PREDICTING CHILDREN'S SOCIAL BEHAVIOR FROM PARENTAL PERSON PERCEPTION PROCESSES

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ABSTRACT

PREDICTING CHILDREN'S SOCIAL BEHAVIOR FROM PARENTAL PERSON PERCEPTION PROCESSES

By

Gerald Yoram Michaels

The processes of person perception have been an important area of concern to social psychology and personality theory. However, only recently has interest in person perception been extended to problems of the parent-child relationship and of children's psychological and social adjustment. This work has led to a growing belief that person perception variables provide a fruitful area for research into parent-child interaction.

Within this framework, the present study examined if the accuracy with which parents could infer their child's judgments about their caregiving behavior was related to the behavior that the child displayed when s/he interacted with a college student for 30 minutes in a playroom setting. It was hypothesized that accuracy of parents' inferences (Parental Accuracy) would be positively related to the "adaptive" behaviors and negatively related to the "unadaptive" behaviors that the child emitted. Also, it was expected that there would be a positive relationship between

the extent of parent-child agreement in perceptions of the parent's caregiving behavior (Parental Real Similarity) and children's adaptive behavior, and a negative relationship between Parental Real Similarity and unadaptive behavior.

Parental Accuracy and Parental Real Similarity were measured as follows: 80 7-year old children (46 males and 34 females) completed a modified version of the Bronfenbrenner Parent Behavior Questionnaire (BPB) that was designed to elicit perceptions of the behaviors of one of their parents (divided about equally between mothers and fathers). The parents of these children completed the BPB by: (a) giving their self-perceptions of their caregiving behavior; and (b) putting themselves in their child's place and answering as they thought their child would answer. Indices of Parental Accuracy were obtained by calculating absolute differences between parent inferences and child scores for three composite measures that were derived from results of a factor analysis of the responses to the BPB. Similarly, indices of Parental Real Similarity were derived by calculating absolute differences between parent self-perceptions and child scores for the three composite measures.

Videotapes of the children's behavior with a college student--volunteers who always were the same sex as the target parent--were scored on the Leary Circumplex rating system, which consists of 16 contiguous behavior categories

that fall along the axes of Dominance-Submission and Affiliation-Disaffiliation.

Correlation coefficients were computed to examine the relationships between the 3 measures of Parental Accuracy and the 13 frequently occurring Circumplex categories. Of the 39 correlation coefficients that were computed, 69 percent were in the expected direction, and, of these, 30 percent were found to be statistically significant ($p < .05$), while 26 percent were found to be marginally significant ($p < .10$). Step wise multiple regression analysis showed that Parental Accuracy significantly predicted 7 of the 13 Circumplex categories ($p < .05$). For example, Parental Accuracy on Factor I (Loving), predicted the frequency of "Reassuring" acts that the child displayed in the playroom. Parental Accuracy on Factor II (Punishing) predicted frequencies of Loving, Cooperative and Helpful behaviors, as well as the absence of Active Resistance. Parental Accuracy on Factor III (Demanding) predicted the infrequency of Helpless child behavior. A greater number of significant behavior findings were obtained for girls than for boys.

When similar analyses were performed to examine the relationships between the three measures of Parental Real Similarity and the Circumplex behavior categories, 69 percent of the correlation coefficients were in the expected direction, and 11 percent of these were statistically significant, while 28 percent were found to be marginally significant. The step wise multiple regression analysis showed that

Parental Real Similarity significantly predicted three frequently occurring Circumplex categories. Factor II (Punishing) for Parental Real Similarity significantly predicted children's "Cooperative" behaviors. Factor III (Demanding) for Parental Real Similarity significantly predicted the presence of "Loving" child behavior, as well as the absence of "Helpless" child behavior. Again, a greater number of significant findings were obtained for girls than for boys.

Partial correlation analysis were performed for both Parental Accuracy and Parental Real Similarity. Results of these analyses, as well as a comparison of the magnitudes and patterns of behavior relationships obtained for both measures, suggested that Parental Accuracy and Parental Real Similarity tap somewhat different underlying processes.

