analysis of Variance of Subjective Moral Judgment Responses**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F ratio</th>
<th>Probability Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subjective Responses Related to Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>23.51</td>
<td>1</td>
<td>23.51</td>
<td>8.10</td>
<td>.01</td>
</tr>
<tr>
<td>Within groups</td>
<td>313.20</td>
<td>108</td>
<td>2.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>336.71</td>
<td>109</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subjective Responses Related to Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>0.88</td>
<td>1</td>
<td>0.88</td>
<td>0.30</td>
<td>ns*</td>
</tr>
<tr>
<td>Within groups</td>
<td>316.44</td>
<td>108</td>
<td>2.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>317.32</td>
<td>109</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subjective Responses Related to Age and Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>-6.41</td>
<td>1</td>
<td>6.41</td>
<td>2.21</td>
<td>ns</td>
</tr>
<tr>
<td>Within groups</td>
<td>313.20</td>
<td>108</td>
<td>2.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>319.61</td>
<td>109</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*ns* indicates *p < .05*
Problem Area V was concerned with the question, "How are moral judgment responses related to sex?" The two-factor analysis (see TABLE 10) produced an $F$ ratio for the sex variable of 0.30 ($df = 1/108$), which fell far short of significance at the .05 level of probability. These results indicate that boys and girls did not significantly differ in subjective moral judgments.

The interaction of the age and sex produced an $F$ ratio of 2.21 ($df = 1/108$), nonsignificant. Graphical representations of the interaction effect were prepared for the purpose of further analysis.

Figure 4 displays cell means plotted two ways, first as a function of levels of the $A$ variable (age), and then as a function of levels of $B$ (sex). In the first graph it can be seen that the subjective judgments of fourth grade boys ($A_2$, $B_1$) and girls ($A_2$, $B_2$) are generally
I. Age (A) as a Function of Sex (B)

II. Sex (B) as a Function of Age (A)

Note: Graph I represents levels of A (age) over B (sex) while Graph II represents levels of the B variable over the A variable. Disordinal interaction occurs in Graph II.

Figure 4. Interaction Graphs of Subjective Moral Judgments
higher than their second grade counterparts \((A_1, B_1\) and \(A_2, B_2)\). An examination of the second graph reveals that the subjective judgments of second grade boys \((A_1, B_1)\) differ sharply from those of fourth grade boys \((A_2, B_1)\). It also can be seen from Graph II that the subjective responses of both boys \((B_1)\) and girls \((B_2)\) increase steadily with age.

These observations support the ANOVA findings previously reported in this chapter, findings of a significant main effect for the age variable. A clear, consistent effect on the number of subjective judgments can be attributed to the age (A) variable.

The interaction effect, as seen in Graph II, is disordinal but not sharply so (as seen by the small angles formed by the intersection). The greatest difference seems to occur between fourth and second grade boys (as mentioned above), but the experimenter was not justified in performing the comparison because: (1) the ANOVA \(F\) test was not significant for the AB interaction; and (2) without a significant \(F\) ratio, one runs a high risk of making a Type I error by making any further comparisons (unless they were specifically predicted a priori).

**Hypothesis 3.** The relationship between moral judgment responses and age was explored in Hypothesis 3. It predicted that "fourth grade children will make significantly more subjective judgments than second grade children" (see Chapter I). As reported above and shown in TABLE 10, the ANOVA \(F\) test for the age variable was
significant: \( F(1/109) = 8.10, \ p < .01 \). Thus, the data based on the present sample of children show that subjectivity is significantly related to age. The null hypothesis stated, "Fourth grade children will not make significantly more subjective responses than second grade children." The null for Hypothesis 3 was rejected: Fourth grade children made significantly more subjective moral judgments than second grade children.

In order to provide an instructive view of the data on moral judgment responses and to lend further support to Hypothesis 3, the mean percentages of subjective judgments made by the various groups were calculated. TABLE 12 presents the mean percentages of the eight factor-groups. An examination of TABLE 12 suggests that fourth grade children scored a much higher mean percentage of subjective responses (46 percent) than second grade children (21 percent). It also shows little difference between boys and girls in their mean percentage of subjective responses. Both of these observations seem to lend support to the ANOVA findings for the age and sex variables.

