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Racial and Social Class Differences in the Play of a Parent-Child Simulation Game

by

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ABSTRACT

Ninety-six fifth grade male students played six rounds of a parent-child simulation game. Two versions of the game were employed in the research, with deviant behaviors in Version I highly visible and highly rewarding, while these behaviors in Version II are less visible but also less rewarding. The design was fully crossed on the variables of Race (white and black), socioeconomic status, or SES (middle and lower), and Version (I and II), with an equal number of dyads (6) in each of the eight cells of the 2x2x2 design. A control group of twenty-four male students, matched with the experimental group on the variables of Race and SES, and the experimental group were asked a series of questions about their perceptions of parental punitiveness. No significant difference between the responses of the experimental and control group was found.

Behavioral measures of the dyads' play in the game were collected and analyzed, with Race and SES shown to be significant factors only in three types of behaviors: (1) agreements in accordance with the interests of the child, (2) agreements in accordance with the interests of the parent, and (3) points received as a child. Version was shown to be a statistically significant variable in ten of thirteen analyses of dyad game behaviors. A significant Race x SES interaction in the questionnaire responses was revealed.

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ABSTRACT
(continued)

The results are discussed as they apply to (1) the utility of simulation games as social psychological research techniques, (2) previous results with respect to racial and social class differences in behaviors and attitudes, particularly with respect to the area of social control, and (3) predictions of theories of deviant behavior in particular systems of social control. A qualification of these theories is suggested by the results of the present study.

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Chapter One - Introduction

The basic idea of the present research is to employ a particular simulation game, Parent-Child, in a social psychological experiment in order to provide data about racial and social class differences in behavior not always accessible by other techniques of data collection. These data, which consist primarily of the behaviors performed by the subjects playing the roles of parent and child in the game situation, are different in kind from the data social scientists usually collect in their studies of such varied topics as socialization practices, attitudes and attitude change, deviant behavior, etc. Traditionally, these topics have been studied with one or a combination of the following three techniques: participant observation, questionnaires (of both attitudes and self-reported behaviors), and analyses of existing records collected for other purposes. (See Brown and Gilmartin, 1969, for an analysis of the patterns of use of the various techniques by sociologists.)

The present study focusses on the behaviors of dyads playing the game, rather than on individuals. The selection of the dyad as the primary unit of analysis is based upon the observation that the behaviors that occur in the game are contingent upon the behaviors of both participants, and thus the dyad is the more appropriate unit of analysis.

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In addition to the behaviors of the dyads occurring during the play of the game, the individuals who constitute the sample are asked a series of questions pertaining to their perceptions of how punitive they believe their own parents would be in situations similar to those occurring during the play of the game.

The sample for the present research consists of ninety-six fifth grademale subjects, twenty-four in each of the following categories: white middle socioeconomic status (SES) subjects, white lower SES subjects, black middle SES subjects, and black lower SES subjects. In addition to the variables of race and social class, an experimental variation in the version of the game is employed, i.e., there are two different versions of the game which the subjects play. In Version I, deviance in the form of the child's breaking agreements and disobeying orders has a high probability of being discovered by the parent, but also a high probability of being rewarding to the child. In Version II, deviance in the form of breaking agreements or disobeying orders by the child has a lower probability of being discovered by the parent, but also a lower probability of being rewarding to the child if discovered. The design is fully-crossed for each variable; that is, there are six dyads in each of the following cells: white middle SES Version I, white middle SES Version II, white lower SES Version I, white lower SES Version II, black middle SES Version I, black middle SES Version

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II, black lower SES Version I, and black lower SES Version II. All dyads are thus matched with respect to race, social class, and version of the game played.

The behavioral and questionnaire results from the various types of dyads and individuals will be analyzed in an attempt to answer three main types of questions: (1) how useful are Parent-Child in particular and simulation games in general as social psychological research techniques; (2) how do the empirical results of the present research compare with previous results about racial- and social class-related behaviors and questionnaire responses, particularly with respect to the areas of social control behaviors and attitudes; and (3) how do the children of the particular racial and social class groups react to the different social structural conditions of reward and visibility of deviant behaviors present in the two versions of the game, and how do these reactions compare with predictions from more general theories of deviant behaviors in particular systems of social control. The rationale for examining these three particular topics is as follows.

I. Parent-Child as a Social Psychological Technique of Data Collection

To say there has been a tremendous increase in the development and use of simulation games in the past five years would be an understatement. (See Werner and Werner, 1969, for a recent bibliographical review of this field.) However, the use of simulation

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games in carefully-planned, well-designed small group research has been the exception rather than the rule. Most of the research involving simulation games has tended to involve the testing of different versions of educational games until a workable version is developed, and then the game is marketed without further research's being performed with the game. Rarely have simulation games been validated for particular populations or uses, or employed in experimental situations for the purpose of testing hypotheses or collecting social-psychological data. Even those researchers who have attempted to validate games or use the games as measuring devices have tended to use small samples and incomplete designs, reducing the scope of their results.

With respect to the particular simulation game used in the present research, Parent-Child, the only published research involving this game has been done at The Johns Hopkins University by Schild, Boocock, Stoll, and McFarlane (Boocock and Schild, 1969; McFarlane, 1969; Stoll and McFarlane, 1969). This work suffers from some of the above-mentioned faults, but not to the same degree that most simulation game research does. For example, Stoll and McFarlane (1969) have attempted to validate the use of Parent-Child for one particular group, low IQ black high school students, although the problems of small samples and incomplete designs hampered this research also.

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One of the major advantages of simulation games such as Parent-Child in social psychological research is the fact that the interactions that occur in the play of such games are less controlled or structured than the interactions that occur in the more traditional type of experimental situation, while at the same time the interactions that occur in games are more controlled and structured than those which occur in real life. To the degree one wishes to generalize his research findings to events in real life, the simulation game is more able to provide information relevant to this aim, while still allowing a modicum of control over certain aspects of the situation.*

In addition to this advantage, the simulation game permits the collection of sequential or contingent behavioral indices. The advantages of dynamic or sequential analyses are often noted in the sociological and psychological literature, yet the difficulties in collecting and analyzing this type of information are noted almost as often. If the present results lend themselves to a dynamic or sequential analysis which is in some ways superior to previous dynamic studies, then the case for employing simulation games is

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*For a discussion of the general topic of the usefulness of simulation games as a research technique, see Raser, 1969, and in particular the article by Campbell in this volume.

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strengthened.

Third, simulation games allow for the description and analysis of social interaction as it continually changes and varies according to the previous actions of the participants. Most prior research in experimental social psychology has held constant certain phases of the interaction process. Examples of these types of controls are the non-reactive experimenter and the use of a confederate or stooge who is ordered to behave in certain set ways. The simulation game provides more total variation in the experimental situation, because individual participants are allowed to behave as they wish within the constraints of the structures and rules of the game. This is conducive to a more detailed analysis of the contingent behaviors of the participants, for more contingencies are possible, and hence a concurrent increase in the explanatory power of the results.

Thus if any of the above advantages are demonstrated in the present research, the current study will have merit. This demonstration and communication of the special advantages of simulation games as techniques of data collection for particular social psychological problems and theories is one of the major aims of the present research.

II. Racial and Social Class-Related Socialization Practices and Attitudes

Differences in socialization practices and attitudes

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between white and black families, and between middle SES and lower SES families have been studied extensively. However, in most of these studies, the data have been in the form of the self-reports of the parents regarding their attitudes and practices. Very few studies have asked the children what is going on in the home, and/or what they think about it (Sears, et al., 1957, is a major exception). Those few studies which have attempted to study the children's perceptions of socialization practices have usually used adolescent informants (e.g. Elder, 1962; Bowerman and Elder, 1964). Given these conditions and methods of data collection, it is not surprising that specialists in the area disagree so much with each other about the interpretation of what is reported.

The research literature concerning socialization practices is very large, and only a specific sub-area, social control practices and attitudes, is investigated in the present report. Given the types of behaviors called for in Parent-Child, it seems an investigation of the topic of social control attitudes and behaviors of parents and children, as perceived by children, would be most profitable. A review of the socialization literature revealed no previous study having this focus. Thus the current research will contribute information of a type not heretofore available in the literature pertaining to the perceptions of children of social control attitudes and practices of parents and children of varying

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social class and racial characteristics.

In summary, much is known about how parents of the various racial and social class groups answer questions about their socialization practices and attitudes with respect to social control. However, there is very little information about how children perceive or evaluate these parental practices and attitudes, or how children believe parents should act in particular situations. Information of this type the present study provides with respect to particular situations of social control.

The present study is an attempt to provide both behavioral and attitudinal measures of the children's perceptions of their parents' attitudes and practices, through the use both of the simulation game technique and of forced-choice and open-ended questionnaires. It is hoped that this information from the children will supplement or explain further the findings of previous research having to do with differential socialization practices and attitudes by class and race, particularly in the area of social control.

It is acknowledged that the differences in techniques of data collection and differences in the types of respondents make comparison of present and previous findings difficult, and no direct comparisons can be made. Yet if the findings are complementary to one another, then the present results will increase the plausibility of our present understanding of the socialization system, because it

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provides information from the point of view of an actor (the child) in the system who has been relatively ignored in previous research.

A second reason for a discussion of socialization practices and attitudes as perceived by the children in the present research is the fact that Parent-Child situation allows the collection of data about naturally occurring situations that might develop in the subjects' real families. Previously, it has been necessary to postulate hypothetical situations and ask the subjects to state what they would do in the particular situation (e.g. Piaget, 1948). However, in the game, the players are allowed to establish the definition of the situation themselves (within the constraints of the rules and structures of the game), and actually behave under the conditions they have established. In this way, the behaviors of the players are subjected to fewer constraints than is typical in more traditional social psychological experiments, and fewer demands are made upon their imaginative and introspective powers than is the case in earlier research with respect to socialization practices and attitudes. For these reasons, it seems that data resulting from the application of the simulation game technique will be prone to less bias than the data derived from other techniques used to record and report behaviors, and the simulation game data will of necessity be less biased than questionnaire data about behaviors in hypothetical situations.

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III. General Theories of Social Control

The explanation of the inclusion of this particular section in the present research is of necessity more complex than the explanation or rationale for the inclusion of the previous two sections. Briefly, the explanation is as follows: it is believed (following the ideas presented in Lemert, 1951; Toby, 1964) that both visibility and reward are important and independent factors to consider in any attempt to explain or to understand why people commit acts defined as deviant. However, most "rational man" theories of behavior (e.g. Homans, 1961; Blau, 1964) have seemed to consider the factor of visibility only insofar as it affects the probability of reward. The predictions of "rational man" theories of deviance agree with the predictions of the more complex theory of deviance in which visibility and reward are independent factors only in those instances where the predictions are complementary for both of the factors.

Given the general statements:

(1) The greater the visibility of a deviant act, the less likely is a person to commit it,
and
(2) The greater the reward for a deviant act, the more likely is a person to commit it,

the theories agree in their predictions of behaviors in cells B and C below, but "rational man" theories do not seem to predict real life behavior in situations represented by cells A and D, where the predictions based on the two factors are opposite

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to one another.

		Visibility:	
		High	Low
Probability of Reward:	High	A	B
	Low	C	D

I feel the reasons why the predictions of "rational man" theories do not predict actual behavior in real life situations represented by cells A and D might have something to do with the interaction of control agent and controllee in systems of the types represented by these cells, rather than merely differences in the behaviors of the controllees in the two types of situations. It could be that the control agents act differently in the two types of situations, and thus the differences in behaviors of the controllees is due in part to the differences in the behaviors of the control agents in these situations.

It is further thought that Parent-Child, due to its unique properties, might be an appropriate technique with which to study these system-related interactions between control agent and controllee. Relevant here is the property of the game situation which allows examination of the complete social control system, including actors, rules, and behaviors. The importance of the well-defined rule system in the game, which reduces the probability of the various actors holding different views of exactly what constitutes devi-

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ance, is of particular importance. In the game, each behavior by the child is either in accordance with an order or an agreement, or it is not; thus every behavior is clearly classifiable as either an act of deviance or of conformance. In real life, behavior can range along a much wider continuum of deviance-conformity, with each actor in the system having ample opportunity to redefine the meaning of each act before, during, and after its occurrence. (See Bittner, 1967, for anexample of how policemen on "skid row" manipulate the categorization of behaviors as either deviant or conforming.)

The relationship between the rules of a society or group and the deviant behaviors of the members of the society or group have been examined by philosophers, politicians, and social scientists, with the discovery of many associations between the structural variables and the forms and extent of the deviant behaviors. However, a review of the sociological and psychological literature revealed no experimental study of the social structural conditions incorporated in the two versions of Parent-Child used in the present research, i.e., no experimental study which investigated the behaviors occurring under the conditions of high visibility and reward for deviance, as compared with the behaviors occurring under conditions of lower probability of visibility and reward for deviant behavior.

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Thus there is a large body of knowledge concerning the general topic of the relationships between social structural variables and deviant behavior, but no study was found which investigates experimentally the particular social structural variables (visibility and probability of reward for deviant behaviors) contained in the two versions of Parent-Child employed in the present research. If the present results do show that persons of different racial and social class groups behave differently according to the version of the game played, the direction and content of these differences are likely to have important consequences for the understanding of particular types of deviant behavior in specific social control systems.

One final choice of design variables is left to explain, namely, the choice of race and social class as independent variables. The research could just as well have been conducted using a sample of all types of school children, or with particular racial and social class groups. However, it is felt that the effects of both race and social class have been demonstrated to have major effects on many types of behaviors and attitudes, and therefore these variables should be included in the present study.*

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*For a bibliographical review of the sociological literature, see Rossi and Blum, 1967; for the psychological literature, see Dreger and Miller, 1968.

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As a final remark, females were not included in the present research to avoid the possibility of an interaction between the sex of the experimenter and the sex of the subjects. The problem of interaction between the race of the experimenter and the race of the subjects, or the social class of the experimenter and subjects was not controlled for in the present study.

Hypotheses

The main idea underlying the hypotheses of the present study is that there are differences between white and black parents and between middle and lower SES parents in their socialization practices and attitudes about the social control of their children. As a result of these different practices and attitudes, it is hypothesized that the children of the racial and social class groups will play the game in particular ways. Also, partially as a result of these differences in practices and attitudes, and partially as a result of predictions from more general theories of deviant behavior, it is hypothesized that the dyads will play differently according to the version of the game they play.

More specifically, it is believed the differences in behaviors will be in the following directions: (1) the low SES black dyads will perform the poorest on all of the behavioral measures in the game related to efficiency of skillful play (numbers of orders and numbers of points of punishment will be highest; numbers of

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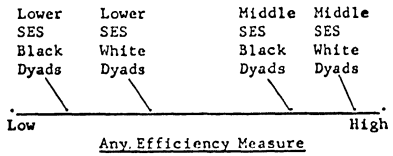
agreements, number of points obtained, efficiency scores will be lowest); (2) the lower SES white dyads will rank next, followed by (3) the middle SES black dyads and (4) the middle SES white dyads. Furthermore, it is hypothesized that (5) the middle SES black dyads will be more similar in their behaviors in the game to the middle SES white dyads than to the lower SES white dyads, and (6) the middle SES black dyads will be more similar to the middle SES white dyads than the lower SES white dyads are to the lower SES black dyads. Graphically, the hypotheses can be represented as follows.

Figure 1-1
Predictions of the Ordering of the Behavioral Indices by Race and Social Class



The hypotheses are implied by the belief that social class is a stronger predictor of socialization-related behaviors in the area of social control than is race; i.e., the effect of social class differences in socialization practices will be greater than the effect of racial differences in socialization practices.

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If the patterns of the groups are congruent with these hypotheses, but the results of the questionnaire information do not show the same pattern, a problem of interpretation arises. However, the correspondence between the child's real parents' behaviors and the child's behaviors in the game is not thought to be the result of the child's simply modelling the way his parents do behave. Previous research (McFarlane, 1969) has shown that some children play the game as they wish their parents would behave, instead of how their parents do behave. Thus the behaviors in the game may result from the child's imitating his real life experiences, or from his projecting his desires as to how he wishes his parents would act into the game situation. At present, there is no readily apparent way to resolve this particular problem of interpretation; while it is also realized that other types of data, including information derived from questionnaires, are open to the same kind of bias.

If there are statistically significant differences between the groups in their game behaviors, and also corresponding differences in the reports of the ways in which their parents are perceived as behaving, the conclusions regarding the existence of differences between the groups in the particular type of socialization practice or attitude are strengthened. If there are significant differences in the game play, but negligible or inconsistent

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differences in the questionnaire data, no definite conclusions can be drawn without further investigation (ideally, non-reactive observation of the home situation).

No matter which types of conclusions are drawn from the present study, comparisons between the present results and previous research will, of necessity, be between the empirical results obtained, due to the lack of applications of empirical research to the theoretical schemata concerning socialization practices and attitudes (e.g. Durkheim, 1956; Erickson, 1963; Mead, 1931).

Summary

It is expected the present research will contribute data supportive of results of previous research about socialization practices and attitudes with respect to the area of social control by providing new and different types of information upon which interpretations and conclusions about racial and social class differences can be made. This assumes that the differences in the dyads' behaviors in the game are shown to be related to those differences found by using other techniques. If there are no significant differences in the ways the dyads play the game, or if the differences are inconsistent with previous results, then further research would be needed to resolve the conflicts.

In addition, it is expected the results of the present study can be fruitfully applied to the testing of hypotheses derived

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from general theories of deviant behavior. In particular, the experimental variation of game types allows for the collection of data relevant to the comparison of differential reactions to varying conditions of reward and visibility of deviant behaviors, using the social control system as the unit of analysis.

It is also expected that the research will demonstrate the utility of simulation games as a technique for data collection. Previous research involving Parent-Child, using imperfect, small samples and quasi-experiemntal techniques, has convinced the author of the advantages of this technique in gathering certain types of social psychological information not readily accessible by other means. It is hoped the results of the present research will convince other researchers of the utility of the simulation game technique, as illustrated by the present example using Parent-Child, and convince some of these researchers to adopt the technique for their own research projects.

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Chapter Two - Methodology

Parent-Child is based on a model of how interaction between parents and children should occur for maximum satisfaction of both participants. The assumption is that parents and children have differing opinions about what is most important for the child to do, that is, both parent and child can rank behaviors of the child on a continuum from most important to least important, or from most satisfying to least satisfying. The rankings of the parent and of the child can be similar or different. The way to maximize total satisfaction for the dyad is for the parent to allow the child to behave according to the child's interests or ranking system on those issues of least importance to the parent, and to elicit behavior from the child in accordance with the parent's interests or ranking system on those issues of most importance to the parent.

The mechanisms through which desired outcomes are achieved are communication between parent and child of their preferences or rankings, and consequent mutual agreements about what the child will do and will not do. The model of how parent-child interaction should occur and the mechanisms are incorporated in the structures and rules of Parent-Child.