The results with respect to Parental Accuracy were particularly striking, given the failure of previous research to establish a link between measures of parent perceptual accuracy (or empathy) and young children's behavior and adjustment. These findings have a number of interesting implications. It is possible, for example, that typically parents both judge themselves and make inferences about how their child perceives their behavior. They then may use both judgments to regulate their behavior with the child. If so, then High Accuracy and Real Similarity would lead to a more predictable and secure environment for the child,

since, with respect to Accuracy, the parent would be able to "see" through the child's eyes and respond appropriately, and, with respect to Real Similarity, parent and child would behave within a common definition of the caregiving situation.

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CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

The processes of interpersonal perception have been important areas of concern in social psychology and personality theory, and various aspects of person perception have been investigated with respect to problems in leadership, clinical work, teaching, and marital relations. However, it is only recently that interest in interpersonal perception has been extended to problems of the parent-child relationship and of children's psychological and social adjustment. The work that has been done has led to a growing belief that person perception variables provide a fruitful area for research into parent-child interaction.

Such variables can be conceptualized as lying somewhere on a continuum between the "deep structures" of personality (e.g., needs, drives, motives, etc.), which are extremely difficult to measure, and the more "attitudinal" variables for which researchers have generally failed to find strong relationships with children's adjustment. Person perceptions function as mediating variables between one person's actions and the other person's responses. It is only as we perceive or "take in" the other's behavior that we are influenced by that person. Our perceptions of

the child, based to varying degrees on his/her actual behavior, are one determinant of the child's socialization experiences and, by studying this level of functioning, investigators will be in a better position to incorporate parents' and children's subjective experiences into their theoretical models of parent-child interaction and the socialization process.

The present study focused primarily on one type of person perception mechanism: perceptual accuracy. This mechanism has been most widely investigated in studies of person-perception. Depending on the study, perceptual accuracy has been given such names as "empathy," "social sensitivity," "accuracy of social perception," "insight," and "diagnostic competence." In the present study, the particular type of perceptual accuracy measured, "Parental Accuracy," is a measure of the accuracy of parents' perceptions of how their child views (perceives) their caregiving behavior. "Parental Accuracy" is hypothesized to have a direct relationship to children's level of socio-psychological adjustment.

Research into perceptual accuracy, in general--and specifically the few studies that have looked at the accuracy of parents' perceptions--have tended to ask a limited number of questions. The thrust of these research efforts often have been directed solely to the question of whether "empathy" is an important interpersonal skill. Investigators have approached their work with a preconceived notion

about what empathy is and, to the extent that they have found difficulties in interpreting various operational definitions of perceptual accuracy as empathy, they have tended to avoid further examinations of either the processes involved in or the effects of perceptual accuracy.

Although empathy certainly contributes to perceptual accuracy, there probably are a number of other processes and abilities that also can lead to accurate person perceptions. Some of these are discussed in the review that follows: However, in this study the "Parental Accuracy" measure itself is conceptualized as the primary variable, and it is speculated that an important relationship exists between Parental Accuracy and level of child adjustment, irrespective of what type of processes contribute most to such accuracy. The question of whether "Parental Accuracy" is achieved through empathy or some other process or ability is seen as a secondary one at this point, and one that may be unanswerable until we examine how specific person-perception variables operate in real parent-child relationships, and how they influence children's adjustment. We should then be able to determine <u>empirically</u>, from the types of relationships that are found to exist, what types of underlying psychological processes are involved in the different person-perception variables.

Parents' Person-Perceptions and the Parent-Child Relationship

A relatively small amount of research has focused on parents' perceptions of their children. Ferguson, Partyka, and Lester (1974) showed that parents' perceptions of their child's overt behavior, as indicated by their responses to a children's behavior checklist, differentiated clinic from nonclinic children. Broussard and Hartner (1970) found that parents' perceptions of their infants as above average, average, or below average on certain dimensions as compared to "average" infants related to their children's later need for psychiatric treatment at 4 1/2 years of age.