Figure 5, a graph of the interaction mean percentages of sex (B) over age (A), provides further support for the hypothesis. It seems to show that the greatest difference occurred between second grade boys (20 percent) and fourth grade boys (49 percent). In other words, of the total number of responses given by second grade boys (n = 27), only
### TABLE 12

**MEAN PERCENTAGES OF SUBJECTIVE MORAL JUDGMENT RESPONSES**

<table>
<thead>
<tr>
<th>Factor-Groups</th>
<th>Cell</th>
<th>n</th>
<th>Mean Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Grade Subjects</td>
<td>$A_1$</td>
<td>56</td>
<td>21</td>
</tr>
<tr>
<td>Fourth Grade Subjects</td>
<td>$A_2$</td>
<td>56</td>
<td>46</td>
</tr>
<tr>
<td>Boys</td>
<td>$B_1$</td>
<td>55</td>
<td>35</td>
</tr>
<tr>
<td>Girls</td>
<td>$B_2$</td>
<td>57</td>
<td>38</td>
</tr>
<tr>
<td>Second Grade Boys</td>
<td>$A_1, B_1$</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>Second Grade Girls</td>
<td>$A_1, B_2$</td>
<td>29</td>
<td>33</td>
</tr>
<tr>
<td>Fourth Grade Boys</td>
<td>$A_2, B_1$</td>
<td>28</td>
<td>49</td>
</tr>
<tr>
<td>Fourth Grade Girls</td>
<td>$A_2, B_2$</td>
<td>28</td>
<td>43</td>
</tr>
</tbody>
</table>
20 percent of them were subjective; the fourth grade boys (n = 28), meanwhile, were subjective in 49 percent of their responses. It may also be pointed out that boys and girls made more subjective judgments.
(percentagewise) with age. These observations seem to indicate a relationship between the mean percentage of subjective responses and age.

**Summary of Findings in Problem Areas IV and V**

Analysis revealed a significant relationship between moral judgment responses and age, with fourth grade children making significantly more subjective judgments than second grade children. Strong support was found for acceptance of Hypothesis 3 ($p < .01$).

No analytical support was found for a significant relationship between moral judgment responses and sex, and no significant interaction between variables occurred.

**Summary**

This chapter has consisted of a description of the collected data, a description of the data analysis, and a reporting of the results of the study. The data was collected using three instruments: (1) the Prisoner's Dilemma Game for cooperation data; (2) the Candy Sharing Task for the sharing data; and (3) Piagetian Moral Judgment Stories for the moral judgment data. Five different kinds of data were collected: (1) a cooperation score, (2) a sharing score, (3) a moral judgment level, (4) the subject's age, and (5) the subject's sex.
Five problem areas and three hypotheses were analyzed for statistical significance. Problem Areas I, II, and III, and Hypotheses 1 and 2 were submitted to a multivariate analysis of variance (MANOVA) and constituted the major purpose of this study. Problem Areas IV and V and Hypothesis 3 were submitted to a two-factor analysis of variance (ANOVA), and constituted the secondary purpose of this study. Eta coefficients were calculated for all variables to show the degree of relationship between dependent and independent variables. Fisher's t test (Fisher's LSD) was employed when specific cell mean comparisons were justified (it was employed in the analysis of Hypothesis 2).

Analysis showed no significant relationships between the variables in the first three problem areas and first two hypotheses. Children of differing moral judgment levels (low, medium, and high) did not differ significantly in their cooperative and sharing behavior ($F = 0.45$, $df = 4/198$, nonsignificant).

Second grade children did not differ significantly from fourth grade children in their cooperative and sharing behavior ($F = 0.88$, $df = 2/99$, nonsignificant). Relative to Hypothesis 1, an examination of the univariate $F$ ratio showed no relation between age and sharing ($F = 1.78$, $df = 1/100$, nonsignificant). Indeed, a look at the cell means revealed a trend toward second graders sharing more than fourth graders. Thus, Hypothesis 1 was not accepted.
Boys and girls showed no significant difference in their cooperative and sharing behavior ($F = 0.02$, df = 2/99, nonsignificant).

No significant interaction occurred at the multivariate level, although interaction at the univariate level was significant between moral judgment level and age on sharing ($F = 3.19$, df = 2/100, $p < .05$). Further analysis showed that the significant difference did not lie between SR fourth grade students and OR second grade students as predicted in Hypothesis 2 (indeed, the trend was the opposite from the prediction), but according to analysis of the interaction graphs the significance more than likely occurred between SR second graders and OR fourth graders (with the former sharing more than the latter). No such comparison was formally made or justified; hence, no significant statistical findings emanated from the first three problem areas. Neither Hypothesis 1 or 2 was accepted.

Analysis in the fourth problem area showed a significant relationship between moral judgment responses and age, with fourth grade children making significantly more subjective judgments than second grade children ($F = 8.10$, df = 1/109, $p < .01$). Hypothesis 3 was supported by the analysis results. No other significant relationships were found in the fourth and fifth problem areas. Specifically, no analytical support was found for a difference between boys and girls in the amount of subjective responses they made, and no significant interaction occurred between the variables of age and sex.
CHAPTER V

DISCUSSION AND CONCLUSIONS

The major purpose of this study was to discover how cooperation and sharing, two social values, were related to three variables: moral judgment level (as defined by Piaget), age, and sex. Two hypotheses, based on a review of related research, were formulated to predict certain specific outcomes related to the major purpose.