The physical equiptemnt necessary to play Parent-Child consists of a game board, five issue cards, agreement markers,

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order markers, behavior markers, and point cards and covers for the issues. The board is arranged so there are five issues in the middle of the board that can be read by the players sitting on opposite sides of the board. Each of the issues lists a behavior about which the parent and child have opposite interests or wishes. For example, one issue is concerned with what time the child will come home after school. The parent's side of the issue card states,"Your child will come directly home after school." The child's side of this issue card states, "You do not have to come straight home after school." The board is divided so there is a distinct child's side and a distinct parent's side.

At the beginning of each round of the game, point cards are randomly distributed on each of the five issues, with the parent receiving a card corresponding to a certain number of "satisfaction points" on each issue, and the child a different card on the same issues. The values of the "satisfaction point" cards range between two and ten points, in increments of two points, making each issue worth either two, four, six, eight, or ten points. Due to the random allocation of the points cards, the parent and child may have similar or different values for each of the five issues. The distribution of the point cards gives each participant a means of ranking the behaviors called for in the issues. The rules of the game specify that only the parent know the values of the issues for the

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parent, and only the child know the values of the issues to the child. This is accomplished by distributing the point cards face down on the game board, and allowing each player to see only those cards on his side of the board.

After the distribution of the point cards, the players are allowed to communicate with each other, in an attempt to arrive at agreements about how the child will behave on each of the five issues. If both players agree to a particular behavior, an agreement marker is placed on the board on the issue upon which agreement was reached. Furthermore, the agreement marker is placed on the side of the board of the person who obtained the agreement.

For example, suppose the parent ranked highly the behavior of his child coming straight home after school. Further suppose the child did not rank this behavior highly, i.e., did not have a large number of points associated with it. If the parent could elicit an agreement from the child that the child would come straight home after school, an agreement marker would be placed on the parent's side of the board on this particular issue.

If, however, the parent and child cannot agree on any or all of the issues, the parent is allowed to order the child to behave in accordance with the parent's wishes on all issue not agreed upon. This feature of the game is based on the observation that parents in real life do have the power unilaterally to order

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their children to behave in accordance with the parent's wishes. To signify the ordering of the child, the parent places an order marker on the parent's side of the board on the issue or issues on which he wishes to order the child. It is important to note that the rules of the game do not require the parent to order the child to behave according to the parent's wishes on all issues on which agreements were not reached. The parent is free to order or not, as he chooses.

After all of the issues are discussed, and all of the agreement and order markers are placed on the issues, the parent turns away from the game board, and the child unilaterally behaves on all of the issues. The child is free to behave either in accordance with the agreements and orders or in opposition to them. The behaviors are signified by placing a behavior marker on each of the five issues, either on the parent's side of the board or on the child's side of the board. The placement of these behavior markers determines who shall receive the satisfaction points assigned to the issues. The child then covers each of the issues, hiding the placement of the behavior markers, and the parent turns back around.

When the parent turns back around, he is faced with a board which has each of the five issues covered. This is to represent the fact that parents cannot always monitor or discover the behaviors of their children, and thus have only limited probabilities

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of discovering how their children actually behave.

Previous research (McFarlane, 1969) indicated that a slight modification of the original version of Parent-Child (Boocock and Schild, 1969) would be necessary. The original version had been developed for use with adolescent subjects, and several of the issues were not applicable to the younger children of the present subject population. (For a comparison of the original and revised issues, see the appendix to this report.)

In addition to the modification of the content of the issues, an additional experimental variation in the game was introduced. Two versions of the game were administered to the players. In Version I, deviance in the form of breaking agreements or disobeying orders has a high probability of being profitable to the deviant child, but also a high probability of being discovered by the parent. In Version II, deviance in the form of breaking agreements and disobeying orders has a lower probability of being profitable to the child, but also a lower probability of being discovered by the parent.

In Version I, the parent is allowed to monitor the child's behaviors on all five of the issues. This is accomplished operationally by allowing him to remove the covers from all five issues. He is further allowed to punish the child on any or all of those

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issues on which the child behaves in opposition to an agreement or order. The amount of punishment in Version I is allowed to range between zero and one less than the number of points the child receives for breaking the agreement or disobeying the order. (Recall that the placement of the behavior marker determines who receives the satisfaction points; thus if the child agrees to behave according to the parent's wishes, but instead behaves in accordance with his own wishes, the parent receives no satisfaction points on the particular issue on which this occurs, and the child receives the points attached to this issue on his side.)

Thus in Version I of the game, the parent can observe all of the behaviors of the child, and punish all instances of deviance by the child; but the parent is restricted in the amount of punishment he can apply. In the extreme case in which the parent orders the child to behave in accordance with the parent's wishes on all of the issues, and the child violates all of these orders, the parent receives no points, and the child receives between five and thirty points, depending upon the punitiveness of the parent.

In Version II, the parent is allowed to monitor the child on only two of the issues. If the parent encounters deviance in the form of violated orders or agreements on these two issues, he is allowed to punish the child up to as many points as the child receives for his deviant behavior. On the other three issues, the

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points are assigned simply on the basis of the placement of the behavior marker, with no punishment for deviance allowed on these issues.

Thus in Version I, deviance has a high probability of being rewarding to the deviant child, but also a high probability of being discovered by the parent. In Version II, deviance has a lower probability of being discovered by the parent, but also a lower probability of being rewarding to the deviant child if discovered.

Description of the Sample Population

The sample consists of ninety-six black and white fifth grade males from middle and lower socioeconomic status (SES) families. There are twenty-four subjects in each of the following groups: lower SES blacks, lower SES whites, middle SES blacks, and middle SES whites. All of the subjects were selected from fifth-grade classes in the Baltimore City Public Schools, according to the following selection procedures.

Eight schools in Baltimore City were selected on the basis of their racial and social class characteristics; two each lower SES black, lower SES white, middle SES black, and middle SES white. To be considered black or white, a school had to have had more than ninety per cent of its students of that race. This procedure assured the exclusion of any integrated school from the sample.

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Determination of the SES level of the schools was done by reference to census tract information and personal knowledge of Baltimore City.

Of the eight schools selected in the original sample, six provided the necessary number of subjects of the proper racial and social class characteristics. This occurred because the schools were not homogeneous with respect to SES as they were with respect to race, and students of both middle and lower SES levels were utilized from the same schools. The distribution of students by school, race, and social class is as follows.

Table 2-1
Distribution of the Subjects by School, Race, and SES

School Number	Racial Composition of the School	SES Composition of the Sample from the School	Number of Subjects
1	100% black	16 middle SES 14 lower SES	30
2	92% black	8 middle SES	8
3	100% black	10 lower SES	10
4	100% white	12 middle SES	12
5	100% white	8 middle SES 12 lower SES	20
6	100% white	4 middle SES 12 lower SES	16
		Total N = 96	

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Selection of subjects within schools occurred as follows. Each of the six schools was contacted by the author, and a description of the study was presented to the principal or assistant principal. Upon obtaining permission from the principal or assistant principal to carry out the study in the particular school, each fifth grade class was visited, and the male students were asked if they would like to be in the project. Those who indicated an interest were given a permission slip to take home to their parents. The permission slip included a questionnaire (see appendix) from which determination of the SES level of the family, and thus the subject, was made. Seventy-eight per cent of the students returned the questionnaires and signed permission slips, and from this group the sample was chosen.

The selection of those who were to participate in the game was done on the basis of quotas for each cell in the experimental design. Thus if there were only one person in a particular school who was classified lower SES on the basis of the questionnaire responses of his parents, he would not be included in the sample, since there would be no other person with whom he could be matched for the game play. Schools and separate classrooms within schools were contacted until the cells of the design were filled with appropriate numbers of dyads of the correct racial and social class categories. Each dyad thus consists of two fifth grade boys from the

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same school and classroom, of the same race, and of the same SES classification.

The social class ratings were derived from the occupation listed by the head of the household as obtained from the questionnaire attached to the parental permission slip. The ratings were done according to the categories of social class and/or prestige as given in Hodge, et. al., 1966. Thus any occupation below the categories of "white collar" or "middle class" occupations were given a rating of lower SES. Any occupation at this level or above was given a rating of middle SES. When both parents worked, the father's occupation was used for the basis of the ranking. This rating system follows the procedures described in Baldwin, et. al., 1969. It is based on the assumption that persons who work in middle class occupations are different in kind from persons who work in working or lower class occupations, and that the differences between these categories of persons are associated with differences in behaviors related to socialization practices and behaviors performed by the parents who have these different types of occupations.

It should be noted that the selection process has important consequences for any interpretation of the results derived from the behaviors and responses to questions of the sample so chosen. The schools were all located outside of what is called the "inner city," except for school number three in Table 2-1, the lower SES

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black school. In addition, except for school number three in Table 2-1, each school had significant integration of its student body by SES categories, if not by racial categories. It is likely that as a result of the sample's being drawn from schools of these types, the range of variation in social class in the present sample is less than the true range in social class for Baltimore City as a whole; and another selection procedure, designed specifically to sample a wide range of middle and lower SES occupations would be likely to produce greater differences between SES groups.

However, it is not the intention of the present study to demonstrate that persons with widely different occupations and incomes or social status behave differently. Rather it is to see how differences in race and small differences in the occupational status of families of the subjects of the present sample influence the behaviors of these same persons. Although no median family income figures are available for the subjects in the present sample, it is estimated that there is very little difference between the middle SES subjects' families' median incomes and the median incomes of the lower SES subjects' families. Perhaps it would be more accurate to label the groups "middle" and "working" class, or "white collar" and "blue collar," rather than the middle SES and lower SES categories employed in this report. The sampling procedure was designed to select subjects from both sides of the division between "hand work"

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and "head work," or between white collar occupations and blue collar occupations, but to select subjects whose families were not too far removed from this dividing line. On the basis of results to be presented later in this report, it would appear the selection process accomplished this aim.

The subjects can be further described by the information obtained on each of them from their most recent Kuhlman-Anderson IQ scores and their age as given in the school records.

Table 2-2
Mean Age of the Subjects by Racial and SES Groupings

			Age:	
Race:	SES:	N	Mean	(s.d.)
White	Middle	24	10.50	(.58)
White	Lower	24	10.67	(.76)
Black	Middle	24	10.46	(.58)
Black	Lower	24	10.75	(.70)

Table 2-3
Mean IQ Scores of the Subjects by Racial and SES Groupings

			IQ:	
Race:	SES:	N	Mean	(s.d.)
White	Middle	24	99.17	(10.54)
White	Lower	24	97.17	(11.51)
Black	Middle	24	99.13	(10.77)
Black	Lower	24	95.29	(7.88)

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Although there are differences in the means of the various racial and SES groups, none of the differences is significant by an analysis of variance. The differences are in the direction one might expect on the basis of previous research, with the lower SES and black subjects having lower mean IQ scores and higher mean ages.

Description of the Game Administration

After all permission slips from a particular classroom were collected, assignment of subjects to dyads was done randomly, blocking only on social class. Thus all students in a particular school and classroom of the same social class had equal probabilities of being assigned to a particular dyad. A schedule of which dyads were to play on which day was then drawn up, and posted in the classroom.

When the subjects arrived in the room set aside for the project, they were randomly assigned to a position on either side of the game board, thus making assignment to initial role random also. After noting each player's name, age, and favorite games on the "Biographical Data Code Sheet" (see the appendix for a copy of this form), the following instructions were read to the players.

> "You are going to play a game called 'Parent-Child.' In this game, one of you will play the role of the parent, and one of you will play the role of the child. You can see on the game board there are five issues on which the

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parent and child feel differently. (The housekeeping issue is read as an example.) On each of the five issues, the parent wants the child to behave one way, and the child wants to behave in another way. Each of the issues is worth a certain number of points to each of the players. The point values range from two points to ten points. These point cards are shuffled and placed face down in front of the issues. You can see your own point cards, but you should hide them from the other person. The number of points you receive in the game depends on how you act in the game. I will now explain how you play the game. In the first part of the game, both players try to make agreements about how the child will act on each of the five issues. (An example of how an agreement is made is given, using the housecleaning issue as the example.) If both players can agree on how the child can act on a particular issue, the child puts an "A" marker on the issue they agreed upon. He puts the "A" marker on the side of the board of the person who got his way. (An "A" marker is placed on the housecleaning issue as an example of this behavior.) In the first stage of the game, both players try to make as many agreements as they can. But remember, both players have to agree before an agreement marker can be placed on the board. In the second part of the game, the

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parent can order the child to behave the parent's way on any issue without an agreement marker. (An example of giving an order is given, using the trip issue.) However, the parent does not have to order the child on any issue. But the parent can order the child on any issue without an agreement marker. In the third stage of the game, the parent turns around, and the child behaves by placing the behavior markers on either his side of the board or on the parent's side of the board. (An example of both types of behavior is given using the lost dog issue as the example.) The child can behave any way he wants to. He can keep his agreements or break them. He can obey his parent's orders or break them. After the child has placed a "B" marker on all five issues, he covers them up and the parent turns back around."

It is at this point that the instructions for the two versions of the game differ. The instructions for Version I continue as follows.

"In the last part of the game, the parent uncovers each of the issues in turn. If the child has kept his agreements and obeyed the orders, each person receives the points attached to each issue if the "B" is on his side of the board. If the "B" is on the parent's side of the board,

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the parent gets the points. If the "B" is on the child's side of the board, the child gets the points. (An example of a kept order is given using the hair issue, and an example of a kept agreement is given using the school issue, in each instance showing how the points are awarded for the behaviors.) If, however, the child has broken an agreement or disobeyed an order, the parent can punish the child up to one less point than the child receives for breaking the order or agreement. (Again, an example of how punishment can occur for breaking an agreement is given using the lost dog issue, and an example of how a disobeyed order can be punished is given using the trip issue.) The parent does not have to punish the child at all if he does not want to. He can punish the child if he wants to. At the end of the round I will tell you your score. You should try to get as many points as you can. Any questions?"

The instructions for Version II dyads continue as follows. "In the last part of the game, the parent can uncover any two of the issues he wants to. If the child has kept the agreements and obeyed the orders, each person receives the points attached to each issue if the "B" is on his side of the board. If the "B" is on the child's side of the board, the child gets the points. If the "B" is on the parent's

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side of the board, the parent gets the points. (Examples are given as in Version I above.) If, however, the child has broken an agreement or disobeyed an order, the parent can punish the child, but only on those two issues he uncovers. The points on the other three issues are based only on where the "B"markers are placed. The parent can punish the child up to as many points as the child receives for breaking the agreement or order. (Examples of punishment for breaking orders and agreements are given as in Version I above.) The parent does not have to punish the child if he does not want to. He can punish the child if he wants to. At the end of the game, I will tell you your score. You should try to get as many points as you can. Any questions?"

If there were any questions about strategy, or about what the administrator felt should be done, the questions were answered by restating parts of the instructions, or paraphrasing these instructions. A careful attempt was made to respond to all questions posed by the subjects as they were playing the game in a non-normative manner, in order to avoid biasing the behaviors of the players by suggesting what "should" be done, or how the game "should" be played.

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Each dyad played three rounds of the game, and then individuals would switch roles for three more rounds.* Each player thus had the opportunity to play three rounds as parent and three rounds as child. At the end of the six rounds, the scores were totalled, and told to the players, and the next stage of the research was begun.

During the play of the six rounds of the game, the investigator coded all of the game-related behaviors on a "Game Behavior Code Sheet." The information from this code sheet constitutes the primary cource of data for the present report. As can be seen upon examining this code sheet, it allows the collection of the number and sequence of agreements, orders, behaviors, and the punishment behaviors of the parents. It also allow an analysis of particular items to be made, as well as a determination of the maximum number of points the dyads could have received with "perfect play."

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*Role-reversal was included in the procedure for two main reasons. Previous research (Flavell, et. al., 1968; Piaget and Inhelder, 1956) has shown that children of this age have difficulty perceiving another person's point of view in similar types of situations. Also, previous research with Parent-Child (McFarlane, 1969) indicated that the behaviors of similar subjects did not change after three or four rounds if the players remained in the same role, but did change if the roles were reversed.

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Game Behavior Code Sheet

Dyad Number: Date: School:

Round Number: Version:

Parent:

Issue Number:

	1	2	3	4	5	6
Behavior:						
Agree:						
Order:						
Behave:						
Points:						
Potential:						
Actual:						

Total for Round:

Child:

Behavior:						
Agree:						
Order:						
Behave:						
Points:						
Potential:						
Punishment:						
Actual:						

Total for Round:

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At the conclusion of the six rounds of the game, the subjects were asked a series of questions from three questionnaires. The first questionnaire was the "Open-Ended Questionnaire," which asks twelve questions about what happens in various situations in the child's home. (See the appendix for a copy of this form.) Included in the twelve questions are five items which state similar situations to those occurring in Parent-Child which ask the child to state how his real parents would react in these situations.

The second questionnaire, the "Forced-Choice Questionnaire," consisted of ten items describing situations similar to those occurring in Parent-Child, about which the subjects were asked to state whether they thought their parents would punish certain behaviors or not. Five of these questions referred to situations in which the child has broken an agreement, and five referred to situations in which the child has broken an order. In each case, the child was asked to indicate whether he believed his parents would punish him for the non-performance of the agreement or order. (See the appendix for a copy of this form.)

The third questionnaire consisted of a modified version of the socialization sub-scale of the California Psychological Inventory (Gough, 1964). Only forty-four items of the scale were used, due to the age of the subjects and objections to the inclusion

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of some of the items by the Baltimore City School System. (A copy of this form is given in the appendix.)

The experimenter administered all questions verbally, while the subjects recorded their answers on separate answer sheets. Any questions the subjects had about any of the items were answered by first repeating the question, and then paraphrasing the question if necessary.

At the conclusion of the third questionnaire, the subjects were thanked for their participation, and dismissed.

In addition to the administration of the three questionnaires to the ninety-six subjects who played the six rounds of the game, the same questionnaires were administered to a control group of twenty-four subjects from the same schools as the experimental subjects. The control group consisted of six individuals in each of the following categories: lower SES black, lower SES white, middle SES black, and middle SES white. These subjects were scheduled in the same way as the experimental subjects, and they too had to return permission slips to be included in the project. Upon arrival at the room set aside for the game playing, these subjects were immediately administered the questionnaires. Thus the experimental group played the game and then answered the questionnaires, while the control group only answered the questionnaires. However, at the conclusion of the questionnaire administration, the control group subjects were taught another game, in order not to disappoint them.

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The research project was undertaken between October, 1969, and March, 1970. The administration of the six rounds of the game took approximately an hour to an hour and fifteen minutes for each group of participants, and the questionnaire administration took on the average fifteen minutes.