Messé and Stollak's research (1976) focused on the accuracy of parents' perceptions of their children's overt behavior. These authors found that parents who were "accurate perceivers" of children's behavior--i.e., were sensitive to, and attended to positive and negative child behaviors equally--had children who were rated as more highly adjusted by their classroom teachers than the children of parents who had a "negative perceptual bias"--i.e., were sensitive to, and attended to mainly negative child behavior.

A number of studies have also focused on the accuracy of parents' perceptions of various aspects of their children's subjective experiences, particularly their self-concepts and personality self-descriptions. Since these latter studies are especially relevant to the present research, they are discussed in some detail below.

Parents' Perceptions of Their Children's Self-Concepts, and Child Adjustment

The studies of parent perceptions of their children's subjective states and experiences were all conducted within the broader framework of research on "empathy." In these studies, empathy was conceptualized as a general personality trait. Dymond's (1949) description of empathy as "the imaginative transposing of oneself into the thinking, feeling, and acting of another and so structuring the world as he does" (p. 127) is an illustrative definition of this concept. Empathy, described in this way, places major emphasis on the accurate cognitive understanding of the other's subjective experiences, rather than on the actual experiencing of the other's subjective experience, and it limits the conceptualization of empathy to the processes involved in such accurate understanding. On the other hand, other definitions of empathy (e.g., Truax, 1961) stress both understanding and the individual's ability to communicate this understanding to the other.

The procedure for measuring the level of accuracy of parent perceptions (empathy) in these studies was developed by Dymond (1949) and is based on role theory. In this approach the Judge is asked to predict on the basis of his/her knowledge or acquaintance with another person, how that person would describe both himself/herself and the Judge. The instruments used for prediction have included personality inventories, rating scales, and

Q sorts. The complete procedure can be summarized as follows:

A rates A
B rates B
A rates B
B rates A
A rates B as he thinks B rates himself
B rates A as he thinks A rates himself
A rates A as he thinks B would rate him
B rates B as he thinks A would rate him

In other words, A and B are being tested for their level of empathy with each other. Two measures of A's empathic ability are derived as follows: (1) by calculating how closely his/her predictions of B's self-ratings correspond with B's actual self-ratings; and (2) by calculating how closely his/her predictions of how B would rate A correspond with B's actual ratings of A. Most past studies that have used Dymond's procedure have employed only the first of these ways of measuring accuracy. As is described later, it is the second way of measuring accuracy that is used in the present research.

The major assumption of these "empathy studies" was that if parents understand their children's self-perceptions, they would be more capable of effectively guiding them. Some parental understanding should be expected since the family, as the main social unit and as the matrix of individual personalities, provides interactions in which self-concepts are formed and in which many social adjustments are attempted (Langford & Alm, 1954). However, little attempt was made to elucidate in detail

how empathy was supposed to "work" in the parent-child relationship. One really can only speculate that the investigators expected some of the same effects of empathy in parents as were posited to occur in the therapist-client relationship (Rogers, 1975).

Rogers described the effects of empathic therapist understanding (when of course, this understanding is communicated to the client). First, the nonevaluative and acceptant quality of the empathic climate enables the client to take a prizing, caring attitude toward himself/herself. To the client this absence of evaluation has the meaning that if she/he is not judged, she/he is not as evil or abnormal as she/he thought she/he might be. Secondly, being listened to by an empathic therapist makes it possible for the client to listen more accurately to himself/herself, a process that leads to a greater sense of personal identity. Thirdly, the greater prizing of himself/herself and the greater attention to his/her inner experiences opens up the client to new facets of experience that become a part of a more accurate-based self. "Thus, she/he has become, in his/her attitude toward himself/herself, more caring and acceptant, more empathic and understanding, more real and congruent" (p. 9).