Three instruments were employed to test a sample of one hundred twelve second and fourth grade boys and girls, selected from two suburban schools located in mixed working and middle class communities. A simplified version of the Prisoner's Dilemma Game, an experimental game often used by social psychologists, was chosen to measure cooperation. To measure sharing behavior, the Candy Sharing Task was developed by the researcher after a review of the sharing literature. It, too, can be classified as an experimental game. The third instrument employed in the study was an interview technique first
devised by Piaget in 1932. His moral judgment stories, updated by the researcher in terms of modern language and relevant story content, were used to gather moral judgment level data.

The secondary purpose of this study was to discover how moral judgment was related to age and sex. Hypothesis 3, based on a review of moral judgment research, was formulated to predict a specific outcome relating to the secondary purpose.

Data collected with the Piagetian Moral Judgment Stories were used to tabulate the amount of subjective responses made by each subject.

Restatement of Problem Areas

Five problem areas in this study were identified, based on the following questions:

1. Are there differences between objectively responsible (OR) and subjectively responsible (SR) students in social values behavior?

2. Are there differences between second and fourth grade students in social values behavior?

3. Are there differences between boys and girls in social values behavior?

4. Are there differences between second and fourth grade students in moral judgment responses?
5. Are there differences between boys and girls in moral judgment responses?

Restatement of Hypotheses

Three research hypotheses were formulated:

\[ H_1: \] Fourth grade children will show significantly more sharing behavior than second grade children.

\[ H_2: \] Subjectively responsible fourth grade children will show significantly more sharing behavior than objectively responsible second grade children.

\[ H_3: \] Fourth grade children will make significantly more subjective moral judgments than second grade children.

Procedures

After an explanation of the study to a class, two children were escorted by the researcher to the "research room," actually consisting of two rooms in each of the two schools used in the study. Children were administered the moral judgment stories individually in separate rooms. The PDG required that the children work in pairs or dyads, separated by an opaque screen and prevented from communicating while playing the game. The CST was explained to both subjects
simultaneously, but the actual sharing took place separately in order to prevent one subject from influencing the other. Following the sharing acts, the children were returned to their classroom and two more children were escorted to the "research room."

Fourteen children from each of eight classrooms, four second grade rooms and four fourth grade rooms, were randomly selected. Fifty-six second grade subjects and fifty-six fourth grade subjects participated. Of the total (112), fifty-five were boys and fifty-seven were girls.

Three statistical tests were used to analyze the data: (1) an analysis of variance (ANOVA); (2) eta coefficients; and (3) Fisher's t ratio (Fisher's LSD). A multivariate analysis of variance (MANOVA) related the three independent variables to social values behavior to test for significant differences between group means. Hypotheses 1 and 2 were the focus of this analysis. Eta coefficients were calculated to show the degree of relation between the three variables and the two social values. Fisher's t ratio was employed to compare specific cell means as dictated by Hypothesis 2.

A two-factor analysis of variance (ANOVA) related age and sex to the amount of subjective judgments made by each subject. Hypothesis 3 was the focus of this analysis. Eta coefficients showed the degree of relation between the two variables and subjective judgments.
Limitations of the Study

The two experimental games employed in this study, the Prisoner's Dilemma Game and the Candy Sharing Task, are valuable instruments because they help the experimenter to measure observed, first-hand behavior. The behavior, however, is "game" behavior, and does not necessarily represent "real" cooperative or sharing behavior. The experimental game to a certain extent stages a subject's response, and one must be careful in generalizing from children's game behavior to children's behavior patterns outside of the research room.

Caution also needs to be exercised with the third instrument in this study, the Piagetian Moral Judgment Stories. It involves an interview technique, and despite the best efforts to systematize procedures in an interview, the risk of experimenter bias remains, especially in a situation where people are asked to respond verbally to other people.

It is also necessary to draw a theoretical distinction here, one which Piaget (1932) himself drew, concerning the meaning of the moral judgments children were asked to make. These judgments constitute the child's verbal ideas on morality, his verbal pronouncements of justice concerning the acts of others. Do these verbal ideas bear any relation to the child's spontaneous thought, to his real behavioral tendencies? This question and others will be thoroughly treated in the Discussion and Implications section later; however, for purposes here
it seemed important to recognize the limitations of the moral judgment data—that the verbal judgments bear no necessary relation to the child's moral reality.

One has to be cautious in generalizing these research findings to other populations. This sample included children from two suburban schools at two grade levels. Any attempt to generalize the results to other grade levels or populations who differ from the study sample must be treated with care.