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Chapter Three - Results

The results of the present research described in the earlier section of the report can be divided into two main areas: behavioral results, or the analysis of the various behaviors the subjects performed while playing the game; and questionnaire results, or the analysis of the content and pattern of the responses to the three questionnaires administered after the playing of the game. In the former case, the results can be presented either for individuals or for dyads; in the latter case, a presentation by individuals is called for, since dyads did not answer the questionnaires. It should be noted that the unit of analysis for the presentation of the behavioral results is truly a matter of choice; there is no logical or practical reason why behaviors cannot be analyzed by individuals or by groups. However, due to the mutually independent nature of the behaviors that occur during the play of Parent-Child, it was decided to emphasize the analysis of dyad measures and behaviors.

Behavioral Results

The first behaviors called for in the game are agreements. These are the only behaviors upon which both players must arrive at an understanding of what is to be done, that is, the only bi-lateral behavior. The numbers of agreements per dyad are indicators of how

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well the particular types of dyads can agree on a particular course of action in the game. Previous research (Stoll and McFarlane, 1969) has shown that degree of acquaintance and sex have important effects on the probability of a dyad's making agreements. The table below shows the effect of Race, SES, and Version on this index.

Table 3-1
Mean Number of Agreements per Dyad (total for all six rounds)

Race:	SES:	Version: Version I N	mean (s.d.)	Version II N	mean (s.d.)
White	Middle	6	15.17 (8.30)	6	17.67 (6.12)
White	Lower	6	13.00 (6.42)	6	16.83 (6.01)
Black	Middle	6	14.83 (9.11)	6	16.83 (6.65)
Black	Lower	6	11.83 (10.57)	6	19.33 (5.92)
				Total N = 48	

As can be seen in the above table, Version II is more conducive to agreements than Version I within all racial and SES groups, and Version II dyads show less variance than Version I dyads in all cases. In addition, if one collaspses the table on the variables of Version and SES, it can be seen that the white dyads make slightly fewer agreements than the black dyads (15.54 versus 16.04), and if one collapses the table on the variables of Race and Version, middle SES dyads are shown to make slightly more agreements than the lower SES dyads (16.33 versus 15.25).

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With respect to the predictions of the hypotheses concerning the mean number of agreements, the means were predicted to be in the following order: lower SES blacks less than lower SES whites less than middle SES blacks less than middle SES whites. This prediction is shown to be true for the Version I dyads, but not for the Version II dyads. It appears the version of the game played is having a differential effect on the way the various types of dyads play the game.

To determine which of these differences, if any, are statistically significant, a 2x2x2 analysis of variance was performed, using the variables of Race, SES, and Version as the independent variables, and the variable of Total Number of Agreements per Dyad as the dependent variable. None of the variables was shown to be significant at the .05 level, although Version was significant at the .1 level ($F_{1,40}$= 3.15; p less than .1)* All other F-ratios are less than one. Thus one may conclude that only the version of the game played is having any effect on the tendency of the dyads to make agreements, but even this effect is not strong in the statistical sense.

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*All analyses of variance referred to in the text but not displayed in the body of the report can be found in the appendix.

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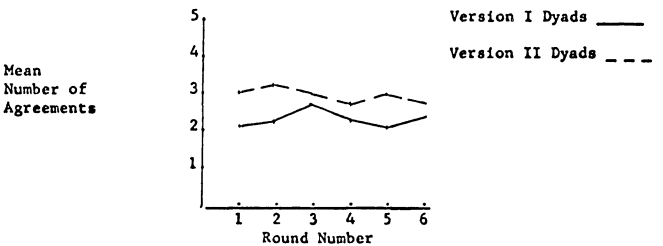
It is possible for the above results to occur, even though there were differences in the patterns of agreements in the particular rounds of the game in the tendency to make agreements. However, as the following figure indicates, the tendency to make agreements according to the version of the game played remains constant over all six rounds of the game.*

Figure 3-1
Mean Number of Agreements per Round by Version of the Game Played



In every round, Version II dyads make a larger average number of agreements than Version I dyads. This will be of special interest when the implications of the current results with respect to deviance and conformity in particular systems of social control are discussed later in this report.

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*The means and standard deviations for this and similar figures can be found in the appendix to this report.

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Although there are no significant differences in the total number of agreements made by the dyads of the differing racial and social class groups, there could be differences in the number of agreements on the parent's or child's side of the board. On the basis of results from other studies of racial and social class differences in parental behavior (e.g. Baldwin, 1946; Davis and Havighurst, 1946; Kohn, 1963), one might expect the middle SES players to be more agreeable as parents, and thus the middle SES dyads might be expected to have a larger average number of agreements on the child's side of the board than the lower SES dyads. Similarly, one might expect that white parents are more likely to make agreements with their children in real life, rather than ordering their children; and thus the white dyads might be expected to have a greater average number of agreements on the child's side than the black dyads. The following table gives the mean number of agreements on the child's side of the board for all six rounds of the game.

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Table 3-2
Mean Number of Agreements on the Child's Side per Dyad (total for all six rounds)

Race:	SES:	Version: Version I N	mean	(s.d.)	Version II N	mean	(s.d.)
White	Middle	6	10.17	(4.49)	6	11.83	(5.98)
White	Lower	6	9.17	(4.71)	6	11.17	(4.36)
Black	Middle	6	7.33	(6.47)	6	10.17	(3.87)
Black	Lower	6	4.67	(4.72)	6	6.33	(5.99)

Total N = 48

Again, Version II has more agreements than Version I within all of the racial and SES groups. In addition, white dyads make more agreements on the child's side than black dyads (10.54 versus 7.38), and middle SES dyads make more agreements on the child's side than lower SES dyads (10.13 versus 7.79). The figures above also indicate the hypothesized ordering of the groups is not true for this variable, i.e., the middle and lower SES white dyads are more like each other than the middle SES white and black dyads are like each other in both versions of the game. It appears that race is a stronger influence than SES on this particular variable.

To determine whether these differences are statistically significant, a 2x2x2 analysis of variance was performed, using the design variables as the independent variables, and the Total Number of Agreements on the Child's Side as the dependent variable.

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Table 3-3
Analysis of Variance: Total Number of Agreements on the Child's Side

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	143.52	143.52	5.42*
SES	1	50.02	50.02	1.89
Version	1	50.02	50.02	1.89
Race x SES	1	17.52	17.52	0.66
Race x Version	1	0.52	0.52	-
SES x Version	1	0.52	0.52	-
Race x SES x Version	1	1.69	1.69	0.06
Error	40	1060.20	26.51	

* p less than .05

On the basis of the above analysis, only Race is shown to be a statistically significant factor in predicting or influencing the total number of agreements on the child's side, with the white dyads significantly more likely (at the .05 level) to make more agreements on the child's side than the black dyads.

It remains to be seen whether this relationship between Race and the probability of making agreements on the child's side is constant over all six rounds of the game, or develops during the play of the game. As can be seen in Figure 3-2, this difference does develop over time.

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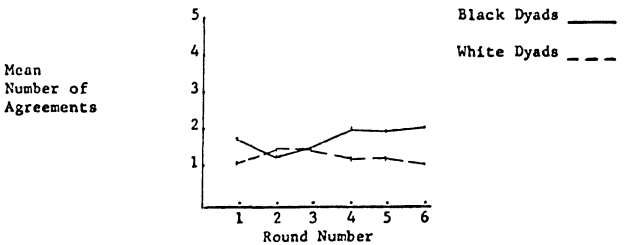
Figure 3-2
Mean Number of Agreements on the Child's Side per Round by Race



As can be seen in the above figure, the numbers of agreements the white dyads and black dyads make during the first three rounds of the game are very similar; it is only in rounds four through six that the white dyads increase the number of agreements on the child's side, and the black dyads decrease the number of agreements on the child's side. This could be due to a learning effect, or to the fact that black dyads are in reality less likely to make agreements while playing Parent-Child. It could also be a result of the white dyads' learning more as a result of the role-reversal that occurs between rounds three and four. This finding will be discussed later in the report when the topic of role-reversal is analyzed more fully. Note that in five of the six rounds, the black dyads had a lower average number of agreements on the child's side than did the white dyads.

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From these results, one might expect the black dyads would have more agreements on the parent's side than the white dyads. This is not necessarily the case: there is nothing in the rules or structure of Parent-Child that would force the players to make agreements on the parent's side if they didn't make agreements on the child's side. Remember that agreements are the only behaviors in the game that both players have to ratify before the marker indicating the agreement can be placed on the board.

It is possible for the dyads to make agreements on either side of the board without making agreements on the opposite side. With this in mind, observe the pattern of agreements on the parent's side of the board as shown in Table 3-4 below.

Table 3-4
Mean Number of Agreements on the Parent's Side per Dyad (total for all six rounds)

Race:	SES:	Version: Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	5.00	(5.33)	6	5.83	(6.85)
White	Lower	6	3.83	(4.58)	6	5.66	(4.89)
Black	Middle	6	7.50	(4.42)	6	6.83	(5.04)
Black	Lower	6	7.17	(6.64)	6	13.00	(9.98)

Total N = 48

Again, the trend is for Version II to be more conducive to agreements, with only the black middle SES dyads making more

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agreements on the parent's side in Version I than in Version II. In addition, white dyads are less likely to make agreements on the parent's side than are black dyads (5.04 versus 8.67), and middle SES dyads are slightly less likely to make agreements on the parent's side than are lower SES dyads (6.25 versus 7.46). To determine the independent importance of the factors of Race, SES, and Version in determining the average number of agreements on the parent's side for the six rounds, an analysis of variance was performed, with the following results.

Table 3-5
Analysis of Variance: Total Number of Agreements on the Parent's Side

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	150.52	150.52	3.90*
SES	1	15.19	15.19	0.39
Version	1	46.02	46.02	1.19
Race x SES	1	38.52	38.52	1.00
Race x Version	1	4.69	4.69	0.12
SES x Version	1	42.19	42.19	1.09
Race x SES x Version	1	22.69	22.69	0.59
Error	40	1544.20	38.60	

*p less than .06

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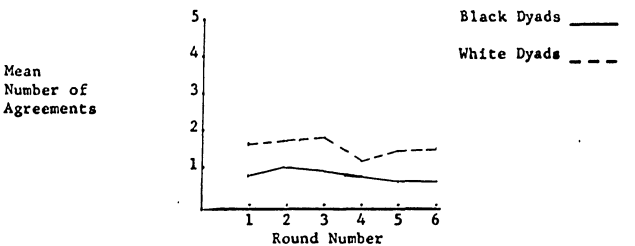
Again, as in the case of the average number of agreements on the child's side, Race is the only factor to have a near-significant (p less than .06) effect in determining the average number of agreements on the parent's side; with the black dyads making a larger average number of agreements on the parent's side than the white dyads.

To determine whether the relationship between the racial compositions of the dyads and the average number of agreements on the parent's side is constant over all six rounds of the game, the following figure was calculated and drawn.

Figure 3-3
Mean Number of Agreements on the Parent's Side per Round by Race



As can be seen in the above figure, black dyads make a larger average number of agreements on the parent's side than the white dyads in each of the six rounds. In addition, the average number of agreements per dyad on the parent's side remains nearly

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constant over all six rounds of the game for both racial groups.

To summarize the results with respect to agreement behaviors, the following statements can be made.

1. With respect to the average number of agreements made by the dyads in the six rounds of the game, (1) the relative advantage in average number of agreements of Version II dyads as compared to Version I dyads is constant over all rounds of the game, i.e., in every round, Version II dyads make a larger average number of agreements than the Version I dyads, (2) Version I dyads have smaller average numbers of agreements than Version II dyads in all categories of dyads, and this difference approaches statistical significance by F-test (p less than .10), (3) white dyads make slightly fewer agreements than black dyads (15.54 versus 16.04), and (4) middle SES dyads make slightly more agreements than lower SES dyads (16.33 versus 15.25).

2. With respect to the average number of agreements on the child's side, (1) Version I dyads have a smaller average number of agreements on the child's side than Version II dyads in all racial and SES categories, although the difference between versions is not shown to be statistically significant by F-test, (2) white dyads make significantly more agreements on the child's side than do black dyads (10.54 versus 7.38; F-ratio significant at the .05 level), (3) middle SES dyads make more agreements on the child's side than

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do the lower SES dyads (10.13 versus 7.38), although the independent effect of SES is not shown to be statistically significant by F-test, (4) the difference in the average number of agreements on the child's side that exists between the racial groups develops over time, with the numbers of agreements comparable in rounds one through three, but increasing for the white dyads in rounds four through six, and decreasing for the black dyads in these same three rounds.

3. With respect to the average number of agreements on the parent's side, (1) Version I dyads have a smaller average number of agreements on the parent's side than Version II dyads in all categories of dyads except the black middle SES dyads, (2) white dyads make significantly fewer agreements on the parent's side than do the black dyads (p less than .06 by F-test), (3) middle SES dyads are slightly less likely to make agreements on the parent's side than are the lower SES dyads (6.25 versus 7.46), and (4) the statistically significant difference in the average number of agreements on the parent's side that exists between the racial groups is constant over all six rounds of the game, with the black dyads always making a greater average number of agreements on the parent's side than the white dyads.

In sum, it appears that the factors of Race, SES, and Version did affect the dyads' probabilities of making agreements in the game in specific ways. However, the only significant effect

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on the average number of agreements made per dyad is the effect of the version of the game played; the only significant effect on the number of agreements on the child's side is Race; and the only significant effect on the average number of agreements on the parent's side is also Race. The hypotheses concerning the ordering of the racial and social class categories in the numbers of agreements they were predicted to make holds true for the Version I dyads, but not for the Version II dyads.

After agreements have been made, the next stage of the game is that in which the parent is allowed to unilaterally order the child to behave in accordance with the parent's wishes on all of those issues upon which agreement has not been reached. Recall that the parent is free to order the child to behave on all of these kinds of issues or not; he is not required to order the child on issues not agreed upon. However, as a practical matter, the parent usually orders the child on these issues, for not to do so would allow the child to behave according to his wishes on these issues, and the parent would have no opportunity of controlling the child's behaviors on these issues by punishment.

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Table 3-6
Mean Number of Orders Given per Dyad (total for six rounds)

Race:	SES:	Version: Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	14.50	(8.36)	6	12.50	(6.09)
White	Lower	6	16.67	(6.47)	6	12.50	(5.17)
Black	Middle	6	14.00	(8.00)	6	12.17	(6.31)
Black	Lower	6	18.17	(10.57)	6	10.33	(5.82)

Total N = 48

As can be seen in the above table, all dyads order less in Version II than in Version I. If one collapses the table along the variables of Race and SES, the means for the two versions are 16.17 for Version I dyads, and 12.25 for the Version II dyads. In addition, white dyads make slightly more orders than black dyads (14.46 versus 13.96) and middle SES dyads make slightly fewer orders than lower SES dyads (13.67 versus 14.75).

To assess the independent effect of each of the variables of Race, SES, and Version, a 2x2x2 analysis of variance was performed using the Total Number of Orders per Dyad as the dependent variable. Only Version of the game played was shown to have any noticeable independent effect on the tendency of the dyads to issue orders in the game ($F_{1,40} = 3.54$; p less than .10). The Version I dyads maintained their advantage in the mean number of orders over

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the Version II dyads for all six rounds of the game.

To summarize the results with respect to orders given in the game, the following statements can be made: (1) with respect to version of the game played, Version I is associated with a higher average number of orders given per dyad than is Version II, although the independent effect of Version is not significant at the .05 level, (2) with respect to race, white dyads make slightly more orders than black dyads (14.46 versus 13.96), (3) with respect to SES, middle SES dyads make slightly fewer orders than lower SES dyads (13.67 versus 14.75), and (4) the differences between the two versions of the game in the tendency to make a larger average number of orders per dyad in Version I holds constant over all six rounds of the game.

The second stage of the game is that in which the child unilaterally behaves on each of the five issues. These behaviors can either be in accordance with orders and agreements made previously, or in opposition to them. If the behaviors are in accordance with agreements and orders, the placement of the behavior markers alone determines how many points the individuals and the dyads receive on the particular issues. If the behavior marker is placed on the parent's side, the parent receives the points on his point cards; if on the child's side, the child receives the number of points according to the values on his point cards.

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If, however, the child behaves contrary to the agreements and/or orders, the parent can punish the child by taking off a certain number of the points the child receives for breaking the agreement or disobeying the order. In Version I, the parent can punish deviance occurring on all five of the issues, and the amount of punishment can range between zero points and one less than the number the child receives for his deviance. In Version II, the parent can only punish deviance on two of the issues of his choice, and the punishment on these two issues can range between zero and the number of points the child receives for his deviance.

With this in mind, notice how the dyads vary according to Race, SES, and Version in the average probabilities of breaking any agreement on the parent's side, i.e., those agreements contrary to the child's interests.

Table 3-7
Mean Probabilities of Any Unfavorable Agreement's Being Broken

Race:	SES:	Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	53.33	(45.06)	6	38.17	(43.20)
White	Lower	6	40.67	(46.06)	6	5.17	(8.50)
Black	Middle	6	52.33	(47.77)	6	32.00	(19.03)
Black	Lower	6	45.67	(39.03)	6	30.50	(40.57)

Total N = 48

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Version I seems to be conducive to breaking more of these types of agreements than Version II, with the mean probabilities equal to .48 for Version I dyads, and .26 for the Version II dyads. White dyads have a slightly lower average probability of breaking an unfavorable agreement than do black dyads (.34 versus .40), and middle SES dyads have a higher probability of breaking an unfavorable agreement than do lower SES dyads (.44 versus .30).

To determine the independent effect of each of the design variables of Race, SES, and Version on the probabilities of breaking unfavorable agreements (any agreement on the parent's side of the board), an analysis of variance was performed, using the dyad probabilities of breaking unfavorable agreements as the dependent variable. Only Version has any noticeable effect on these probabilities of breaking agreements unfavorable to the child's interests. Neither Race nor SES is shown to have any significant independent effect on this variable. For this particular form of deviance, only the version of the game played seems to have any noticeable effect ($F_{1,40}$= 3.74; p less than .1)

The pattern of the probabilities of breaking unfavorable agreements over time according to the version of the game played is irregular. Version II dyads break a smaller percentage of the total number of unfavorable agreements primarily due to the be-

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haviors of the dyads which occur during rounds two through four. During rounds one and five and six, the differences between the dyads of the two versions are small in the probabilities that any unfavorable agreement will be broken. In five of the six rounds, however, the Version II dyads have lower average probabilities of breaking unfavorable agreements.

In addition to the breaking of agreements, the subjects playing the role of child can also disobey orders by placing the behavior markers on his side of the board on those issues on which the parent has ordered the child to behave the parent's way. Due to the structure of the game, all orders are contrary to the interests of the child, and thus all orders are unfavorable orders, from the child's point of view.