The small number of studies that have examined parental perceptual accuracy using Dymond's procedure have not shown a consistent pattern of results with respect to children's adjustment. About as many have failed to find

a significant relationship as have found such a relationship to exist. In an early study, Langford and Alm (1954) had parents predict their child's responses to the California Test of Personality. There was no relationship between "empathy" and either level of child self-adjustment or social adjustment as measured by the same questionnaire.

Lockwood and Guerney (1962) used a prediction measure to investigate the relationships among parent "empathy," children's identification with the same-sexed parent, children's self-dissatisfaction, and children's adjustment. Two instruments, the Interpersonal Checklist (ICL) (Leary, 1957) and the Bell Adjustment Inventory (Bell, 1934) were administered to 13 male and 15 female high school students. Later, the parent of the same sex as the child took the ICL, filling it out twice, first for himself and then to predict the child's self-description. The accuracy of the parents' predictions comprised the "empathy score" while the self-descriptions were used to correct this score for a possible confounding by parents projecting their own self-description onto the child (see below for a more detailed discussion of this procedure). Results of the study did not support either the prediction that empathy would be related to the children's adjustment measures, or that empathy would be related to children's identification with the same-sexed parent.

However, Irving (1965) also investigated the relationship between parental empathy and the psychological

adjustment of adolescents and did obtain significant findings. The parent empathy measured used was based on the Affect Adjective Check List. Results showed that well-adjusted adolescents had parents who were more empathic than maladjusted adolescents, and that well-adjusted adolescents also perceived their parents as being more empathic than did maladjusted adolescents.

Hill (1969) also used Dymond's model. He found that parents of suicidal adolescents showed less "empathic capacity" than either parents of nonsuicidal, emotionally disturbed adolescents or well-adjusted adolescents on two of the three scales used to measure parental perceptual accuracy (empathy)--the Peebles Check List of Personality Traits and a special adaptation of the Jones Ego Identity Scale. (Data derived from a modified Rorschach test did not yield this result.) Furthermore, parent accuracy on all three measures was found to follow a continuum with parents of suicidal adolescents showing the least accuracy and parents of well-adjusted adolescents showing the most.

Multidimensionality of Accurate Parent Perceptions of Their Child's Experiences

One possible explanation for the differences in the findings of the above studies is that accuracy of perceptions of the child's experiences may not be a unidimensional concept. Because unidimensionality was assumed by most researchers using Dymond's prediction procedure to examine

a general "trait" of empathy, these investigators were not very concerned with what specific aspect of the child's experiences they were asking the Judge to predict. They might have assumed, for example, that the ability to predict the child's self-description on the ICL (Lockwood & Guerney, 1962) involved the same empathic ability or process as the ability to predict the child's responses to the Jones Ego Identity Scale (Hill, 1969). Yet, different measures of perceptual accuracy are not necessarily highly correlated. For example, in an early study by Hall and Bell (1953), two tests of "empathy," one measuring how accurately subjects could predict the ratings acquaintances would give them, and another requiring that subjects predict the musical preferences of the average factory worker, correlated only .02.

Researchers in the area of person-perception have not yet satisfactorily determined to what extent the "accuracy of perceptions of the other's experience" or "understanding of others" is a generalizable trait and to what extent it is a collection of response patterns that have only surface similarity. We may profitably consider perceptual accuracy to be a generalized ability only if changes in the individual's accuracy from situation to situation are small compared to differences between individuals in the same situation. Gage and Cronback (1955) wrote, "It is therefore critically important to know just when measurements of empathy in one situation justify generalization to other situations or to a construct transcending particular

situations. Until a general 'ability to understand others' is established, workers should procede with great caution, and define in any theoretical statement or interpretation of results just what facet is being discussed" (p. 412).