General Findings

Five problem areas and three hypotheses were examined for statistical relationships. Problem Areas I, II, and III, and Hypotheses 1 and 2 were concerned with the major purpose of the study: the relationship of social values behavior to moral judgment level (three levels: low, medium, and high), age (two levels: second grade and fourth grade), and sex (male and female).

Problem Area I. No significant difference was found between objectively responsible (low moral judgment level) students and subjectively responsible (high moral judgment level) students in social values behavior: $F (4/198) = 0.45$, nonsignificant at the .05 level of probability.
Problem Area II. No significant difference was found between second and fourth grade students in social values behavior: $F(2/99) = 0.88$, nonsignificant. Hypothesis 1, which predicted that fourth grade subjects would share significantly more, was not accepted: $F(1/100) = 1.78$, nonsignificant. Indeed, the trend was toward second graders sharing more.

Problem Area III. No significant difference was found between boys and girls in social values behavior: $F(2/99) = 0.02$, nonsignificant.

Hypothesis 2, which predicted that SR fourth grade students would share more than OR second grade students, was not supported by the analysis of the data. The multivariate interaction $F$ ratio was 1.68, df = 4/198, nonsignificant.

The univariate $F$ ratio, though significant ($F = 3.19$: df = 4/198; $p < .05$), showed with graph analysis that two different-than-predicted cell means were probably responsible for the significance—SR second graders shared significantly more than OR fourth graders. This last statement should not be construed as a finding emanating from this study because of the high alpha risk one has to take to make the comparison. The nonsignificant multivariate $F$ ratio and the lack of an a priori prediction (at the univariate level) gave no justification for making cell-means comparison.
Problem Area IV. A significant difference was found between second and fourth grade students in moral judgment responses. Fourth grade subjects made significantly more subjective responses than second grade subjects: $F (1/109) = 8.10, p < .01$. Hypothesis 3 was supported by the data analysis.

Problem Area V. No significant difference was found between boys and girls in moral judgment responses: $F (1/109) = 0.30$, nonsignificant.

No significant interaction occurred between age and sex: $F (1/109) = 2.21$, nonsignificant at the .05 level of probability.

Discussion and Implications

The major reason for conducting this study was to describe the relationship between social values behavior and three variables: Piagetian moral judgment level, age, and sex. It was hoped that results from this study would provide insights into how children develop social values behavior.

Moral Judgment Level and Social Values Behavior

It is interesting to note that children at a less mature moral judgment level (objective responsibility) shared and cooperated as much as children at the more mature level (subjective responsibility). On the surface it seems that a child's conception of justice should bear some
relation to his social values behavior, that is, his pattern of regard for the welfare of others. Understanding and accounting for the intentions or motives of others helps people get along with one another. The findings from this study, however, showed no increase in cooperation or sharing in relation to an increase in the ability of a child to include intention as a factor in moral judgment. From this observation it seems obvious that the central factor at stake here, the child's ability or inability consistently to see intention as important in the judgment of another's actions, is not crucial or perhaps even relevant to the development of the social values.

One speculation concerning the relationship between moral judgment level and social values behavior has been posited: moral maturity as defined by Piaget simply may not be crucial or relevant to the learning of social values. At least one other idea is a possibility for explaining the lack of relation.

It seems quite possible a child's verbal ideas about morality bear no relation to his performance morality, his spontaneous thoughts and actions in the social world. This idea occurred to Piaget (1965) when he wondered:

Does verbal thought, i.e., thought that works upon ideas evoked by language and not upon objects perceived in the course of action, does verbal thought consist in the conscious realization of truly spontaneous thought, or does it sustain with the latter no relations whatever? (pp. 113-114)
The possibility that no relationship exists between verbal morality and performance raises certain questions. The first one might seek to condemn the moral interview method. This can be answered simply. Any method which gives consistent data and constant results is interesting. (The investigation produced findings consistent with those of Piaget and others, that moral judgment is positively related to age). The method employed to determine moral judgment level has produced consistent results over time (Piaget, 1932; Bandura and McDonald, 1963; Cowan, Langer, Heavenrich, and Nathanson, 1969; Ambron and Irwin, 1975). These studies measured something called moral judgment, children’s verbal ideas on justice, and found it to be linked with age—the older the child the more likely it was he would make subjective, or motive-centered, judgments. Thus, the difficulty does not lie with the method.

The second and more difficult question is, "What do these results mean?" This study related moral judgment level to social values behavior and uncovered no significant statistical relationship. Perhaps a subjectively responsible child is a mere maker of phrases about morality. As an older child, he may differ in his spontaneous thoughts and in real actions concerning justice, cooperation, sharing, or other social
values. If verbal morality is not related to performance morality, why should it bear any relation to cooperation, sharing, or any other social values behavior?