Table 3-8
Mean Probability of Any Order's Being Broken

Race:	SES:	Version: Version I N	mean	(s.d.)	Version II N	mean	(s.d.)
White	Middle	6	53.00	(36.16)	6	47.33	(23.05)
White	Lower	6	74.17	(38.85)	6	42.50	(30.07)
Black	Middle	6	58.17	(46.72)	6	70.17	(26.50)
Black	Lower	6	71.50	(36.58)	6	43.17	(35.57)

Total N = 48

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It appears that the effect of Version is not constant for the different racial and SES groups, in that the black middle SES dyads have a greater probability of breaking any order in Version II games, but all other racial and SES groups have lower probabilities of breaking any order in Version II dyads than in Version I dyads. Also, the mean probabilities for the middle SES dyads are more similar for the Version I and II dyads than the same probabilities for the lower SES dyads.

To examine whether the apparent interaction between SES and Version is statistically significant, an analysis of variance was performed, with the result that none of the F-ratios approached the .05 level of significance. The apparent interaction between SES and Version is thus not a statistically significant factor, nor are any of the main effects or other interaction terms. The conclusion that can be drawn from this analysis is that the probability of breaking any order in the game is not demonstratably related to any of the design variables, or to any of their interaction terms.

It could be that the combination of broken agreements and disobeyed orders, that is, the total amount of deviance of the child, is related to the design variables of Race, SES, and Version. However, it might be that this relationship is between the absolute amount of deviance and/or the relative amount of deviance. The

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utility of the distinction usually made by social scientists between lay perceptions and/or measures and empirically-derived measures can be tested with the data of the present report. If the relationships and associations between the absolute measures of total deviance and other variables are stronger than the relationships and associations between the relative measures of total deviance, then the utility of using the more complex measure is called into question. Whatever the results, it is important for the clarification of theories of deviance and for the clarification of more general theories of behavior, to utilize those measures and/or units of analysis most comparable to the units perceived and/or acted upon by the subjects. In short, sophistication in measurement is fine when necessary, but merely confusing when not necessary.

The absolute amount of deviance is defined as the total number of agreements and orders violated over all six rounds of the game. This variable will be labelled "Raw Deviance." The relative amount of deviance is defined as the number of broken orders and agreements divided by the total number of agreements and orders on the parent's side. This figure, given in the form of a probability, will be labelled "Weighted Deviance."

Table 3-9 below gives the distribution of the mean Raw Deviance scores by Race, SES, and Version.

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Table 3-9
Mean Raw Deviance Scores (total for all six rounds)

Race:	SES:	Version:					
		Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	13.84	(6.71)	6	10.00	(5.59)
White	Lower	6	14.50	(8.12)	6	4.67	(3.33)
Black	Middle	6	15.67	(10.97)	6	11.67	(6.62)
Black	Lower	6	17.83	(10.17)	6	9.00	(6.42)

Total N = 48

As can be seen in this table, Version II is predictive of a lower average raw deviance score for all types of dyads than is Version I. White dyads break a smaller number of agreements and orders than do black dyads (10.46 versus 13.38), and lower SES dyads have lower average raw deviance scores than do middle SES dyads (11.71 versus 12.13).

To determine the unique contribution of each of the design variables to the above scores, an analysis of variance was performed using the raw deviance scores of the dyads as the dependent variable.

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Table 3-10
Analysis of Variance: Raw Deviance Scores

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	93.52	93.52	1.62
SES	1	20.02	20.02	0.35
Version	1	526.69	526.69	9.12*
Race x SES	1	13.02	13.02	0.23
Race x Version	1	0.52	0.52	-
SES x Version	1	88.02	88.02	1.52
Race x SES x Version	1	1.02	1.02	0.02
Error	40	2309.20	57.73	

*p less than .01

The F-ratio for the effect of Version is equal to 9.12, which is significant at the .01 level. Thus the Version II dyads are significantly more likely to break fewer orders and agreements than are the Version I dyads, controlling for the effects of Race and SES. Neither Race nor SES is shown to be significantly related to the raw deviance scores of the dyads, and none of the interaction terms shows any significant relationship to this variable.

To determine whether this observed relationship between raw deviance scores and Version is constant over all six rounds of the game, the following figure was drawn.

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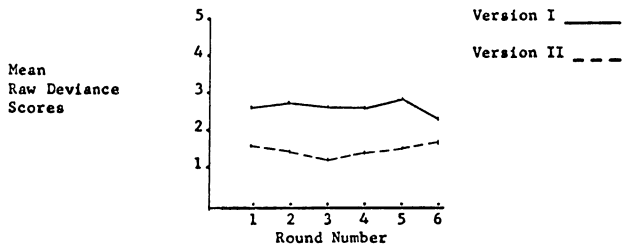
Figure 3-4
Mean Raw Deviance Scores per Round by Version



The pattern of differences between the Version I and Version II dyads is revealed to be constant over time, although the more striking finding in this figure is the stability of the magnitudes of the mean raw deviance scores, that is, the relationship is almost a straight line for both of the groups. Thus the pattern of the Version II dyads' having lower average raw deviance scores is revealed to exist for each round of the game, and the differences noted in the summary statistics of this index are shown to be of the same magnitude for each individual round as well.

Just as in the case of the raw deviance scores, the mean weighted deviance scores of the Version II dyads are lower in all cases than the mean weighted deviance scores of the Version II dyads.

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Table 3-11
Mean Weighted Deviance Scores (totals for all six rounds)

Race:	SES:	Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	66.50	(21.07)	6	57.50	(24.57)
White	Lower	6	70.83	(36.78)	6	24.00	(18.56)
Black	Middle	6	59.67	(41.03)	6	55.83	(24.31)
Black	Lower	6	69.33	(33.27)	6	38.67	(28.14)

Total N = 48

The mean weighted deviance score of all Version II dyads is equal to .44; for all Version I dyads, .66. If the raw deviance scores are recomputed as a percentage of the total number of agreements and orders violated, the comparable figures would be .46 for the Version I dyads, and .26 for the Version II dyads. Although the differences are of the same magnitude, the raw deviance scores as probabilities are much smaller than the weighted deviance scores. This is due to the fact that the players do keep some of their agreements, and do obey some of the orders. In the Version II dyads, the players keep roughly three-fourths of their total number of agreements and orders, as compared with the Version I dyad players who keep roughly one-half of their orders and agreements. With respect to those agreements and orders in opposition to the interests of the child, persons playing the role of child in the

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Version I dyads keep these types of agreements and orders in about a third of these instances, as compared with one-half of the time in the Version II dyads.

Table 3-11 allows one to compare the differences between racial and SES groups on the variable of weighted deviance also, with the following results. White and black dyads are almost exactly alike in their average probabilities of breaking unfavorable agreements and/or orders, with the average weighted deviance score for the white dyads .55, and the black dyads .56. Middle SES dyads have slightly higher weighted deviance scores than the lower SES dyads, i.e., .60 versus .51. On the basis of these mean score differences, it would appear that the version of the game is the only factor of the three to have a significant independent effect on the weighted deviance scores. To determine whether this assumption is true, the following analysis of variance was performed.

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Table 3-12
Analysis of Variance: Weighted Deviance Scores

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	16.33	16.33	0.02
SES	1	1008.30	1008.30	1.29
Version	1	6120.10	6120.10	7.08*
Race x SES	1	352.08	352.08	0.41
Race x Version	1	341.33	341.33	0.39
SES x Version	1	3136.30	3136.30	3.63
Race x SES x Version	1	90.75	90.75	0.10
Error	40	34591.00	864.77	

*p less than .025

As can be seen in the above table, only Version has a significant independent effect (p less than .025) on the distribution of weighted deviance scores, with Version I significantly more predictive of a higher average weighted deviance score than Version II.

The relationship of the weighted deviance scores and version of the game was examined over all six rounds of the game with the following results.

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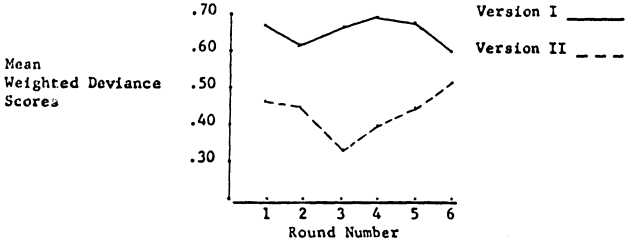
Figure 3-5
Mean Weighted Deviance Scores per Round by Version



The pattern of the weighted deviance scores according to version of the game is constant over time, with Version I dyads always having a higher mean value of the weighted deviance scores than the Version II dyads, independent of round of the game. The relationships between the raw deviance scores and the weighted deviance scores are indicated in the similarity of this figure and Figure 3-4. This is to be expected because of the mathematical relationship between the two variables of raw and weighted deviance scores, i.e., weighted deviance is calculated from a sub-set of the behaviors which constitute raw deviance.

To summarize the results of the present study with respect to deviant behaviors, that is, breaking agreements and disobeying orders, the following statements can be made.

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1. With respect to the breaking of unfavorable agreements, none of the factors of Race, SES, or Version had any statistically significant independent effect, although the effect of Version approaches the .05 level of significance. The differences in the probabilities of breaking unfavorable agreements are in the following directions for each of the design variables: (1) white dyads have slightly lower probabilities of breaking unfavorable agreements than black dyads (.34 versus .40), (2) middle SES dyads have a higher probability of breaking any unfavorable agreement than the lower SES dyads (.44 versus .30), and (3) Version I dyads have a higher average probability of breaking unfavorable agreements than Version II dyads (.48 versus .26).

2. With respect to the breaking of orders, again none of the design variables of Race, SES, or Version has a statistically significant independent effect. The differences in the probabilities of breaking any order are in the following directions for each of the design variables: (1) white dyads have a slightly lower mean probability of breaking any order than black dyads (.54 versus .61), (2) middle and lower SES dyads are almost exactly alike in their average probabilities of breaking orders (.57 and .58), and (3) Version I dyads are more likely to break orders than Version II dyads, with the respective probabilities equal to .64 and .51.

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3. With respect to raw deviance scores (total number of agreements and orders violated), Version has a statistically significant effect at the .01 level by F-test, with Version I dyads having significantly higher average raw deviance scores than the Version II dyads. None of the other design variables, and none of the interactions terms approached statistical significance as an independent factor in influencing this variable. With regard to the direction of the differences in the raw deviance scores for the main effect variables, (1) white dyads break a smaller average number of orders and agreements than black dyads (10.46 versus 13.38), (2) lower SES dyads break fewer orders and agreements than do middle SES dyads (11.71 versus 13.13), and (3) Version I dyads have significantly higher raw deviance scores than Version II dyads (15.13 versus 8.71; p less than .01). In addition, the relationship between Version and raw deviance scores is constant over all six rounds of the game in that the Version I dyads always have greater mean raw deviance scores than the Version II dyads.

4. With respect to weighted deviance scores (the probability of breaking any unfavorable agreement or order), only Version is a statistically significant variable in the prediction of weighted deviance scores at the .025 level. None of the other design variables and none of the interactions between them is shown to be significantly related to the weighted deviance scores.

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The direction of the differences in the weighted deviance scores for the various main effect variables is as follows: (1) white and black dyads are almost exactly alike in their average weighted deviance scores, i.e., .55 and .56, (2) middle SES dyads have higher average weighted deviance scores than lower SES dyads (.60 versus .51), and (3) Version I dyads have significantly higher weighted deviance scores than Version II dyads (.66 versus .44; p less than .025). This relationship between Version and weighted deviance scores is constant over all six rounds of the game, i.e., Version I dyads have higher weighted deviance scores than Version II dyads in all six rounds of the game.

According to the rules of the game, the parent can punish the child on those issues on which he discovers deviance in the form of broken orders and agreements. However, due to the greater number of opportunities the Version I parents have to punish deviance, the total number of points of punishment is not a meaningful measure of the punitiveness of the parents in the various experimental conditions. Instead, the number of points of punishment per discovered violation will be used to measure this tendency of the subjects to punish deviant behaviors.

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Table 3-13
Mean Number of Points of Punishment per Discovered Violation

Race:	SES:	Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	4.35	(1.47)	6	1.99	(1.23)
White	Lower	6	3.80	(1.96)	6	1.94	(1.64)
Black	Middle	6	3.02	(2.30)	6	2.86	(1.56)
Black	Lower	6	4.07	(1.60)	6	1.92	(0.97)

Total N = 48

Version I dyads make a higher average number of points of punishment per discovered violation than the Version II dyads in all cases, with the average number of points equal to 3.76 for the former, and 3.20 for the latter. This is true even though the range of punishment is less in the Version I dyads than in Version II dyads. White dyads punish an average of 3.01 points for each discovered violation, while black dyads average 2.95 points of punishment for each violation. Middle SES dyads are slightly more punitive than lower SES dyads, with the averages being 3.08 and 2.88 respectively.

Again, an analysis of variance was performed to determine the relative independent importance of each of the factors in influencing the average points of punishment scores.

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Table 3-14
Analysis of Variance: Number of Points of Punishment per Discovered Violation

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	.03	.03	0.01
SES	1	.18	.18	0.07
Version	1	31.98	31.98	12.08*
Race x SES	1	.37	.37	0.14
Race x Version	1	2.78	2.78	1.05
SES x Version	1	1.69	1.69	0.64
Race x SES x Version	1	4.58	4.58	1.73
Error	40	107.39	2.68	

*p less than .01

The difference between the Version I and II dyads is reflected in the significance at the .01 level by the above F-ratio. None of the other variables or interactions is shown to have a statistically significant independent effect on this variable.

Given the strong relationship between the version of the game and the average number of points of punishment given per discovered violation, one might expect the over-time relationship to show the same pattern.

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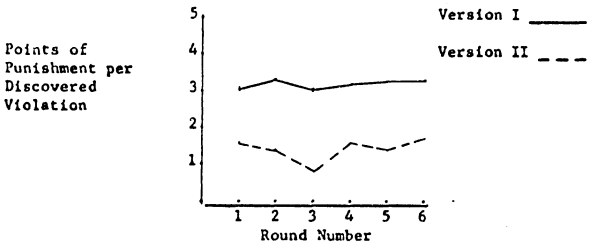
Figure 3-6
Mean Numbers of Points of Punishment per Discovered Violation
By Version



The magnitude of the punishment behaviors of the Version I dyads is almost constant over the six rounds of the game, ranging between 3.03 points and 3.44 points of punishment for each broken order or agreement discovered. The Version II dyads decrease the average amount of punishment pr violation between rounds one and three, and then show an up-down-up pattern between rounds four and six. However, the major difference between the two types of dyads is maintained over all six rounds, that is, the Version I dyads always punish a greater average number of points per discovered violation than the Version II dyads. Although there is no strong trend evident in the data, both types of dyads seem to be increasing the amount of punishment per violation over time, with the trend more regular for the Version I dyads.

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To summarize the results with respect to the punishment behaviors of the various types of dyads in the game, the following statements can be made.

1. Version I dyads make a higher average number of points of punishment per discovered violation of agreements and/or orders than Version II dyads, with the difference between versions significant at the .01 level by F-test. In addition, this difference is shown to be consistent over all six rounds of the game.

2. White dyads average 3.01 points of punishment per discovered violation, while black dyads average 2.95 points of punishment for the same behaviors.

3. Middle SES dyads are slightly more punitive than lower SES dyads, with the average number of points of punishment per discovered violation equal to 3.08 for the former, and 2.88 for the latter.

The only remaining category of variables to be examined is that which consists of the results of all of the previous behaviors: the points the dyads receive. As was the case with the average numbers of agreements, the two roles in the game can receive different average numbers of points, and these differences may be illustrative of important differences between the racial and SES groups in other areas. But first, an examination of the average total number of points per dyad is presented.

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Table 3-15
Mean Number of Points per Dyad (totals for six rounds)

Race:	SES:	Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	114.67	(45.34)	6	160.33	(12.99)
White	Lower	6	112.00	(37.82)	6	178.67	(19.87)
Black	Middle	6	124.17	(70.54)	6	149.50	(19.19)
Black	Lower	6	98.50	(47.76)	6	159.83	(22.42)

Total N = 48

Again, as was the case with many of the previous tables, Version I is predictive of a "poorer" performance, with Version I dyads averaging 112.33 points for the six games, and Version II dyads averaging 157.50 for the six games. In addition, white dyads average 141.42 points for the six rounds, as compared with 128.42 points for the black dyads. Middle SES dyads attain an average of 136.92 points, as compared with 132.92 for the lower SES dyads.

To determine whether any or all of these differences in the number of points obtained by the various categories of dyads are the result of significant independent effects of the design variables, an analysis of variance was performed using the total number of points each dyad received as the dependent variable.

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Table 3-16
Analysis of Variance: Total Numbers of Points per Dyad

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	850.08	850.08	0.56
SES	1	0.08	0.08	-
Version	1	29701.00	29701.00	19.51*
Race x SES	1	720.75	720.75	0.47
Race x Version	1	494.08	494.08	0.32
SES x Version	1	2436.80	2436.80	1.60
Race x SES x Version	1	168.75	168.75	0.11
Error	40	60885.00	1522.10	

*p less than .001

The only variable to show a significant relationship to the number of points the dyads receive is Version, with the difference between Version I and Version II significant at the .001 level. None of the other variables and none of the interaction terms is shown to be significantly related to the number of points the dyads receive. Thus Version I dyads are significantly less likely to attain as high an average number of points as the Version II dyads.

To determine whether this relationship between Version and number of points is constant over all rounds of the game, the following figure was calculated and drawn.

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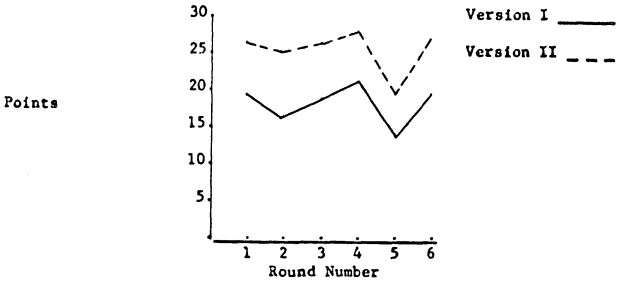
Figure 3-7
Mean Numbers of Points per Dyad per Round by Version



As can be seen in the above figure, the pattern of the average numbers of points per dyad remains constant between versions over all rounds of the game. Version I dyads always receive approximately the same number fewer points than the Version II dyads, although the magnitudes of the values vary widely from round to round. The conclusion based on this figure is that although other factors are obviously affecting the average numbers of points the dyads receive in the different rounds, both types of dyads are affected in the same way and to the same degree; with Version II dyads always superior to Version I dyads in the average numbers of points received.

With respect to the average numbers of points on the child's side of the board, the pattern is somewhat different.