Several investigators have proposed schemas for analyzing the concept of empathy into component parts. Bronfenbrenner, Harding, and Gallway (1958) posited two distinct types of empathic understanding--"interpersonal sensitivity" and "sensitivity to the generalized other." Bucheimer (1963) suggested five dimensions of empahty that included both aspects of empathic understanding and empathic communication. These were "tone," "pace," "strategy and flexibility," "adaptation of frame of reference," and "repertoire of leads." Stover, Guerney, and O'Connell (1971) posited three dimensions of empathic communication--"acceptance," "allowing self-direction," and "involvement."

Coming from the general area of person-perception research, Gage and Cronback (1955) noted that while most studies of interpersonal perception required a Judge to predict the responses of an other, the responses to be predicted and the experimental conditions for obtaining scores varied greatly from one study to the next. To indicate the possible subdivisions of accuracy of perception of the other's experiences, they first drew attention to the components of the typical person-perception research design: (a) the Judge, whom the experimenter is attempting

to measure; (b) the Other(s) whom the Judge is asked to interpret; (c) the Input, i.e., information concerning the Other which is available to the Judge; and (d) the Outtake, i.e., the statements or predictions about the Other obtained from the Judge. The authors suggested that understanding another person may be regarded as having two stages, which suggest two criteria for classifying the accuracy of perception studies. First, the Judge must take in information, perhaps by observing the other, or perhaps by interacting with him over a period of time. The first continuum, then, concerns the degree of acquaintance the Judge has with the Other. Secondly, the Judge has to interpret the information made available to him/her to arrive at predictive statements. The second continuum concerns the degree of extrapolation or inference required between Input and Outtake. An experiment in accuracy of person-perception can be designed to make great demands on the intake process (i.e., if there is little acquaintance between the Judge and Other) or the interpretive process (i.e., requiring much extrapolation), or both, or neither.

Gage and Cronbach then presented four extreme patterns, which are reproduced in Table 1. Their schema illustrates that different skills and judgments are required of the perceiver in different situations. If we ask a person questions about the Other where she/he has had ample opportunity to learn the answers by experience (Pattern A), we are primarily measuring the Judge's

Table 1. Four Types of Studies of Interpersonal Perception

	Pattern A	Pattern B	Pattern C	Pattern D
Judge-Other relationship	Much acquaintance	Little acquaintance	Much acquaintance	Little acquaintance
Input-Outtake relationship	Little extrapolation	Little extrapolation	Much extrapolation	Much extrapolation
Hypothesized process	When acquainted with an Other, the Judge has many opportunities to observe him; some Judges habitually take better advantage of these opportunities than do others, paying better attention to the Other and cumulating more information about him.	Encountering a stranger, the Judge has some opportunity to observe him; some Judges are better able than others to take advantage of this brief opportunity, hence cumulating more information.	When acquainted with an Other, the Judge has many opportunities to observe him; some Judges are better able than others to use the information thus acquired, together with some personality theory, to derive accurate statements about variables not observed directly.	Encountering a stranger, the Judge has some opportunity to observe him; some Judges are better able than others to use the information thus acquired, together with some personality theory, to derive accurate statements about variables not observed directly.

Table 1. Continued

	Pattern A	Pattern B	Pattern C	Pattern D
Illustration	Asking high school counselors to agree or disagree that "The majority of adolescents say they have conflict with their parents"	Having Judges interview strangers and then rate their command of English	Having husbands predict personality test responses of their wives	Asking clinicians to make predictions of scholastic success from projective tests
Quality represented in accuracy measure	Knowledge from past experience	Ability to observe	Ability to infer	Ability to observe and infer

SOURCE: Gage & Cronback, 1955, p. 414.

knowledge. When the Judge is presented with questions that cannot be answered on the basis of past experience alone, we are measuring ability to acquire new knowledge. However, different abilities are required, depending upon whether the difficulty the Judge faces is that of gathering information (Pattern B) or of drawing inferences (Pattern C), or both (Pattern D). Gage and Cronbach suggested that an individual who performs well in one pattern might not perform well in another pattern.

An examination of these four patterns shows that the studies investigating the accuracy of parents' perception are most closely related to Pattern C, since the task of predicting one's own child's self-descriptions or responses on a personality inventory requires a good deal of extrapolation, but within the framework of a long-term acquaintance.