During the last twenty years, Kohlberg, his colleagues, and their graduate students have been developing a theory of cognitive moral development, based partially, at least, on Piaget's ideas and research in moral development. The essence of the theory is that people think about moral issues in six different stages arranged in three levels of two stages each (see Chapter II). The most reliable way, according to Kohlberg, of determining a stage of moral thought is to solicit a child's verbal ideas on morality through an interview in which a trained interviewer presents a subject with three dilemmas, followed by a series of questions about the dilemmas. Kohlberg and his colleagues have identified typical answers to the questions at each of the six stages of moral thought. Scorers compare the responses given by the subject to these typical answers in order to determine his moral stage.

In addition to the theoretical and methodology problems which critics have recently brought forth concerning Kohlberg's work (see Chapter II), a more basic difficulty may lie in Kohlberg's assumption that a relationship exists between verbal and performance morality. The moral interview merely shows that a child can reason at certain
levels of thought. Kohlberg has not shown that moral judgment (verbal morality) is a necessary condition for moral action (performance morality).

The cornerstone of Kohlberg's approach to moral education in the schools, the moral discussion, may have its greatest value, not in its alleged role in stimulating movement from one moral stage to the next, but in the development of inquiry thinking skills. It does give children experience in problem solving. From this perspective the moral discussion is certainly nothing new—it dates back to Socrates.

It seems that if the objective is for children to develop a just pattern of moral behavior, time would be better spent, not in moral discussions, but in providing opportunities for children to behave in prosocial (as opposed to antisocial) ways. This idea is discussed extensively in the next two sections.

Age and Social Values Behavior

No significant difference in social values behavior was found between children at the two age levels, second and fourth grades, chosen for this study. One might have expected cooperation and sharing to have increased with age—for children to have exhibited increasingly more prosocial behavior as they have experienced increasingly more of school and society.
One might have assumed that social values behavior develops with age, that social interaction with peers gradually liberates the child from the grip of egocentrism (Piaget, 1965; Flavell, 1963). In the course of this interaction, and especially in conflict with peers, the child increasingly finds himself forced to perceive social situations from others' perspectives. From the findings of this study, one can see no increase in prosocial behavior with age, which by definition is "other-centered" behavior. These findings corroborate those of earlier studies (see Chapter II), at least with respect to cooperative behavior. Bethlehem (1973) reported no significant age differences in his study of cooperation. Sjoberg, Bokander, Dencik, and Lindbom (1969), as well as Kagan and Madsen (1972), reported that younger subjects cooperated more than older (the present study results showed a slight tendency for younger children to cooperate more).

With respect to sharing behavior, all the studies reviewed reported significant age differences, with older subjects sharing more (see Chapter II). It may be important to note that the present study, which found no significant age differences (indeed the tendency was for the younger subjects to share more), employed an instrument which accounted for the relative desirability of the sharing objects (candy). None of the reviewed studies measured sharing behavior with this relative-desirability factor built into the calculation of individual
sharing scores (see Chapter III for a description of the sharing instrument used in this study). This factor may have been underestimated by the other researchers. The value (to the individual) of an object shared has to be as important as the number of objects shared.

If social values behavior does not increase with age as this study seems to show, certain speculations arise. Perhaps the schools are not providing opportunities for the development of social values behavior. The quality of peer interaction as well as the quantity of prosocial experiences may be determining factors in a child's development of social values. Opportunities exist within the prevailing classroom organizational schemes for more attention to developing prosocial behavior in children. Perhaps more attention should be given to the kinds of learning objectives set for children. Do the objectives require students to work together, help one another, share ideas, have regard for one another's feelings? Or are most objectives geared toward an individualized or competitive environment? A place certainly exists for individualized tasks and for competitive classroom situations, but the point is that perhaps these types of environments are found too often in the elementary classroom.

Johnson and Johnson (1975) identify three types of goal structures—cooperative, competitive, and individualized—and emphasize that all three are used over a period of time. They list the
conditions under which each is effective and desirable. Cooperation, they state, should be the most frequently used goal structure. Whenever problem solving, divergent thinking, creativity, or social development is desired, cooperation should be used. Specific skills and knowledge can best be mastered, according to the authors, under an individualized goal structure. Tasks calling for drill or review of facts are best suited to a competitive goal structure (and probably require the least amount of time in most classes).

It is possible that a child's social values behavior reaches its peak in the preschool years, during the time Piaget has indicated that cognitive egocentrism begins to diminish in the child. In the typical nursery school or kindergarten classroom one finds group activities, sharing times, and emphasis on building good interpersonal relationships among the children. Does the typical elementary classroom reflect these same prosocial values?