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Table 3-17
Mean Number of Child Points per Dyad (totals for six rounds)

Race:	SES:	Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	76.00	(34.58)	6	101.67	(36.80)
White	Lower	6	77.00	(23.34)	6	91.33	(20.77)
Black	Middle	6	88.18	(35.03)	6	105.83	(13.38)
Black	Lower	6	57.50	(21.96)	6	74.50	(38.06)

Total N = 48

As is usual, Version II has a higher average number of points than Version I (93.33 versus 74.67) on the child's side. However, the middle SES dyads have almost as great an advantage over the lower SES dyads in the number of points on the child's side (92.92 versus 75.08). The difference between the white and black dyads on this variable is almost negligible (86.50 versus 81.50).

To determine whether these apparent effects of both SES and Version are independently influencing the average numbers of points on the child's side of the board, the following analysis of variance was performed.

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Table 3-18
Analysis of Variance: Total Numbers of Child Points per Dyad

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	300.00	300.00	0.35
SES	1	3816.30	3816.30	4.45*
Version	1	4181.30	4181.30	4.87*
Race x SES	1	2080.30	2080.30	2.42
Race x Version	1	21.33	21.33	0.02
SES x Version	1	108.00	108.00	0.13
Race x SES x Version	1	85.33	85.33	0.10
Error	40	34317.00	857.93	

*p less than .05

It is indeed shown to be the case that both Version and SES have statistically significant independent effects on the average number of points on the child's side for these particular dyads. The directions of the differences are that the middle SES dyads have significantly more (p less than .05) points on the child's side than the lower SES dyads, and the Version II dyads have significantly greater (p less than .05) numbers of points on the child's side than the Version I dyads.

To determine whether these differences between versions and between SES groups arise during the play of the game, or are constant over all rounds of the game, the following figures were calculated and drawn.

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Figure 3-8
Mean Numbers of Child Points per Dyad per Round by Version

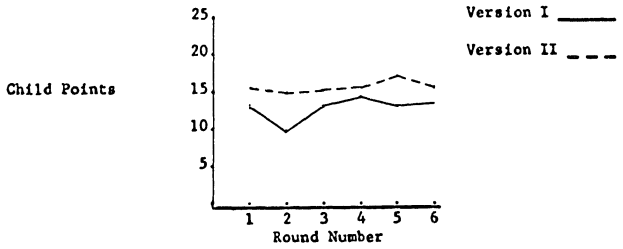
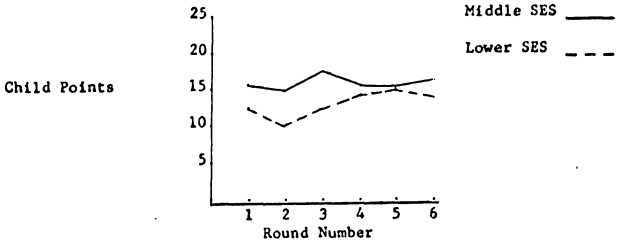


Figure 3-9
Mean Numbers of Child Points per Dyad per Round by SES



The effect of Version appears to be fairly constant over time, i.e., the Version II dyads have higher average numbers of points on the child's side in every round, and the differences between the versions are roughly of the same magnitude for all six rounds.

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This is not the case when the average number of points per dyad on the child's side is plotted over time according to the SES of the dyads. The significant difference noted in the summary statistics seems to be due almost entirely to what occurs in the first three rounds of the game. During these rounds, the middle SES dyads are clearly superior to the lower SES dyads in the average numbers of points on the child's side. However, during rounds four, five, and six, the differences between the middle and lower SES dyads have diminished to almost nothing, although the middle SES dyads still maintain a slight advantage in the numbers of points on the child's side in all rounds. A possible explanation of this pattern of results will be given later in the report.

On the basis of the results with respect to the average numbers of points on the child's side, one might expect the opposite pattern to be present in the results concerning the average numbers of points on the parent's side. This expectation would not be based on any necessary constraint of the rules or structure of the game, as there is no reason why dyads could not have a high average number of points on the child's side and on the parent's side.

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Table 3-19
Mean Numbers of Parent Points per Dyad (totals for six rounds)

Race:	SES:	Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	38.67	(27.79)	6	57.67	(35.38)
White	Lower	6	35.00	(40.82)	6	86.67	(35.30)
Black	Middle	6	36.00	(39.52)	6	43.67	(23.95)
Black	Lower	6	41.00	(32.86)	6	83.67	(53.75)

Total N = 48

The most obvious relationship in the above table is the relative advantage Version II dyads have as compared with Version I dyads in the average numbers of points on the parent's side, i.e., 67.92 for all Version II dyads versus 37.67 for all Version I dyads. Middle SES dyads also have lower average numbers of points on the parent's side than the lower SES dyads (44.00 versus 61.58), and white and black dyads are practically equal in the average numbers of points on the parent's side (54.50 for the white dyads; 51.08 for the black dyads).

To determine the unique importance of each of the design variables of Race, SES, and Version in predicting the average numbers of points on the parent's side, the following analysis of variance was performed.

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Table 3-20
Analysis of Variance: Total Numbers of Parent Points per Dyad

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	140.08	140.08	0.10
SES	1	3710.10	3710.10	2.69
Version	1	10981.00	10981.00	7.96*
Race x SES	1	290.08	290.08	0.21
Race x Version	1	310.08	310.08	0.22
SES x Version	1	3434.10	3434.10	2.49
Race x SES x Version	1	4.08	4.08	-
Error	40	55201.00	1380.00	

* p less than .01

Although the difference between the means of the SES dyads might indicate that SES has a significant effect on this variable, the above analysis reveals this is not the case. Only Version is shown to have a statistically significant effect on the number of points on the parent's side, with the Version II dyads having significantly higher average numbers of points on the parent's side than the Version I dyads.

The relationship between the numbers of points on the parent's side and the version of the game played over all six rounds is shown in the figure below.

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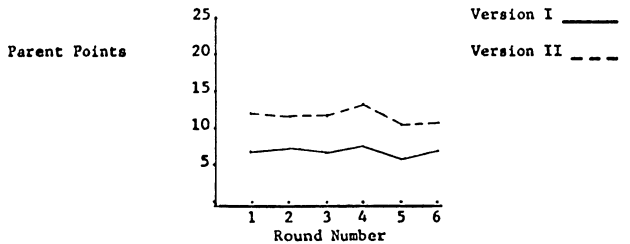
Figure 3-10
Mean Numbers of Parent Points per Dyad per Round by Version



Interpretation of the above figure is simply that the relationship between version of the game and the number of points on the parent's side is constant over all six rounds, with the Version II dyads always receiving a greater average number of points on the parent's side than the Version I dyads. The differences in the magnitudes of these scores per round is also remarkably stable over the six rounds of the game.

It would appear that this would complete the presentation of the section on behavioral results. However, due to one factor involved in the structure of the game, this is not quite true. The random allocation of the point cards means that certain distributions allow the dyads to receive more than thirty points for a particular round. An example will help illustrate this point.

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Suppose there are two rounds of the game. In round one, the distribution of the point cards for the parent and child are exactly the same, that is, the issue worth two points to the child is also worth two points to the parent, and the parent's four point issue is also the child's four point issue, etc. Further suppose that in round two, the distribution is such that the parent's ten point issue is the child's two point issue, and the parent's eight point issue is the child's four point issue, etc.

In round one, the maximum number of points the dyad could receive, assuming no punishment was given, is thirty points. In round two, the dyad could receive forty-two points with "perfect" play; that is, play that involved placement of the behavior markers on the higher point side of each of the five issues.

If one assumes random placement of the behavior markers, the effect of the different distributions of point cards would have no importance in the analysis of the behaviors of the game players. If, however, one assumes the players are being influenced in their play by the number of points assigned to each issue, the different distributions of point cards can be expected to make a difference in the dyads' behaviors, and hence in the number of points the dyads attain.

It was therefore decided to control for the differing distributions of point cards in the following way. Instead of comparing

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the total numbers of points the dyads receive, as was done earlier, it was decided to compare dyads according to the efficiency with which they received points, that is, to use as the dependent variable the efficiency scores of the dyads. The efficiency score is defined as the number of points the dyad received divided by the maximum number of points possible for the dyad to receive. This variable ranges in value between zero and one, with higher values indicative of more efficient attainment of points in the play of the game. It is a measure characteristic of the dyad, but not characteristic of the individuals who make up the dyad.

Table 3-21
Mean Dyad Efficiency Scores (x 100)

Race:	SES:	Version I			Version II		
		N	mean	(s.d.)	N	mean	(s.d.)
White	Middle	6	50.67	(21.24)	6	68.00	(5.40)
White	Lower	6	49.17	(15.01)	6	78.50	(8.84)
Black	Middle	6	58.83	(29.25)	6	66.17	(8.28)
Black	Lower	6	43.67	(21.50)	6	69.50	(8.80)

Total N = 48

As can be seen in the above table, the various types of dyads vary widely in their efficiency scores. The mean efficiency scores range between a low of .44 for the lower SES black Version I

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dyads to a high of .79 for the lower SES white Version II dyads. Collapsing the table on the variables of Race and SES allows one to compare the mean efficiency scores of the Version I and II dyads, with the resulting means equal to .49 for the former, and .71 for the latter. Similarly, middle SES and lower SES dyads have exactly the same mean efficiency scores, .60. White dyads average .61 on this measure, as compared with an average of .58 for the black dyads. Note that in all cases, the Version II dyads have higher efficiency scores and less variance in their efficiency scores than comparable Version I dyads.

Given this lack of differences between the racial and SES groups, and the strong difference between the means of the Version I and Version II dyads, it is not surprising to discover that Version is the only factor significantly related to the efficiency scores.

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Table 3-22
Analysis of Variance: Dyad Efficiency Scores

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	130.02	130.02	0.46
SES	1	3.52	3.52	0.02
Version	1	5397.50	5397.50	19.22*
Race x SES	1	188.02	188.02	0.67
Race x Version	1	54.19	54.19	0.19
SES x Version	1	487.69	487.69	1.74
Race x SES x Version	1	1.69	1.69	0.01
Error	40	11236.00	280.90	

*p less than .001

The strength of the association between Version and efficiency scores is perhaps surprising, with the difference between the Version I and Version II dyads significant at the .001 level in favor of the Version II dyads. None of the other factors is shown to have any effect at all on the efficiency scores.

When the relationship between the efficiency scores and the version of the game played is plotted for each round of the game, the following pattern is revealed.

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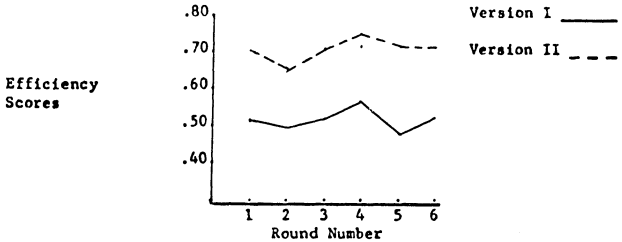
Figure 3-11
Mean Efficiency Scores per Dyad per Round by Version



From the above figure, it is obvious that the significant difference in the dyad efficiency scores of the two versions is constant over all rounds of the game, and does not develop as a result of experiences during the game. The figure also shows the magnitudes of differences between the dyad efficiency scores remain relatively constant over the six rounds, and that the pattern of change is similar for the Version I and Version II dyads. Note also that the patterns of the efficiency scores and the patterns of the total point scores (Figures 3-11 and 3-7) are not exactly the same; i.e., efficiency scores and total dyad points are not merely two indicators of the same thing.

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To summarize the results with respect to points received by the various types of dyads of the experimental design, the following statements can be made.

1. With respect to total points per dyad, the only significant variable shown to affect this index is Version, with the difference between the means of the Version I and II dyads significant at the .001 level by F-test. Although the differences are not significant, white dyads averaged 141.42 points per dyad for the six rounds, as compared with 128.42 points for the black dyads; middle SES dyads averaged 136.92 points, versus 132.92 points per dyad for the lower SES dyads. The relative advantage of the Version II dyads in the number of points received was shown to remain constant over all six rounds of the game, with Version II dyads always receiving more points on the average than Version I dyads.

2. With respect to points on the child's side, both variables of Version and SES are significantly related to the average number of points on the child's side (p less than .05 by F-test). The significant means are as follows: Version I dyads, 74.67 points; Version II dyads, 93.33 points; middle SES dyads, 92.92 points; lower SES dyads, 75.08 points. However, examination of the patterns of relationship between SES and Version over all six rounds of the game revealed differences in the patterns for the SES dyads and the Version dyads. Version II dyads were shown to have a constant advantage

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in the average number of points on the child's side as compared with the Version I dyads over all six rounds of the game, whereas the differences in the average numbers of points on the child's side between the middle and lower SES dyads became negligible as the number of the round increased. Although shown to be non-significant, the relationship between Race and number of points on the child's side is in the direction of the white dyads' having slightly more points on the average than the black dyads (86.50 versus 81.50).

3. With respect to points on the parent's side, the only variable shown to be significantly related to the average number of points on the parent's side is Version, with the difference between Version I and Version II significant at the .01 level by F-test. The means are 37.67 points for the former and 67.92 for the latter, and the differences remain constant over all six rounds of the game. The non-significant mean differences are in the following directions: white dyads 54.50 points, black dyads 51.08 points; middle SES dyads 44.00 points, lower SES dyads 61.58 points.

4. With respect to efficiency scores, the only variable shown to have a statistically significant relationship to this measure is Version, with the difference between Version I and II dyads significant at the .001 level by F-test. The means for the two versions are .49 for the Version I dyads, and .71 for the Version II dyads. The differences between the means of the two types

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of dyads remain constant over all six rounds of the game, and the magnitudes of the differences also remain constant over time. The direction of the non-significant differences in means for the racial and SES categories of dyads is as follows: white dyads .61, black dyads .58; middle SES dyads .60, lower SES dyads .60.

Questionnaire Results

As was stated in Chapter Two, various questionnaires were administered to the ninety-six subjects after they completed the playing of the game. For purposes of this report, only the fifteen items having to do with the children's perceptions of how punitive they believe their parents would be in situations similar to those described in the issues of Parent-Child, along with the responses to the modified version of the socialization sub-scale of the California Psychological Inventory, will be examined. The other items, while perhaps interesting in themselves, do not have any direct relationship to the problams and questions at issue in the present report, and thus will not be analyzed.

The first group of questions to be examined is that in which the subjects were asked to write what they thought their parents would do in situations in real life similar to the situations present in the issues of Parent-Child. These five items form the "Open-ended Perception of Punishment Scale," and consist of the following questions.

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1. "What would happen if your parents thought you were coming straight home from school, but you stayed and played ball for an hour without telling them, and were an hour late. What would your parents do?"

2. "What would happen if your parents thought you had agreed to clean up your room one weekend, but you didn't do it. What would your parents do?"

3. "What would happen if you wanted to wear your hair one way, and your parents wanted you to wear it another way?"

4. "What would your parents do if you brought home a lost dog and wanted to keep him as a pet?"

5. "What would your parents do if you wanted to go on a trip with the school on the same day your parents wanted to visit relatives who lived outside of Baltimore?"

The responses to each of the questions were coded "zero" if the written response did not mention punishment, and "one" if the written response did mention punishment as the behavior the child believed the parent would perform under the conditions described in the question. The probabilities of positive responses to each of the items are as follows for the various categories of subjects.*

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*The distributions of the questionnaire responses are not given by version of the game played. This is because an analysis of variance of the questionnaire responses of the experimental group revealed no significant "Version effect." In addition, analysis of

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Table 3-23
Mean Probabilities of Positive Responses to the Items of the "Open-Ended Perception of Punishment Scale" by Race and SES

			Average Probability of Positive Responses				
		Item Number:	1	2	3	4	5
Race:	SES:	N					
White	Middle	24	.92	.63	.17	.08	.04
White	Lower	24	.63	.71	.04	.08	.08
Black	Middle	24	.71	.50	.08	.04	.00
Black	Lower	24	.83	.96	.50	.13	.21
All Subjects		96	.77	.70	.20	.08	.08

the effect of Version on the responses of the control group showed the same lack of significant effect of Version. Both of these analyses were performed using the standard anlaysis of variance model, and testing the F-ratios of the experimental "Version effect" and the control "Version effect" respectively. In no instance was there a significant main effect for Version or a significant interaction between Version and the other variables. A third analysis of variance revealed no significant "Experimental-Control" difference in the questionnaire responses of the two groups. On the basis of these results, it was concluded that playing the game did not have any significant effect on the questionnaire responses, nor did Version.

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To determine the reliability of these items as a five item scale, the KR-20 formula was applied to the responses from the entire experimental group, with the result that a KR-20 coefficient of .598 was produced. On the basis of this coefficient, the items are considered to meet the minimum criterion of reliability to be considered a reliable scale, and the individual items will not be used further in the analysis.

A test for another type of scalability was performed on the responses of the experimental group to this group of items, i.e., a test of whether the responses to these items can be considered to meet the requirements of a Guttman Scale. In this instance, a Coefficient of Reproducibility of .95 was found, as compared with a chance Coefficient of Reproducibility of .65.

Given the result that both the KR-20 and Guttman Scale coefficients indicate the items do form a reliable and internally consistent scale, the total "Open-Ended Punishment Score" will be used as a basis of comparison between the four racial and SES categories of individuals.

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Table 3-24
Mean "Open-Ended Punishment Score" by Race and SES

			Open-Ended Punishment Score	
Race:	SES:	N	mean	(s.d.)
White	Middle	24	1.83	(1.09)
White	Lower	24	1.54	(1.02
Black	Middle	24	1.33	(0.96)
Black	Lower	24	2.63	(1.17)
All Subjects		96	1.83	(1.15)

As the above table shows, the group that perceives its parents to be the most punitive is the lower SES black group. To determine the independent effects of Race and SES on the above variable, the following analysis of variance was performed.

Table 3-25

Analysis of Variance: "Open-Ended Punishment Scores"

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	2.04	2.04	1.81
SES	1	6.00	6.00	5.30*
Race x SES	1	15.04	15.04	13.27**
Error	92	104.25	1.13	

*p less than .05
**p less than .01

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Both SES and the interaction of Race and SES have significant effects on the total "Open-Ended Punishment Score." Lower SES subjects are significantly more likely to say their parents would be punitive in the situations described in the scale items than are the middle SES subjects, and the lower SES black subjects are significantly more likely to say their parents are punitive than the middle SES black subjects; while the middle SES white subjects are more likely to report their parents are punitive than the lower SES white subjects.

The next group of five items to be examined are those labelled "Forced-Choice Agreement" items, and they consist of the following questions.

1. "If you told your parents you were coming straight home after school, and you stayed and played ball for an hour without telling them, would you be punished?"

2. "If you told your parents you would clean up your room one weekend, but you didn't do it, would you be punished?"

3. "If you agreed to get your hair cut the way your parents wanted, but instead let if grow the way you wanted it, would you be punished?"

4. "Would you be able to keep a lost dog you brought home as a pet?"