Gage and Cronbach (1955) also distinguish the accuracy variables studied in person-perception research by the types of objects of perception about which the Judge is asked to predict:

> (a) General principles such as "All people have a need to be approved of' are expectations which guide conduct. (b) The individual forms expectations about different categories of people: managers or labor leaders, for example. (c) The person discriminates within a category to form expectations about a particular group he is associated with. An officer can make wise decisions about his men on the basis of a correct stereotype of enlisted men in general, but he can make even wiser decisions by taking the particular wishes of his own squadron into account. (d) One next comes down to describing

> the unique behavior of the individual Other, as in clinical diagnosis. (e) The final step, prediction of differences within the individual over occasions, is illustrated when a therapist decides that in certain sessions, it is better to review than to introduce new interpretation (p. 413).

The studies of parent predictive accuracy described above focused on the ability to infer the individual child's subjective experiences. However, as is discussed in a later section, it may be useful to think of predictions of the child's unique responses in relation to predictions of the average or stereotypic child's responses.

From the above discussion, one can conclude that research into parent perceptual accuracy should specify carefully the type of accuracy that is being measured, and that interpretation of research results should be "type-specific," since the extent to which results for one type of accuracy can be generalized to another type of accuracy must be established empirically.

Possible Nonempathy Components of Perceptual Accuracy of the Other's Experiences

The assumption made by the researchers who have used the predictive model as a measure of empathy is that accuracy of perceptions must be ascribed to some sort of "empathic ability." However, the assumption that accuracy of perceptions of the Other's experiences must be ascribed to an "empathic process," or even to genuine understanding at all, has been subject to a good deal of criticism.

It seems certain that empathic understanding can result in accurate person perceptions. However, other factors also may contribute to the degree to which person perceptions are accurate. For example, knowledge of personality theory together with knowledge of an individual's family history and childhood development could result in fairly accurate perception of the Other's personality self-description without paying very much attention to the cues that would be available from closely observing the Other. Yet, paying close attention to the Other would seem to be a necessary condition for accurate perceptions based on empathy. Furthermore, there may be other abilities that enter into making predictions--the operational definition of perceptual accuracy used in many studies of person perception--than are required for understanding alone. Prediction requires the ability to go beyond understanding. It also may involve a capacity for imagination or for maximizing the chance of being correct via appropriate application of decision theory.

Accuracy of Predictions, Actual Similarity, and Assumed Similarity

A major criticism of the accuracy score as a measure of empathy is that accuracy may result not from a real understanding of the other, but from "projection" of the Judge's self-perceptions onto the Other when there happens to be a good deal of actual agreement between the two. In many or even most cases, it may be this, rather than true

empathy, that is being measured; yet Dymond's prediction procedure does not permit differentiation between the two (Hastorf & Bender, 1952; Gage & Cronbach, 1955). This possibility was raised by Hastorf's and Bender's (1955) finding that the Judge's predictions tended to be much more highly related to his/her own responses than they were to the actual responses of the Other she/he was attempting to predict. A rank order difference correlation of .53 (N of 50) was found between the accuracy score (which the authors called the "raw empathy score") and the extent of actual similarity.

To conceptualize this issue more clearly, one can think of a study in which we have collected the following data: (a) the Judge's self-description; (b) the Other's description (either self-description or description of the Judge); and (c) the Judge's prediction of (b). The Judge's and Other's responses to any item on the test instrument can then be thought of as having three aspects; (1) Real Similarity, which is the extent of agreement between the Judge's self-description and the Other's description; (2) Assumed Similarity, which is the extent of agreement between the Judge's self-description and his prediction; and (3) Accuracy, which is the extent of agreement between the Judge's prediction and the Other's description. Only two of the three variables are independent of the third; any score may be considered a resultant of the other two. Thus, if we know that there is complete

Assumed Similarity on an item and complete Real Similarity, there must also be complete Accuracy. What one regards the test as measuring depends on how we choose to conceptualize the problem (Taigiuri, Blake, & Bruner, 1953). When we focus on the accuracy with which the Judge is predicting the Other, the extent of Real Similarity on any item may be regarded as fixed independently of any social perception by the Judge (Gage & Cronbach, 1955).