The relationship between a classroom structure that includes abundant opportunities for the development of social values behavior and open education is apparent in the literature on open schools. Books, articles, and films on the British infant school, where open education was popularized, describe the use of multi-age grouping in which students are expected to learn from each other. Children cooperate to achieve common goals and discuss problems of mutual concern. While
such an environment seems conducive to the development of social values, perhaps even more social opportunity should be built in.

Children may need to become involved in school-sponsored projects to help the needy in their community. With the church playing a decreasing role, perhaps the school should assume some of the social welfare responsibility. Children could use their creative genius to fashion constructions, develop writings, and create music for the aged. They could lend their inexhaustible energy to community fund raising projects.

One could view the tendency toward social values behavior as an innate faculty found in every human being to some degree, an inner structure that is operationally contingent upon the quality and quantity of the social experiences of each person. Such a view might explain why social values behavior in this study is not age related. It instead may be social experience related.

Sex and Social Values Behavior

Boys and girls in this study were very similar in their social values behavior, showing no significant statistical difference in their cooperative and sharing behaviors. Such a lack of distinctive sex difference may be surprising to some educators, particularly in the area of prosocial behavior. Gender-roles tend to be well defined in terms of the expectations of many of elementary teachers, with boys usually
associated with antisocial behavior and girls with prosocial. According to this study and others (Steinfatt, 1973; Ugerel-Semin, 1952; Handlon and Gross, 1959), boys display as much prosocial behavior as girls.

What are the implications of such a finding? One must certainly consider the conditions in the school which seem to accentuate gender-role differences, where boys generally seem to be considered malevolent and girls benevolent. The school may be structured in such a manner, in competitive and individualistic ways for example, that all children are not permitted to display prosocial behavior.

The gender similarity in social values behavior (as found in this study) also lends credence to the idea that the tendency toward social values behavior may have innate structure in all human beings. All children may possess the tendency, with a certain amount of social experience necessary to foster growth.

Age, Sex, and Moral Judgment

The tendency of older children to make more subjective moral judgments is well documented from this study and other (Piaget, 1932; Bandura and McDonald, 1963; Cowan, Langer, Heavenrich, and Nathanson, 1969; Ambron and Irwin, 1975). The same studies also found no sex-related differences. Children become increasingly capable of including intention as a prime consideration in their moral judgments.
A thorough discussion of the meaning of moral judgment was included in an earlier section (*Moral Judgment Level and Social Values Behavior*). Suffice it to reiterate here that no necessary relation exists between a child's moral judgment (verbal morality) and his moral actions (performance morality).

**Possibilities for Further Study**

The research instruments employed in this study offer a means of identifying and describing social values behavior. First, the experimental game used extensively by social psychologists to study cooperative and competitive behavior was modified and simplified for the elementary age population (see Appendix B). It provides a viable tool for structuring a situation where actual cooperative or competitive behavior can be observed.

Second, the sharing task (see Appendix C) allows for the systematic observation of sharing behavior in children. It provides a measure of the sharing act itself, because it attached relative value to the objects shared.

Third, the moral judgment stories (see Appendix D) provide a tool for studying verbal morality. Since Piaget first developed the interview technique, it has given consistent results to the diligent investigator.
In summary, the three instruments used in this study may be used in further research as a means of systematically describing behavior in the social values area or in the moral judgment area.

Social Values and Further Study

Other topics of interest in the social values realm necessitate going beyond the present study. The need exists, first of all, for those social values prized by society to be identified and operationalized for research purposes. In addition to the social values chosen for this study (cooperation and sharing) are others for which some instrumentation has already been developed, including empathy, helpfulness, kindness (the latter two are collectively called altruistic behavior by social psychologists), and persistence. Social values are those kinds of values that children need to develop in order to live harmoniously in a given society. Researchers must first identify them, which would involve a classification schema, and then develop suitable instrumentation.

Careful work needs to be done in advancing new and better instruments for measuring social values behavior. Hopefully, they would include experimental games. The possibility remains, however, that experimental game behavior bears little relation to actual social values behavior. This problem could be diminished by the development of systematic observer rating techniques—where raters are trained to
observe social values behavior in the classroom. Observer ratings and experimental game scores could be compared and composited for a more reliable social value score.

Once the prized social values have been identified and suitable instrumentation developed for each, they should be studied for various reasons. Are they developmental? A study could be designed to compare their operation at a number of different age levels, beginning with preschoolers. How are the different social values related? The various behavior scores should be compared and correlated. What is a "normal" score for a particular social value at the various age levels? for boys and girls? for children of differing socio-economic backgrounds and cultures? More research and larger samples may afford the establishment of social values norms.

Further research needs to be done in the area of sex-related differences. Are boys and girls as similar in their social values behavior as this study indicates? Do boys and girls progress in similar fashion in their social values behavior? How do teachers' gender-role expectations influence social values behavior?