5. "Would you be punished if you went on a trip with the school without your parents' permission?"

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The situations described in the above items were meant to represent situations in which the child has either tacitly or explicitly made or assumed an agreement between himself and his parents, and then has violated the agreement. The items ask the child to respond whether he thinks his parents would punish him for violations of this type of situation by circling a "yes" or "no" on an answer sheet. The groups do differ in their probabilities of responding positively to the items, as shown in the table below.

Table 3-26
Mean Probabilities of a Positive Response to the Items of the "Forced-Choice Agreement" Punishment Scale

			Average Probability of Positive Responses				
		Item Number:	1	2	3	4	5
Race:	SES:	N					
White	Middle	24	.71	.46	.42	.29	.75
White	Lower	24	.58	.63	.42	.17	.63
Black	Middle	24	.67	.33	.46	.38	.58
Black	Lower	24	.83	.63	.54	.29	.63
All Subjects		96	.70	.51	.46	.28	.65

To determine whether these five items meet the criteria for a reliable scale, the KR-20 formula was applied to the set of responses pertaining to these items from the ninety-six subjects of the experimental group, and the resulting KR-20 coefficient

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was equal to .257 for the scale composed of these five items.

In addition, the degree of fit between the patterns of responses of these items and the Guttman Scale criteria was tested, with a resulting Coefficient of Reproducibility of .87, as compared with a chance Coefficient of Reproducibility of .31.

On the bases of these two tests of reliability of the items, it was decided to aggregate the responses to the five items into a summary scale score, and use this summary score in the further analysis.

Table 3-27
Mean "Forced-Choice Agreement" Scale Scores by Race and SES

			"Forced-Choice Agreement" Scores	
Race:	SES:	N	mean	(s.d.)
White	Middle	24	2.63	(1.28)
White	Lower	24	2.29	(1.24)
Black	Middle	24	2.42	(1.02)
Black	Lower	24	2.92	(1.28)
All Subjects		96	2.59	(1.20)

Again, the lower SES black subjects are the most likely to report that they believe their parents would punish them in the situations described in the items of this scale. The mean scale score for the white subjects is 2.46; for the black subjects,

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2.66; for the middle SES subjects, 2.52; and for the lower SES subjects, 2.60.

An analysis of variance was performed using the "Forced-Choice Agreement" scale scores as the dependent variable, with the result that neither of the main effects of Race or SES nor the Race x SES interaction term was shown to be statistically significant in determining these scale scores, as all F-ratios are insignificant at the .05 level.

The third group of five items is the "Forced-Choice Order" items, and they are as follows.

1. "Would you be punished if your parents ordered you to come straight home after school one day, but you didn't come straight home?"

2. "Would you be punished if your parents ordered you to clean up your room, and you didn't clean it up?"

3. "Would you be punished if your parents ordered you to get your hair cut, but you didn't get it cut?"

4. "Would you be punished if you kept a lost dog as a pet even though your parents ordered you to get rid of the dog?"

5. "Would you be punished if your parents told you that you couldn't go on a trip with the school, but you went on the trip anyway?"

These items were designed to represent situations in which the parents have explicitly ordered the child to do a particular action, and the child does not perform the action. The items ask the child directly whether he believes his parents would punish

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him for this type of behavior. As was the case with the other two types of questions, the groups differ in their probabilities of responding positively to the items.

Table 3-28
Mean Probabilities of a Positive Response to the Items of the "Forced-Choice Order" Punishment Scale

			Average Probability of a Positive Responses				
		Item Number:	1	2	3	4	5
Race:	SES:	N					
White	Middle	24	.75	.96	.79	.50	.83
White	Lower	24	.67	.71	.58	.54	.75
Black	Middle	24	.67	.96	.71	.71	.96
Black	Lower	24	.88	.83	.75	.67	.63
All Subjects		96	.74	.86	.71	.63	.79

As was the case for the two previous groups of items, the KR-20 formula was applied to the data pertaining to the responses of the experimental group to these five items, with a resulting KR-20 coefficient of .597. The same responses were tested according to the Guttman Scale criteria, and the Coefficient of Reproducibility for these items is equal to .91, as compared with a chance Coefficient of Reproducibility of .44. On the bases of these two tests, it was decided the items meet the requirements of a reliable scale, and the summary scale scores will be

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employed in the further analyses.

Table 3-29
Mean "Forced-Choice Order" Scale Scores by Race and SES

			"Forced-Choice Order" Scores	
Race:	SES:	N	mean	(s.d.)
White	Middle	24	3.83	(1.31)
White	Lower	24	3.33	(1.71)
Black	Middle	24	4.00	(1.22)
Black	Lower	24	3.79	(1.10)
All Subjects		96	3.73	(1.33)

An analysis of variance was performed on the "Forced-Choice Order" Scale Scores, and none of the variables of Race, SES, or Race x SES was shown to have a significant relationship to this index of parental punishment. Thus the difference between the white subjects and the black subjects (3.59 versus 3.90) in these mean scale scores is not shown to be significant, and neither is the difference between the means of the middle and lower SES subjects (3.92 versus 3.56).

It was decided to combine all fifteen items into a "Total Perception of Punishment" Scale, and determine whether the total number of times the parent was believed to punish the child might be related to either Race or SES. Even though the individual

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scale scores might not show a significant relationship to the variables of Race and SES, the total scale scores might show a significant relationship.

Again, the KR-20 formula was applied to the fifteen sets of responses by the ninety-six subjects, with a resulting KR-20 coefficient of .657. On the basis of this coefficient, it was decided the fifteen items do comprise a reliable scale, and the total scale scores are used in the further analyses.

Table 3-30
Mean "Total Perception of Punishment"Scale Scores by Race and SES

			"Total Perception of Punishment" Scores	
Race:	SES:	N	mean	(s.d.)
White	Middle	24	8.29	(2.63)
White	Lower	24	7.25	(3.05)
Black	Middle	24	7.75	(2.03)
Black	Lower	24	9.30	(3.64)
All Subjects		96	8.15	(2.67)

It appears there is an interaction between Race and SES in the means of the above table, in that the middle SES white subjects and the lower SES black subjects are the most likely to perceive their parents as punitive. To determine whether this apparent interaction is statistically significant, the following analysis of variance was performed.

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Table 3-31
Analysis of Variance: "Total Perception of Punishment" Scale Scores

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	13.50	13.50	1.98
SES	1	1.50	1.50	0.22
Race x SES	1	40.04	40.04	5.88*
Error	92	626.92	6.81	

*p less than .05

The fact the Race x SES interaction is shown to be significant at the .05 level should not be surprising, since the direction of this difference is present in two of the three sub-scales which comprise the total scale. In both the "Open-Ended" and "Forced-Choice Order" scales, the interaction was present, although it reached the .05 level of significance only for the latter sub-scale.

The main effect differences, although not statistically significant, are as follows: white subjects perceived their parents as punitive in an average of 7.77 situations of the 15 total, as compared with an average of 8.53 for the black subjects. The corresponding averages for the middle and lower SES subjects are 8.00 and 7.23.

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To summarize the results from the questionnaire responses, the following statements are true for the subjects of the experimental group.

1. With respect to the "Open-Ended Punishment" scale scores, the lower SES subjects are significantly more likely to report punitiveness of their parents than are the middle SES subjects (p less than .05 by F-test). In addition, there is a significant (p less than .01) interaction between Race and SES on this measure, with the middle SES white subjects having higher scores than the lower SES white subjects, but the lower SES black subjects having higher average scores than the middle SES black subjects.

2. With respect to the "Forced-Choice Agreement" scale scores, neither race nor SES nor their interaction is shown to have any significant relationship to this measure. The non-significant means for the main effect groups are as follows: white subjects, 2.46; black subjects, 2.66; middle SES subjects, 2.52; lower SES subjects, 2.60.

3. With respect to the "Forced-Choice Order" scale scores, neither Race nor SES nor their interaction is shown to have any significant relationship to this measure. The means for the main effect categories are as follows: white subjects, 3.59; black subjects, 3.90; middle SES subjects, 3.92; lower SES subjects, 3.56.

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4. With respect to the "Total Perception of Punishment" scale scores, an analysis of variance revealed no significant main effects of Race or SES, but a significant (p less than .05) Race x SES interaction, with the direction of differences the same as reported above for the "Open-Ended Punishment" scale scores. The non-significant means for the main effect groups of subjects are as follows: white subjects, 7.77; black subjects, 8.53; middle SES subjects, 8.00; lower SES subjects, 7.23.

It thus appears the form of the question has an important effect on the responses of the subjects in the present situation. On an open-ended question, the lower SES subjects are significantly more likely to mention punishment than are the middle SES subjects. Also, the open-ended items have a differential effect on the responses of the subjects according to their race and SES, with the middle SES white subjects more likely than the lower SES white subjects to mention punishment; while the lower SES black subjects are more likely than the middle SES black subjects to mention punishment. It appears the two types of subjects more concerned with parental punishment are the middle SES whites and the lower SES blacks, if one uses only the responses from the open-ended questionnaire.

However, with the forced-choice items, the significant Race x SES interaction disappears, as does the significant SES effect. In situations where the child is presented as breaking

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an order or agreement, and forced to respond whether he thinks his parents would punish him, the differences between racial an SES groups are shown to be non-significant at the .05 level.

The only remaining questionnaire to be examined is the forty-four item socialization sub-scale of the California Psychological Inventory. The distributions of the mean So scale scores by racial and SES groups is as follows.

Table 3-32
Mean Socialization Sub-Scale Scores by Race and SES

			Socialization Sub-Scale Scores	
Race:	SES:	N	mean	(s.d.)
White	Middle	24	23.96	(4.34)
White	Lower	24	22.17	(4.90)
Black	Middle	24	22.08	(2.89)
Black	Lower	24	21.79	(3.02)
			Total N = 96	

As can be seen in the above table, the most striking result is the lack of differences between groups in their mean So scores. An analysis of variance confirmed this result, in that none of the design variables and none of the interaction terms was shown to be significantly related to the So scores. This finding allows one to conclude provisionally that the So scores are not significantly related to the variables of Race

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or SES, and the So scores may be used as an independent measure of the socialization levels of the subjects without being concerned with interactions between the So scores and the design variables. It is true, however, that the white subjects have slightly higher average So scores than the black subjects (23.06 versus 21.94) and the middle SES subjects have slightly higher So scores than the lower SES subjects (23.02 versus 21.98).

In the preceeding sections the relationships between the design variables of Race, SES, and Version and the dependent variables of the game behaviors and questionnaire responses were examined in detail. The overall conclusion that can be drawn from these examinations is that Race and SES are in general not significantly related to the behaviors of the dyads in the game except in a few specific instances (average number of agreements on the parent's side and child's side of the board; number of points the person playing the role of child receives), while the version of the game played is shown to have a significant relationship to nine of the behavioral dependent variables. The pattern of significant relationships between the design variables of Race, SES, and Version; and the dependent behavioral variables is summarized in the table below.

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Table 3-33
Probabilities of the Relationships between the Design Variables and the Dependent Behavioral Variables Occuring by Chance by F-test

Dependent Behavioral Variable:	Design Variable: Race	SES	Version
1. Total Number of Agreements	-	-	.1
2. Agreements on Child's Side	.05	-	-
3. Agreements on Parent's Side	.06	-	-
4. Number of Orders	-	-	.1
5. Probability of Breaking an Unfavorable Agreement	-	-	.1
6. Probability of Breaking an Order	-	-	-
7. Raw Deviance	-	-	.01
8. Weighted Deviance	-	-	.025
9. Punishment per Discovered Violation	-	-	.01
10. Total Points	-	-	.001
11. Points on Child's Side	-	.05	.05
12. Points on Parent's Side	-	-	.01
13. Efficiency Scores	-	-	.001

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Now, instead of merely examining the pattern of the significant relationships, let us examine the "predictive power" of the design varaibles, taken as a unit, in accounting for the variation in the behavioral measures involved in the play of Parent-Child. "Predictive power" is defined as the proportion of total variance explained or uniquely attributable to the design variables. Two techniques are available for this type of analysis: comparing the sums of squares (from the analysis of variance tables) with the total sums of squares, or performing multiple linear regression analyses using the design variables as the predictor variables and the behavioral data as the dependent variables. Both techniques will provide a measure of "amount of variance explained" but the multiple linear regression analyses will provide in addition other types of information about the relationships of the variables not available with the analysis of variance technique. Examples of these other types of information are partial correlation coefficients between all variables, t-values for each regression coefficient, coefficient of alienation, etc. In the table below is given the amount of variance attributable to the design variables as a group, excluding the effects of their interactions (which were shown to be non-significant in every instance).

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Table 3-34
Proportion of Variance Explained in Each Dependent Behavioral Variable by the Design Variables (excluding the proportion attributable to their interaction)

Dependent Behavioral Variable:	Race, SES, and Version Predict:
1. Total Number of Agreements	8.1% of the variance
2. Agreements on Child's Side	18.1% of the variance
3. Agreements on Parent's Side	11.6% of the variance
4. Total Number of Orders	8.0% of the variance
5. Probability of Breaking Any Unfavorable Agreement	11.6% of the variance
6. Probability of Breaking Any Order	4.8% of the variance
7. Raw Deviance	18.8% of the variance
8. Weighted Deviance	15.5% of the variance
9. Points of Punishment per Discovered Violation	21.2% of the variance
10. Total Number of Points	32.1% of the variance
11. Number of Points on the Child's Side	18.5% of the variance
12. Number of Points on the Parent's Side	20.0% of the variance
13. Efficiency Score	31.6% of the variance

It is possible to break down the proportion of variance attributable to the design variables into finer categories, such as that uniquely attributable to Race, or to SES, or to Version, or any of the possible combinations of the variables and their

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interaction terms. However, this analysis would tend to duplicate the analysis of variance tests of significance, in that those variables shown to have significant relationships to the dependent variables by F-tests derived from these analyses of variance would be the variables explaining or accounting for the largest proportion of the total variance explained by the group of design variables taken as a whole. As is usually the case, the form of the question determines the type of analysis. In the present case, the effect of the design variables as a whole was the question at issue; other questions would involve other types of analyses and/or combinations of variables.

In the case of the prediction of the questionnaire responses, the fact that the design variable of Race and SES were shown to interact significantly makes a presentation of results as given above less meaningful. In this case, one wishes to know the unique effect of each of the design variables and their interaction term and the total effect of all the variables taken as a whole. However, since it was assumed and demonstrated that the effect of Version on these responses was non-significant, the results are given below in terms of the amount of variance associated uniquely with Race, SES, Race x SES, and all of the variables as a group.

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Table 3-35
Proportion of Variance Explained in Each Questionnaire Scale by Race, SES, Race x SES, and Total Group

Dependent Variable:	Variance Associated with: Race:	SES:	Race x SES:	Total Group:
1. Open-Ended Scale Scores	1.6%	4.7%	11.8%	18.1%
2. Forced-Choice Agreement Scale Scores	0.5%	0.3%	2.4%	3.2%
3. Forced-Choice Order Scale Scores	1.3%	1.7%	0.3%	3.2%
4. Total Perception of Punishment Scale Scores	2.0%	0.2%	5.9%	8.1%

One final group of associations will be examined in this chapter to indicate yet another type of analysis possible with simulation game data. These associations are between the questionnaire results and the behavioral results. However, due to the fact that the questionnaire responses are collected from individuals, the comparisons have to be between the individual behaviors occurring in the game, rather than the dyad behaviors that have been utilized previously in this report.

In the previous section, the results of the questionnaires were examined, and it was discovered that there was a significant Race x SES interaction in the subjects' perceptions of how punitive they felt their parents would be in situations similar to those oc-

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curring in Parent-Child. The question to be examined is whether the perceptions of how punitive the subjects feel their parents to be has any relationship to how the subjects behave in the game.

Recall that in every case in the questionnaires, the black subjects reported on the average their parents would be more punitive than the white subjects reported their parents would be. If this relationship holds for the game, the black subjects should be more punitive than the white subjects in their game behaviors also, and therefore there should be a positive correlation between being black and the average number of points of punishment given per discovered violation. The correlation between these two variables is .106 for the present sample, which is in the predicted direction, but the magnitude of the correlation coefficient is not large enough to be considered statistically significant at the .05 level of significance.

With respect to the question of whether the significant Race x SES interaction present in the questionnaire results is repeated in the behaviors of the individuals in the game, the results are as follows.

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Table 3-36
Mean Numbers of Points of Punishment Given by Race and SES

Race:	SES:	N	Mean Number of Points of Punishment Given: mean	(s.d.)
White	Middle	24	21.25	(20.40)
White	Lower	24	19.08	(20.35)
Black	Middle	24	23.63	(22.47)
Black	Lower	24	26.00	(25.44)

The results of the above table of behavioral means is in agreement with the patterns of the means of the questionnaire responses. The white middle SES parents are perceived as being more punitive than the white lower SES parents, and the white subjects playing the game show the same pattern of punitiveness. In like manner, the patterns of punitiveness of the black parents and players are consistent, with the lower SES black parents reported to be more punitive than the middle SES black parents, and the lower SES black players acting more punitively than the middle SES black players.

This correspondance between the behaviors of the children and their perceptions of the behaviors of their parents in similar situations is supportive of an interpretation that the experiences of the children in their homes, or at least their perceptions of these experiences, have an effect on the way the children play the game.

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It seems that on the average, the various racial and SES groups are likely to respond differently about how punitive they perceive their parents to be in particular situations, and these different perceptions are related in specific ways to the ways the groups behave in their play of Parent-Child. Thus, if the conclusion is valid that the children's perceptions of experiences in their families are influencing their behaviors in the game, when they are considered as members of particular racial and SES groups, then the other behavioral differences discovered in the preceeding analyses may also be related to differences in socialization practices occurring between the families of the same groups. Admittedly, the link between the actual practices occurring in the families and the behaviors occurring in the game is tenuous, and the measure of the actual practices is less than perfect, being merely the responses of the subjects to fifteen items that ask what the child thinks his parents would do in particular situations. However, the patterns of how the subjects perceive their parents would behave is repeated in the subjects' behaviors in the game, and this fact allows one to maintain the position that the behaviors in the game are based at least in part on how the subjects' parents do behave.

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To summarize the results and discussion of this section, it can be said that the results from the game play and the questionnaires lend themselves to a variety of techniques of analysis. Examples were given which showed how multiple linear regression analyses can be applied to the data in order to answer questions about the predictive power of the design variables in explaining the behaviors occurring during the game. It was also shown how certain of the questionnaire responses of the individuals concerning their perceptions of how punitive they felt their parents were are associated with behaviors of the children in the game when the means of the various racial and SES groups are compared. Greater mean scores in the questionnaire scales of perception of parental punishment were shown to be associated with greater mean scores of punishment in the game when the racial and SES groups are the units of analysis.