The findings from this study which show no age or sex differences in children's social values behavior may be disturbing to some educators. Perhaps the school is not performing its widely assumed socialization function. Do schools provide an environment for the
progressive development of social values behavior? Are teachers' conceptions of the gender-roles out of touch with social reality?

Further research is needed in all of the above mentioned areas to provide some answers to the question, "What is the nature of social values behavior in children?" One suspects that the schools have been leaving the development of social values behavior in children to incidental learning, that they assume such behavior is acquired during the course of the day's activities through casual, unplanned means. Hopefully, when the nature of social values behavior is better understood, the schools will sense its importance and begin to attend to a social values curriculum, one which facilitates the development of social values behavior in children.
APPENDIX A

CLASSROOM PRESENTATION OF THE STUDY
CLASSROOM PRESENTATION OF THE STUDY

I. Introduction

Name—Rosebrough

Today we're going to play a game and listen to some stories. What are some different games you know how to play? (Investigator entertains responses.) What kinds of stories do you like to listen to? (Investigator entertains responses.)

I think you will find the game we play today both different and fun.

The stories should be fun, too, because they are about children a lot like you and your friends.

II. Explanation of Study

What does research mean? (Investigation) We're looking into or investigating the different ways that children like you play games and react to stories which are read to you. This is not any kind of test because there are no right or wrong answers. In fact, one reason for doing research is to try to find or discover answers.
Your teacher tells us that you are a good group of students and that you will help us find some research answers. We're looking forward to meeting you and talking to you individually.

III. Procedure

Unfortunately, we will not be able to use everyone in your class in our research study. We placed all of your names in a box and drew out 14 of them. So you have about a 50 percent chance of getting chosen. Here are the first two children we want to go with us.

(Call 2 names to begin.) Please come with us. (To the rest of the class:) We will be coming back every so often to choose two more of you. When we do return, please go on with your classwork as if we are not there, unless of course we call your name.
APPENDIX B

PRISONER'S DILEMMA GAME INSTRUCTIONS
AND SCORING FORM
PDG INSTRUCTIONS

I. Introduction

(The children are seated on either side of a screen.) Children, (say their names) we are going to play a game in which you can win some candy. The more play money you win, the more candy you will get. At the end of the game you will trade in the play money you have won for candy. Here is a chart showing how much you may win (show them chart and explain).

At the game's end, as you can see, if you have $30 in play money you will get 1 package of candy. If you have $40 you will get 2 packages of candy, . . . on up to 5 candy bars for $70 in play money.

Here's how the game works--it is really very simple. Each of you will receive a card which is green on one side and red on the other. I will ask each of you to show either the green side of the card or the red side of the card at exactly the same time. If you both hold up green, each of you will get 3 play dollars. If you both show red, each of you will get only 1 play dollar. (Point to the student on the left side of the screen:) If you hold up green, and
your partner shows red, you partner will get 5 play dollars and you will get none. (Point to the student on the right side of the screen:) If you hold up green, and your partner holds up red, your partner will get 5 play dollars and you will get none.

II. Practice Trials

Before we begin, let me tell you that it will ruin the game if you talk or laugh once we get started. When I say, "Trial 1, or trial 2, etc.," then you immediately should hold up a card. After you hold up a card showing either green or red, I will say the color and the number of play dollars you win, and my assistant will hand you the money.

Now we will do some practice trials. (Investigator conducts at least 4 trials.) Any questions?

III. Begin PDG

We will play 30 trials now--you should be able to win a lot of play money. Remember now, neither one of you must talk or laugh during the game. Ready? Let's begin. "Trial number 1."...
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<th>Trial</th>
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**Total**  

**Total**

* A score of 0 or 3 is rated *cooperative*. 
APPENDIX C

CANDY SHARING TASK INSTRUCTIONS

AND SCORING FORM
CST INSTRUCTIONS

I. Choosing Candy

(Investigator leads children to a table where three kinds of candy are displayed.) See these three types of candy?—(first child). I would like for you to point to the type you like most. How about second best? And which one do you like least? (Investigator then uses same procedure with the second child.) You both may choose 7 pieces from any of the three kinds of candy.

II. Sharing Explanation

Those 7 pieces of candy are what we call "sharing candy." You will get a chance to share as many of those as you wish with your classmates who did not get an opportunity to win candy because they did not happen to be chosen for our study. Do not share any of the candy you won today (in the PDG). It is yours to keep.