These examples were given for one purpose: to demonstrate ways of employing the data derived from Parent-Child in particular and from simulation games in general in order to study relationships between variables not so easily analyzed as with this technique.

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Chapter Four - Discussion and Conclusions

As was stated in the introductory chapter of this report, the results of the present research are to be applied to three separate areas: the utility of Parent-Child as a social psychological research technique; the correspondance between the present results and previous results in the general area of socialization practices and attitudes with respect to the area of social control; and a discussion of the present results as they apply to theories of deviant behavior in particular systems of social control.

The Utility of Parent-Child as a Social Psychological Research Technique

On the basis of results presented in Chapter Three, the general conclusion can be made that Parent-Child is a useful technique for gathering certain types of information directly about socialization-related behaviors and indirectly about socialization-related attitudes, in particular with respect to the area of social control attitudes. The major advantage of this technique as compared with more traditional techniques is its ability to structure the system in which behavior takes place without restricting the behaviors of the individuals in the system. Assuming that behaviors of real persons in real situations are what social scientists wish to study and understand, the simulation game technique, as demonstrated here in the particular case of Parent-Child, allows measurement and

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observation of the next best thing: behaviors of persons in "almost real" situations. The behaviors in the game are constrained only by the rules and structures of the game, and the subjects are free to vary their behaviors according to their wishes and definitions of the situation, rather than according to the wishes of the experimenter. The advantage of this technique as compared with the questionnaire technique of eliciting statements of how persons would act in particular situations needs no elucidation: actual behaviors are of necessity better measures of behaviors than are questionnaire responses measures of behaviors. Only if one is interested in knowing how people respond to questions (as for example in attitude measurement) is the questionnaire technique preferable.

It is realized there are certain behaviors which are impossible to observe directly, or even to simulate, e.g., sexual behavior. In this case, questionnaire information is the only information normally available to the social scientist. However, the rationalizations and excuses social scientists offer for relying on questionnaire results concerning behaviors appear to be just that: excuses. Through more imaginative techniques of observation of behaviors, such as simulation games, it is believed a better understanding of the behaviors of persons in social situations will be developed, and as a result of this better understanding, more complete theories of individual and group behavior can be formulated and tested.

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With respect to more specific advantage of Parent-Child as a research instrument, it was discovered in analyzing the results of the present study that most of the behaviors which occur in the play of the six rounds of the game remained remarkably stable with respect to the patterns of differences between the various racial and SES categories of players. This gives one confidence in the results obtained with this technique one would not have if the behaviors had varied widely or irregularly from round to round according to the types of players.

In addition to the over-time stability of the results, the stability in the effects of the design variable of Version was also remarkable. Version II dyads were almost always significantly "better" (more agreeable; less deviant) than the Version I dyads. This stability is in spite of large variation in the verbal processes of agreement, ordering, and punishment that did occur in the game but which was not coded nor analyzed. For example, some Version II dyads would make agreements without saying more than five or ten words, while other Version II dyads would discuss the situation completely before arriving at an agreement or an order. Yet in spite of all this "noise" in the system, the behavioral results show a pattern of stability in both time-related and design variable-related features.

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Thus the technique can provide measures of behaviors that are meaningful in that they are (1) actual behaviors of persons in "almost real" situations, (2) stable over time, and (3) shown to vary significantly according to the characteristics of the participants and the structure of the game situation.

In this particular instance, the experimental variation of Version was included to allow the testing of hypotheses concerning behaviors of social control agents and actors under differing social structural conditions of reward and visibility of deviant behaviors. The technique is not limited to manipulations of this sort; in fact, the structures of the game can be varied in many different ways according to the questions and interests of the researcher.

For example, one could vary the rules of the game such that parents could punish more than the number of points the child receives for his deviant behavior. This would be congruent with a model of parent-child interaction in which the parent has the power to apply both positive and negative sanctions to the child, and in which the parent has the power to punish more than the child has the power to punish (reduce satisfaction). It can be assumed that a change in the sanctioning system such as the above would have important and significant effects on the behaviors of the players.

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In addition to the properties of the game discussed so far, mention should be made of the advantage of simulation games such as Parent-Child in collecting sequential and/or contingent behaviors. Although this advantage was not fully utilized in the analyses of the present report, it is one of the most important features of simulation games in general and Parent-Child in particular. Since the rules of the game call for certain behaviors in particular sequences, it is relatively easy for the experimenter to code and analyze these sequential behaviors, and thus increase the depth of his analysis of the behaviors by being able to analyze the paths of behaviors, rather than the outcomes of an unknown or uncoded process. This emphasis on the process of interaction that occurs during the play of simulation games also tends to make the researcher aware of features of the process he might otherwise ignore or disregard if he is merely interested in outcome or end-point behaviors. This is not to imply that other techniques of data collection do not allow for the examination of the processes of contingent behaviors; but it is to state that the simulation game technique makes the collection and analysis of these sequential, contingent behaviors easier than other techniques.

As a final advantage, the particular experimental variation in the version of the game did not have differential effects on the play of the subjects in the present sample, i.e., there were

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no significant Version x Race, Version x SES, or Version x Race x SES interaction with any of the behavioral dependent variables. There were significant main effect differences in these behavioral variables, however. This lack of significant interactions makes the use of the two versions of the game easier, as explanations of interaction effects of Version with the other factors would of necessity be very complex.

In the interests of an unbiased presentation, mention should be made of the disadvantages of Parent-Child as a research technique. Foremost among the disadvantages is the wide variation in behaviors that can be produced by slight or subtle differences in the experimental situation, either from one administration to another, or between one administrator and another. In the present research, the effect of different administrators was controlled by having only one person do all the game administration. The effect of differences in administration was controlled by having the instructions written in very detailed form, and emphasizing the necessity of keeping the experimental situations as much alike as possible. It is likely that if the instructions had been more general, or if there had been more than one administrator, the results would have been affected. (See Baldwin, 1969, for a discussion of this problem in simulation game research in more general terms.)

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In addition to the sensitivity of the technique to slight changes in administration or experimental conditions, there is a problem that the measures from this technique are so situation-specific they have no meaning outside of the context in which they were collected. It could be argued that the only thing simulation games are measuring is differences in how people play games, and not how people differ in more general behavioral and/or attitudinal tendencies. The only refutation of this argument is to demonstrate the differences in the behaviors in the game are associated with similar differences in other situations. Needless to say, questionnaire responses, or in fact any data pertaining to behaviors are open to the same criticism, i.e., that they are situation-specific, and not generalizable to other situations.

It is realized that the issues in the current versions of Parent-Child are rather specific, and perhaps do not represent adequately the range of situations that occur in families; and are thus misrepresentative of the "real" family situations. However, the situations described in the issues are general in that each issue poses a situation in which the parent and child have opposing interests and similar or different satisfaction weights attached to the particular outcomes of these situations. In these respects, the issues of the game provide concrete instances of more general situations that do occur in families, and to the extent the

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particular content of the issues does not interfere with the resolution of the more general problem of conflicting interests and satisfaction, to this degree are the results of the issue-specific behaviors applicable to the more general issues of human behavior as it occurs in particular social systems.

However, when the advantages and disadvanatages of the technique are compared, it appears the advantages far outweigh the disadvantages. The type of information research techniques such as Parent-Child can provide is that type most needed for a clearer understanding of social behaviors of persons in particular social structural conditions: information about their mutually-contingent sequential behaviors.

Previous and Present Results with respect to Racial and Social Class Differences

The major finding of the present research with respect to racial and social class differences is a negative finding: race and social class, as measured by the procedures described in this report, do not prove to be significant factors in the behaviors of the subjects who played Parent-Child except in three particular instances. Race was a significant factor only in the number of agreements the black and white dyads made on the parent's and the child's side; with the black dyads making significantly more agreements on the parent's side and the white dyads making significantly more agreements on the child's side. Social class was a significant factor

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only in the average number of points on the child's side, with the middle SES dyads receiving a significantly larger number of points on the child's side than the lower SES dyads.

This lack of significant results might seem at first surprising, given the large numbers of previous studies which have found large differences in attitudes and behaviors between racial and social class groups and/or individuals. The lack of differences between the racial and SES groups in the current research might be thought due to the insensitivity of the measurements of the game, rather than to a situation in which the game results represent the "true" or "real" situation. It could be the particular simulation game is just not sensitive, for any number of reasons, to the "real" differences that (are believed to) exist between persons of the racial and social class categories.

However, the results show there were patterns of differences between the racial and SES groups that are consistent with previous findings, although the magnitudes of these differences are not great enough to be considered statistically significant. In the majority of cases, as one would expect from previous results, the white and middle SES dyads performed the behaviors "better" than the black and lower SES dyads. For example, the white dyads had higher average efficiency scores than the black dyads, were less punitive than the black dyads, were less deviant than the black dyads, etc.,

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although the differences between the groups were not statistically significant. Thus the technique does reveal a general pattern of differences in which the white and middle SES dyads are "better" than the black and lower SES dyads on a majority of the behavioral measures used as dependent variables. This relative advantage of the white and middle SES dyads is especially noticeable in those variables relating to points. In four out of four cases (total points, points on the child's side, points on the parent's side, and efficiency scores) the white dyads had higher mean scores than the black dyads. In three out of four of these same measures, the middle SES dyads had higher mean values than the lower SES dyads, with the number of points on the parent's side the only variable in which the lower SES dyads received a higher mean score than the middle SES dyads.

The present results tend to support those previous findings which report a general tendency for white subjects or groups to perform better or more efficiently than black subjects or groups; and that middle SES subjects or groups are likely to be more efficient or better than lower SES subjects or groups on certain behavioral measures.

As for the hypotheses stated in Chapter One relating the particular race and social class groups on the various measures involved in the play of the game, only in one case of thirteen did

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the predicted ordering of the four groups occur in the data. Recall that the predictions were of the following form: middle SES white dyads are expected to be "better" than middle SES black dyads are "better" than lower SES white dyads are "better" than lower SES black dyads; and the differences between the white and black middle SES dyads are expected to be less than the differences between the lower SES white and black dyads, and also less than the differences between the middle SES black dyads and the lower SES white dyads. (Refer to Figure 1-1.) This ordering of the groups according to their means for the various behaviors did not reveal itself in the results of the present research, and the reason seems to be as follows.

The effect of Version is so strong and pervasive that the effects of Race and SES are minimal in comparison. Thus the effects of Race and SES taken together do not account for much of the total variance in the behaviors used as dependent variables, and the predictions based on an assumption that these variables were both important determinants of the behaviors involved in the game are found to be not true.

With respect to the more specific behaviors having to do with social control behaviors, the present results are again supportive of those findings which report a greater concern with the social control of children among whites than among blacks, and a

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greater tendency for middle SES parents to be more concerned with the deviant acts of their children than lower SES parents (e.g., Z. Blau, 1964; Moynihan, 1965; Swinehart, 1963). This is revealed in the fact that the white dyads punish a greater number of points per violation than the black dyads, and the middle SES dyads punish more per violation than the lower SES dyads.

The finding that lower SES parents are more punitive than middle SES parents receives peripheral support from the results of the present study, in that the lower SES dyads punish a greater average number of points (although fewer per violation) than the middle SES dyads. This result is congruent with those which show lower SES parents to be more likely to punish equally or randomly for all violations of their children, while middle SES parents are more likely to be selective in their punishment behaviors, varying the severity of the punishment with the particu- circumstances of the violation.

The only significant racial and social class behavioral differences, i.e., (1) white dyads make more agreements on the child's side on the average, (2) black dyads make more agreements on the parent's side on the average, and (3) middle SES dyads receive larger average numbers of points on the child's side, are also somewhat similar to previous findings. White families have tended to be shown to be more egalitarian and/or cooperative than black families, and

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middle SES families have been shown to be more likely than lower SES families to consider the child more an equal member of the family, and to have a less well-defined hierarchy in which the parents are superior to the children in all areas. Admittedly the connections between the current research results and previous results are indirect, given the different techniques of data collection. But the fact remains that none of the behavioral results of the present study with respect to racial and/or social class differences is contradictory or contrary to the results of previous studies about these topics.

The present results with respect to the questionnaire responses are different from previous results about parental attitudes and behaviors pertaining to social control. Recall the children were asked to respond to questions about particular situations that might occur in their homes, and to answer whether they thought their parents would punish particular behaviors in these situations. The results indicated there was a significant Race x SES interaction in the responses of the children. The finding is that middle SES white parents are perceived as being more punitive than lower SES white parents; but that lower SES black parents are perceived as being more punitive than middle SES black parents.

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The typical previous finding is that whites are less punitive than blacks, and middle SES parents are less punitive than lower SES parents, but the interaction is unspecified or non-significant. The present results could be due to some particular characteristics of the sample, but they could also represent the true state of affairs. For the particular situations represented in the fifteen items, it could be the case that the middle SES white parents and the lower SES black parents would in reality punish their children more for the particular deviant behaviors than the lower SES white and middle SES black parents, but for different reasons. It could be that punishment is serving two different functions for the two groups.

The punishment behaviors of the middle SES white parents may be the result of wanting to "look good" in the eyes of their friends and neighbors by having an obedient child, and thus they punish the child's violations of agreements and orders more than the lower SES white parents, who do not consider the child's behavior as an indicator of their worth as a parent as strongly as the middle SES parents. The lower SES black parents, on the other hand, may use punishment as a method of keeping their children out of serious situations, and thus punishment is used by lower SES black parents more than by middle SES black parents because there are more serious situations present for the lower SES

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black child which he must learn to avoid. This post-hoc explanation of the interaction between Race and SES in the questionnaire responses of the subjects of their perceptions of parental punishment is admittedly tentative, but it could be examined further. The explanation does seem plausible as a description of how this relationship could come about, if one assumes the perceptions of the children are accurate with respect to the behaviors their parents actually would perform in these situations.

To summarize the discussion of the correspondance of the present results with respect to race and social class and previous results, perhaps the strongest statement that can be made is the present findings do not contradict directly any previous findings of racial and social class differences in behaviors. Given the few signiifcant differences in the present results with respect to the variables of Race and SES, and the differences in the techniques of data collection, this conclusion is not surprising. The results from the questionnaires do supplement previous findings about the punitive behaviors of the parents of the various racial and social class categories, in that a significant Race x SES interaction is shown to be present in the present results. White middle SES parents are perceived by their children as being more punitive than white lower SES parents, but black lower SES parents are perceived as being more punitive than black middle SES parents.

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Present Research Results as They Apply to Predictions of Theories of Deviant Behavior in Systems of Social Control

The two versions of the game were originally included in the research design to allow for an examination of the effects of different systems of reward and visibility of deviant acts. Version I represents a system in which there is a 100% probability that any deviant act will be discovered, and also a positive probability the deviant act will be rewarding to the deviant. In Version II, there is only a 40% probability of any deviant act's being discovered, but also a lower probability (as compared with Version I) that the deviant act will be rewarding to the deviant. In Version II, it is possible for the deviant behavior to be non-rewarding to the deviant; in Version I, deviance is always rewarding. Thus the experimental variation in the rules of the game was such that deviance in Version I was highly visible and rewarding, while in Version II deviance was less visible and less rewarding if discovered.

It was hypothesized that persons would act differently in the two versions of the game, and that there would be significant differences in the rates of deviant behavior (and other behaviors as well) between the two versions of the game. This prediction was confirmed; and in fact, in eleven of thirteen variables used as dependent variables in the analysis of game behaviors, the effect of Version was significant by F-test. The direction of these

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differences were always in favor of the Version II dyads' being less deviant, or less punitive, or more agreeable, or more likely to receive a greater average number of points, or a greater efficiency score, etc. The question is then what is happening in the Version II dyads to make them so superior to the Version I dyads.

When the hypotheses concerning the differences in behaviors to be expected between the versions were first formulated, it was felt that the conditions of reward and visibility of deviance would have their greatest effect on the person playing the role of child, that is, the controllee. The reasoning went as follows. Persons playing the child role in Version I dyads would realize that even though they could be observed in their deviant behaviors, they would still receive a reward for these behaviors; as opposed to no reward if they behaved according to the parent's orders or in agreement with unfavorable agreements. The players of the child's role in the Version II dyads were expected to realize that if they did not keep their agreements and obey their orders, there was a good chance their parents would discover the deviant behaviors, and both players could wind up with no points. Thus the belief was that persons playing the child role in the Version II dyads would be less likely to break orders and unfavorable agreements than those persons playing the child role in Version I dyads. Version I children were thought likely to believe that deviance will be minimally rewarding at worst, and very rewarding at best, when compared with conforming

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behavior; and Version II children were expected to perceive deviance as potentially non-rewarding, and thus be less likely to perform the deviant behaviors.

Originally, the effects of the differences in reward and visibility of deviance were not thought to have much of an effect on the behaviors of the person playing the role of the parent, that is, the control agent. However, an examination of the behaviors in the game reveals this is exactly what is happening: the differences between versions are due in large part to the differences in the behaviors of the persons playing the role of parent. These different patterns of interaction between the parents and children that occur in the two versions of the game reveals a true dyadic effect in that the differences in the behaviors of both participants are what are associated with the large differences in the measures of behavior that are revealed in the results of the current study.

The reason why the Version II dyads are superior to the Version I dyads in their deviance scores, point scores, agreement scores, etc., is not merely because the children in the Version II dyads are more agreeable, less deviant, etc; it is because the parents and the children are more agreeable, and the parents are less likely to issue orders, and because the parents in the Version II dyads are less likely to punish violations that do occur as harshly as the parents of the Version I dyads. Some representative means

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of this tendency of the parents and children of the Version II dyads to be more agreeable, cooperative, and less punitive are given in the table below.

Table 4-1
Representative Means with Respect to Cooperation Between Parent and Child by Version

	Version:			
	Version I		Version II	
Behavior:	mean	(s.d.)	mean	(s.d.)
1. Agreements on Child's Side	8.00	(5.12)	9.92	(5.15)
2. Agreements on Parent's Side	5.88	(5.19)	7.83	(7.33)
3. Total Number of Agreements	13.88	(8.14)	17.75	(5.81)
4. Number of Broken Agreements	3.08	(3.02)	2.38	(3.68)
5. Total Number of Orders	16.17	(8.14)	12.25	(5.81)
6. Number of Broken Orders	12.33	(8.91)	6.33	(5.06)
7. Average Punishment per Violation	3.76	(1.71)	2.20	(1.37)
8. Weighted Deviance	.67	(0.32)	.44	(0.27)

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The differences in the structures of the rewards and visibility of the deviant behaviors has an influence on both players in the game; both social control agent (the parent) and the potential deviant (the child) behave differently according to the version of the game played. In the condition in which he can not control the child in every situation through punishment and/or visibility of deviance (Version II), the social control agent is more likely to agree that the child may have his way on some of the issues, and is less likely to order the child to behave according to his own interests. The lack of complete surveillance power and reward power over the actions of the potential deviant seems to be related to a more agreeable approach to the situation by the control agent, and to a greater amount of cooperation between the control agent and controllee. In the Version I dyads, in which the control agent can observe all of the actions of the potential deviant and punish all instances of deviance, the control agent is shown to be more punitive and less cooperative, and the controllee is shown to be more deviant.

The versions of the game vary only in the number of issues on which the parent can discover and punish deviance and in the amount of punishment allowed. When the parent has the power to observe all instances of deviance, even though he is limited in the punishment he can assign for these cases of deviance, the

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parent tends to be less cooperative and more punitive; and the child tends to be less cooperative, break more agreements and orders, and in general perform more acts of deviance. When the parent is limited in the number of instances in which he can observe and punish deviance, even though his punitive power is greater in this case than in the former, the parent tends to be more cooperative and less punitive even in those instances in which the child does break his agreements or disobeys his orders. The child tends to be more cooperative in this condition, and to break fewer orders and agreements, even those contrary to his own interests.

How do these results compare with the predictions of theories of deviant behavior with respect to conditions of reward and visibility? The most general statement of the expected relationship between these factors and deviance is "the greater the reward for a deviant act and the less likely the act will be discovered, the greater the probability the act will be performed." However, in this statement, the predictions of the effect of the two separate factors of visibility and reward are in the same direction, i.e., more reward leads to more deviance, and less visibility leads to more deviance. The versions of the game were designed to represent those situations where the predictions of the two factors are opposite to each other, i.e., conditions of high visibility being combined with high reward, and low visibility being combined with

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low reward. In these cases, the theory has to specify which factor is the more important, and most "rational man" or "economic" theories of behavior have given greater weight to the effect of reward. Thus when visibility and reward of deviance are both high, deviance is thought to be more likely than in cases when visibility and reward are both low.

The present results are in agreement with the predictions of these theories, in that there was more deviance in the Version I dyads than in the Version II dyads. These results are also in accordance with common sense, which would expect people to deviate if they are rewarded for these behaviors, and not to deviate if they are not rewarded for their deviant behaviors. What is surprising in the results is the strong effect the variations in the probabilities of reward and visibility had on the behaviors of the social control agents (the parents).

These results cannot be applied directly to other types of social control systems, but they are suggestive of further lines of research. If it is true in other social control systems that the punitive power and the range of punitive power have independent effects on the amount of cooperation the social control agents in the different situations exhibit, then the specific relationships between these variables and other features of the situations are very important pieces of information both from a practical and

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a theoretical standpoint. If limited power to punish and/or limited power to observe and punish is associated with differential amounts of cooperation between social control agents and their controllees, then current systems of social control are based on incomplete theories of how persons are influenced by reward and visibility of deviance. The theories are incomplete not because they are incorrect in their specification of the behaviors of the potential deviants, but because the theories ignore the effects of the variables of visibility and reward of deviance on the social control agents themselves.

One final note should be made about the results of the present study as they pertain to theories of social control. It is realized that the specifics of the game situation are such that conclusions drawn from the game-related results must be considered tentative, and only suggestive of further lines of research. One obvious next step would be to increase the number of types of situations in some regular manner to represent various conditions of reward and visibility. But in the end, the results derived from the game situation, or the theoretical propositions derived from these situations must be tested by comparison with results from other systems of social control.

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This statement is a fitting lead in to the final conclusion that will be made about the present research. Simulation games in general, and Parent-Child in particular, are valuable and powerful techniques for gathering data about a wide variety of social psychological phenomena. These games have advantages possessed by no other technique currently used by social scientists, but they also have very important limitations. The present research is an attempt to show in detail how one particular simulation game can be used in social psychological research, and the types of questions it can help to answer. The report is also an attempt to show the limitations of this technique, and it is hoped that this point is just as well-made as the point about the advantages, due to the seductive power of the simulation game technique. Simulation games are not appropriate tools for the study of all social psychological processes, but they are uniquely suited to particular types of these processes; i.e., those which involve the study of mutually-contingent sequential behaviors of groups of individuals.

Thus the present report is only secondarily a report of racial and social class differences in the play of a parent-child simulation game, and only secondarily an examination of the behaviors of persons in particular systems of social control. It is primarily an example of a technique of data collection which attempts to show the advantages and disadvantage of the technique through the presentation of analyses of the results.

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APPENDIX

Original and Revised Issues

Original Issues:

1. Parent: "Your child is going to a show this week and will be home by 10:00 o'clock."

   Child: "You are going to a show this week and will be home late."

2. Parent: "Your child will get his hair cut."

   Child: "You will let your hair grow."

3. Parent: "Your child will do all of his homework this week."

   Child: "You won't do much homework this week."

4. Parent: "Your child will spend most of this weekend helping around the house."

   Child: "You won't help much around the house this weekend."

5. Parent: "Your child will stay home this Saturday night."

   Child: "You will go out on a date this Saturday night."

Revised Issues:

1. Parent: "Your child will clean up the house this week."

   Child: "You don't have to clean up the house this week."

2. Parent: "Your child may not keep the lost dog he found as a pet."

   Child: "You may keep the lost dog you found as a pet."

3. Parent: "Your child must come straight home after school."

   Child: "You don't have to come straight home after school."

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Revised Issues (continued)

4. Parent: "Your child may not go on a trip with your church group."

   Child: "You may go on a trip with your church group."

5. Parent: "Your child will wear his hair the way you want him to."

   Child: "You may wear your hair the way you want to."

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Parental Permission Slip

1. Child's name:

2. Father's occupation:

3. Mother's occupation:

   or

   Guardian's occupation:

4. At home, does this child talk more, less, or about the same as other children?

   more: less: same:

5. Number of people living in the house where this child lives:

6. _____ has my permission to take part
   (child's name)
   in the communication game study at the _____ Elementary School.

_____
(parent's signature)

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Biographical Data Code Sheet

Dyad Number:

Date:
School:

Subject Number:	Subject Number:
Name:	Name:
Age:	Age:
SES:	SES:
IQ:	IQ:
Favorite outdoor game:	Favorite outdoor game:
Favorite indoor game	Favorite indoor game:

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Open-Ended Questionnaire

1. Do you have any chores you have to do around the house every week? (yes or no)

2. Do you receive a weekly allowance? (yes or no)

3. Do you have to come straight home after school? (yes or no)

4. Do you have a pet of your very own that you have to feed and take care of all the time? (yes or no)

5. Who usually punishes you if you do something wrong at home? (mother or father or both equally)

6. What kind of punishment do you usually receive for doing something wrong? (spanking or sent to your room or lose a privilege or other)

7. What would happen if your parents thought you were coming straight home after school, but you stayed and played ball for an hour without telling them, and were an hour late? What would your parents do? (open-ended)

8. What would happen if your parents thought you had agreed to clean up your room one weekend but you didn't do it? What would your parents do? (open-ended)

9. What would happen if you wanted to wear your hair one way, and your parents wanted you to wear it another way? (open-ended)

10. What would your parents do if you brought home a lost dog and wanted to keep him as a pet? (open-ended)

11. What would your parents do if you wanted to go on a trip with the school on the same day your parents wanted to visit relatives who lived outside of Baltimore? (open-ended)

12. Can you stay outside and play after dark? (never or sometimes if I stay in my own neighborhood or usually or whenever I want to)

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Forced-Choice Questionnaire

1. If you told your parents you were coming straight home from school and you stayed and played ball for an hour without telling them, would you be punished?

2. If you told your parents you would clean up your room one weekend, but you didn't, would you be punished?

3. If you agreed to get your hair cut the way your parents wanted, but instead let it grow the way you wanted it, would you be punished?

4. Would you be able to keep a lost dog you found as a pet?

5. Would you be punished if you went on a trip with the school without your parents' permission?

6. Would you be punished if your parents told you to come straight home after school one day, but you didn't come home?

7. Would you be punished if your parents ordered you to clean up your room, and you didn't clean it up?

8. Would you be punished if your parents ordered you to get your hair cut, but you didn't get it cut?

9. Would you be punished if you kept a lost dog as a pet even though your parents told you to get rid of the dog?

10. Would you be punished if your parents told you that you couldn't go on a trip with the school, but you went on the trip anyway?

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Modified Socialization Sub-Scale Questionnaire (true/false)

1. I think Lincoln was greater than Washington.
2. I would do almost anything on a dare.
3. With things going as they are, it's pretty hard to keep up hope of amounting to anything.
4. I think I am stricter about right and wrong than most people.
5. I am somewhat afraid of the dark.
6. I hardly ever get excited or thrilled.
7. My parents have often disapproved of my friends.
8. My home life is always happy.
9. I often act on the spur of the moment without stopping to think.
10. My parents generally let me make my own decisions.
11. I would rather go without something than ask for a favor.
12. I have had more than my share of things to worry about.
13. When I meet a stranger, I often think he is better than I am.
14. Before I do something, I try to consider how my friends will react to it.
15. In school, I am sometimes sent to the principal for cutting up.
16. I keep out of trouble at all costs.
17. Most of the time I feel happy.
18. I often feel as though I have done something wrong or wicked.
19. It is hard for me to act natural when I am with new people.
20. I have often gone against my parents wishes.
21. I often think about how I look and what impression I am making upon others.

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Modified Socialization Sub-Scale Questionnaire (continued)

22. I find it easy to "drop" or "break with" a friend.

23. I would get nervous if I had to ask someone for a job.

24. I never worry about my looks.

25. I go out of my way to meet trouble rather than try to escape it.

26. My home life is always very pleasant.

27. I seem to do things I regret more than other people do.

28. My table manners are not quite as good at home as when I am out with company.

29. It is pretty easy for people to win arguments with me.

30. I know who is responsible for most of my troubles.

31. I get pretty discouraged with the law when a smart lawyer gets a criminal free.

32. Even when I have gotten into trouble I was usually trying to do the right thing.

33. It is very important to me to have enough friends and social life.

34. Life usually hands me a pretty raw deal.

35. People often talk about me behind my back.

36. I don't think I am quite as happy as others seem to be.

37. I would never play cards with a stranger.

38. My home life is less peaceful and quiet than those of most other of most other people.

39. Even the idea of giving a talk in public makes me afraid.

40. If the pay was right, I would like to travel with a circus or carnival.

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Modified Socialization Sub-Scale Questionnaire (continued)

41. I don't care much for school.

42. The members of my family are very close to each other.

43. My parents never really understand me.

44. A person is better off if he doesn't trust anyone.

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Table A-1
Analysis of Variance: Total Number of Agreements per Dyad

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	0.02	0.02	-
SES	1	9.19	9.19	0.16
Version	1	188.02	188.02	3.15
Race x SES	1	4.69	4.69	0.08
Race x Version	1	7.52	7.52	0.13
SES x Version	1	35.02	35.02	0.61
Race x SES x Version	1	13.02	13.02	0.24
Error	40	2288.80	57.22	

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Table A-2
Mean Number of Agreements per Dyad per Round by Version

		Round Number: 1	2	3	4	5	6
Version I: (N = 24)	mean	2.13	2.21	2.79	2.25	2.13	2.38
	(s.d.)	(1.56)	(1.64)	(1.76)	(1.82)	(1.72)	(1.90)
Version II: (N = 24)	mean	3.04	3.17	3.04	2.67	3.00	2.75
	(s.d.)	(1.30)	(1.40)	(1.62)	(1.40)	(1.66)	(1.77)

Table A-3
Mean Number of Agreements on the Child's Side per Round by Race

		Round Number: 1	2	3	4	5	6
White Dyads: (N = 24)	mean	1.75	1.25	1.63	1.96	1.92	2.04
	(s.d.)	(1.11)	(0.98)	(1.34)	(1.30)	(1.31)	(1.54)
Black Dyads: (N = 24)	mean	1.17	1.42	1.58	1.12	1.13	0.96
	(s.d.)	(1.12)	(1.24)	(1.50)	(1.29)	(1.15)	(0.95)

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Table A-4
Analysis of Variance: Total Number of Orders Given per Dyad

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	1.69	1.69	0.03
SES	1	15.19	15.19	0.29
Version	1	188.02	188.02	3.54
Race x SES	1	0.02	0.02	-
Race x Version	1	9.19	9.19	0.17
SES x Version	1	50.02	50.02	0.94
Race x SES x Version	1	11.02	11.02	0.21
Error	40	2124.80	53.12	

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Table A-5
Mean Number of Agreements on the Parent's Side per Round by Race

		Round Number: 1	2	3	4	5	6
White Dyads: (N = 24)	mean	0.79	1.16	1.00	0.75	0.67	0.67
	(s.d.)	(1.02)	(1.23)	(1.35)	(1.18)	(0.86)	(1.04)
Black Dyads: (N = 24)	mean	1.46	1.54	1.63	1.08	1.42	1.46
	(s.d.)	(1.41)	(1.41)	(1.68)	(1.34)	(1.66)	(1.61)

Table A-6
Analysis of Variance: Probability of an Unfavorable Agreement's Being Broken

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	402.52	402.52	0.27
SES	1	2173.50	2173.50	1.46
Version	1	5568.50	5568.50	3.74
Race x SES	1	1054.70	1054.70	0.71
Race x Version	1	172.52	172.52	1.12
SES x Version	1	172.52	172.52	1.12
Race x SES x Version	1	487.69	487.69	0.33
Error	40	59524.00	1488.10	

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Table A-7
Analysis of Variance: Probability of an Order's Being Broken

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	507.00	507.00	0.42
SES	1	5.33	5.33	-
Version	1	2160.10	2160.10	1.77
Race x SES	1	675.00	675.00	0.55
Race x Version	1	330.75	330.75	0.27
SES x Version	1	3300.10	3300.10	2.71
Race x SES x Version	1	154.08	154.08	0.13
Error	40	48694.00	1217.30	

Table A-8
Mean Raw Deviance Scores per Round by Version

	Round Number: 1	2	3	4	5	6
Version I: mean (N = 24)	2.54	2.67	2.58	2.58	2.88	2.38
(s.d.)	(1.97)	(1.94)	(1.93)	(1.86)	(1.94)	(1.97)
Version II: mean (N = 24)	1.50	1.46	1.21	1.46	1.58	1.79
(s.d.)	(1.25)	(1.53)	(1.50)	(1.64)	(1.55)	(1.50)

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Table A-9
Mean Weighted Deviance Scores per Round by Version

		Round Number: 1	2	3	4	5	6
Version I: (N = 24)	mean	.66	.61	.65	.68	.67	.58
	(s.d.)	(.44)	(.43)	(.40)	(.42)	(.43)	(.43)
Version II: (N = 24)	mean	.46	.44	.32	.40	.44	.50
	(s.d.)	(.39)	(.46)	(.38)	(.43)	(.41)	(.38)

Table A-10
Mean Number of Points of Punishment per Violation per Round by Version

		Round Number: 1	2	3	4	5	6
Version I: (N = 24)	mean	3.03	3.34	3.16	3.39	3.42	3.44
	(s.d.)	(2.41)	(2.44)	(2.32)	(2.98)	(2.39)	(2.66)
Version II: (N = 24)	mean	1.49	1.26	0.83	1.56	1.32	1.77
	(s.d.)	(2.27)	(1.79)	(1.53)	(2.26)	(2.11)	(2.23)

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Table A-11
Mean Total Number of Points per Dyad per Round by Version

		Round Number: 1	2	3	4	5	6
Version I: (N = 24)	mean	19.13	16.96	18.58	20.88	12.50	19.88
	(s.d.)	(9.52)	(11.26)	(9.32)	(11.66)	(8.30)	(13.04)
Version II: (N = 24)	mean	26.83	25.46	26.79	28.54	17.75	27.13
	(s.d.)	(4.57)	(5.29)	(6.27)	(6.50)	(10.22)	(5.23)

Table A-12
Mean Number of Points on the Child's Side per Round by Version

		Round Number: 1	2	3	4	5	6
Version I: (N = 24)	mean	12.88	9.79	12.92	14.13	12.50	12.88
	(s.d.)	(6.73)	(7.04)	(8.55)	(9.01)	(8.30)	(8.74)
Version II: (N = 24)	mean	15.17	14.21	15.38	15.71	17.75	16.38
	(s.d.)	(8.63)	(7.90)	(7.35)	(7.70)	(10.22)	(8.05)

Table A-13
Mean Number of Points on the Child's Side per Round by SES

		Round Number: 1	2	3	4	5	6
Middle SES: (N = 24)	mean	15.25	14.21	17.00	15.50	15.25	15.71
	(s.d.)	(7.73)	(8.15)	(6.45)	(8.48)	(9.65)	(8.96)
Lower SES: (N = 24)	mean	12.79	9.79	11.29	14.33	15.00	13.54
	(s.d.)	(7.72)	(6.75)	(8.47)	(8.32)	(9.72)	(8.05)

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Table A-14
Mean Number of Points on the Parent's Side per Round by Version

		Round Number: 1	2	3	4	5	6
Version I: (N = 24)	mean	6.25	7.17	5.67	6.75	4.83	7.00
	(s.d.)	(8.71)	(8.31)	(7.04)	(9.01)	(6.85)	(8.46)
Version II: (N = 24)	mean	11.67	11.25	11.42	13.96	10.42	10.75
	(s.d.)	(9.96)	(9.84)	(9.22)	(12.08)	(7.31)	(9.72)

Table A-15
Mean Dyad Efficiency Scores per Round by Version

		Round Number: 1	2	3	4	5	6
Version I: (N = 24)	mean	.51	.48	.51	.56	.44	.52
	(s.d.)	(.27)	(.30)	(.26)	(.31)	(.27)	(.33)
Version II: (N = 24)	mean	.70	.64	.71	.75	.72	.72
	(s.d.)	(.13)	(.19)	(.18)	(.18)	(.18)	(.16)

Table A-16
Analysis of Variance: "Forced-Choice Agreement" Scale Scores

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	.67	.67	0.45
SES	1	.38	.38	0.26
Race x SES	1	3.38	3.38	2.30
Error	92	134.92	1.47	

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Table A-17
Analysis of Variance: "Forced-Choice Order" Scale Scores

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	2.34	2.34	1.28
SES	1	3.01	3.01	1.64
Race x SES	1	0.51	0.51	0.28
Error	92	168.62	1.83	

Table A-18
Analysis of Variance: Socialization Sub-Scale Scores

Source	d.f.	S.S.	M.S.	F-ratio
Race	1	30.38	30.38	2.02
SES	1	26.04	26.04	1.73
Version	1	24.00	24.00	1.64
Race x SES	1	13.50	13.50	0.90
Race x Version	1	7.04	7.04	0.47
SES x Version	1	12.04	12.04	0.80
Race x SES x Version	1	24.00	24.00	1.60
Error	88	1321.00	15.01	

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"A Measure of Standard English Proficiency of Inner-City Children." American Educational Research Journal 7:1; 29-40.

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