On your way out of the room, each of you will find a "sharing box." (Investigator points to the two boxes.) You may share some of your candy, all of it, or none of it. If you want to share, just drop it in your box on your way out.
### CST SCORING FORM

<table>
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<th>Types of Candy</th>
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<th>B</th>
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<tr>
<td><strong>Rating</strong>*</td>
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<td><strong>Amount</strong></td>
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<td><strong>Partial Scores</strong>*</td>
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**Sharing Score**** | ____ |

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*Rating: 1 = least desirable  
2 = more desirable  
3 = most desirable

**Amount: 0–7 pieces of candy

***Partial Score: Rating x Amount

****Sharing Score: Sum of Partial Scores
APPENDIX D

PIAGETIAN MORAL JUDGMENT INSTRUCTIONS,
STORIES, AND SCORING FORM
PIAGETIAN MORAL JUDGMENT STORY INSTRUCTIONS

I. Introduction and Explanation of Interview

(Investigator is seated opposite the child.) Good morning (or good afternoon). My name is ________, what is yours? Here is what we are going to do. I am going to read you some stories about some children who are like you and your friends in many ways. You will have to listen very carefully so that we can talk about the stories afterwards.

(Investigator reads both pairs of stories in Set I.) Now that you have heard the stories, I would like for you to try to tell them back to me. Good, you seem to understand them well (or not so well--let's talk about them some more).

II. The Crux of the Interview

(After the investigator is reasonably sure the subject has comprehended the two stories, he proceeds with the interview.) All right, you have told me the stories and you remember the two children's names. Now, of these two children, who do you think is the naughtier? In other words if you had to choose, which child--
or ________--would you punish the most? Why did you choose ________? (The investigator makes certain the subject has the consequence-intention comparison firmly in mind.) All right, now please listen closely to these next two stories.

Plagetian Moral Judgment Stories*

I. A. A little boy who is called John is in his room. He is called to dinner. He goes into the dining room. But behind the door there was a chair, and on the chair there was a tray with fifteen cups on it. John couldn't have known that there was all this behind the door. He goes in, the door knocks against the tray, bang go the fifteen cups and they all get broken!

B. Once there was a little boy whose name was Henry. One day when his mother was out he tried to get some cookies out of the cupboard. He climbed up on a chair and stretched out his arm. But the cookies were too high up and he couldn't reach it and have any. But while he was trying to get them he knocked over a cup. The cup fell down and broke.

II. A. There was a little boy called Michael. His father had gone out and Michael thought it would be fun to play with father's

* The experimenter found it necessary to make various changes in language and story content: necessary because Piaget's original stories were used with children living in French Switzerland in 1928-1932. See pp. 122-123 (Piaget, 1965) for the original version of the stories.
paint-brush. First he dipped the brush into the can of paint, and then he painted a streak on the wall.

B. A little boy who was called Billy once overheard his father say that he needed to do some painting in the house. One day that his father was away he thought of helping so that his father should find some of the painting done when he came home. Billy took a can of paint, dipped a brush into it, and painted seven long streaks on the wall.

III. A. There was once a little girl who was called Marie. She wanted to give her mother a nice surprise, and cut out a piece of sewing for her. But she didn't know how to use the scissors properly and cut a big hole in the middle of her dress.

B. A little girl called Jennifer went and took her mother's scissors one day that her mother was out. She played with them for a bit. Then as she didn't know how to use them properly, she made a little hole in her dress.

IV. A. Allen meets a little friend of his who is very poor. This friend tells him that he has had no dinner that day because there was nothing to eat in his home. Then Allen goes into a donut shop and, as he has no money, he waits till the clerk's back is turned and steals a box of donuts. Then he runs out and gives the donuts to his friend.
B. Kathy goes into a shop. She sees a pretty piece of ribbon on a table and thinks to herself that it would look very nice on her dress. She while the shop lady’s back is turned (while the shop lady is not looking), she steals the ribbon and runs away at once.

V. A. Linda had a little friend who kept a bird in a cage. Linda thought the bird was very unhappy, and she was always asking her friend to let him out. But the friend wouldn’t. So one day when her friend wasn’t there, Linda went and stole the bird. She let it fly away and hid the cage in her attic so that the bird should never be shut up in it again.

B. Julie stole some candy from her mother one day when her mother was not there, and she hid and ate it up.
FORM USED TO RECORD MORAL JUDGMENT
RESPONSES AND TO OBTAIN MORAL
JUDGMENT LEVEL

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Total: OR Responses ______  
SR Responses ______

Level: Low  Medium  High
(0-1 SR)  (2-3 SR)  (4-5 SR)

*OR = an objectively responsible judgment

**SR = a subjectively responsible judgment


Kennedy, J. J. *An intuitive approach to the design and analysis of educational experiments*. A pre-publication manuscript, Faculty of Educational Development, The Ohio State University, 1975.


Miguel, R. J. *Decision handbook: A values approach to decision making.* Columbus: Charles E. Merrill, 1974.