In order to study the influence of the combination of chance agreement between Judge and Other, and projection, on the accuracy measure, Hastorf and Bender (1952) subtracted the Assumed Similarity score from the Accuracy score for each test item. It was realized that the similarity might be actual, or an unwarranted assumption of similarity caused by projections. Thus, this score represented a conservative estimate of the amount of confounding by projection. By subtracting Assumed Similarity, the authors believed they could obtain an accuracy score uncontaminated by the possibility that it was determined by projection.

However, Gage and Cronbach's (1955) analysis of the "refined" accuracy score demonstrated that Hastorf and Bender's correction procedure had really not arrived at a measure of Accuracy independent of Assumed Similarity and Real Similarity. Thus, it did not seem profitable to use this correction in the present study. Furthermore, if Parental Accuracy itself is the salient phenomenon with

respect to children's adjustment, as has been suggested, then use of the refined score in fact would eliminate one way that a high level of Parental Accuracy could be achieved.

Behavioral Measures of Empathy

In part because of the difficulties that have been discussed with respect to the predictive accuracy model--both as a measure of real empathy and as an indicator of real perceptual accuracy, researchers interested in measuring empathy-like processes began to develop behavioral measures of empathy. The approach originated with attempts to assess empathic communication in psychotherapy interviews. The measures are essentially global types of rating scales, the low ends of which represent verbal responses that are inaccurate and insensitive to the client's cues, while the high ends represent verbal responses that are accurate and acceptant of deep feelings. Instruments developed by Halkides (1958), Truax (1961), and Cochrane (1974) are examples of this type of scale. Behavioral measures of empathy have been found to be related to successful outcome of psychotherapy with adults (Carkhuff, 1966) and with children (Aspy, 1972). However, since empathic communication, which is at least partly the focus of all the behavioral scales, and empathic inference, have been found in studies by Cochrane (1974) and Katz (1962) to be negatively related, it is highly questionable whether

relationships between behavioral empathy measures and indices of adjustment can be taken as evidence for the existence of a similar type of relationship for predictive empathy measures, or vice versa.

Furthermore, just as the construct of predictive accuracy has difficulties in conceptualization and methodology, the behavioral measures also have important problems that limit what can be learned from them about the role of "understanding others" in interpersonal relationships. Cochrane (1974) listed several criticisms of the behavioral measures as they relate to therapist empathy. These criticisms appear to be applicable to all behavioral empathy measures.

First, these measures generally do not specify the specific kinds or quantities of behaviors upon which the raters must base their decisions as to which level of empathy a therapist's responses represent. Secondly, they are based on the content of the verbal response, and therefore ignore voice quality, which is an essential aspect of the therapists' communication to the client. Thirdly, the behavior scales correlate highly and positively with scales of other variables that have been found to be necessary conditions for successful psychotherapy (Halkides, 1958; Truax, 1961). This suggests that the behavioral measures of empathy are only a slightly different measure of these variables.

Another major problem with measures of empathy based on observed behavior is that these measures generally fail to differentiate between the "tasks" of empathic understanding and empathic communication. The fact that a therapist verbally "reflects" a client's subjective experience, or indicates his/her acceptance of such an experience, need not indicate that his/her understanding is accurate. Furthermore, it is possible that the therapist may comprehend the clients' experience, but not be able to communicate this well in a particular situation, or even that she/he deems it inappropriate to attempt to do so at a particular time. Thus, if a specific verbal behavior is lacking in empathy as measured by such a behavioral scale, it is difficult to tell whether this is due to a lack of comprehension, or a lack of ability to communicate, or both.

Taking the Accurate Empathy Scale (AE) (Truax, 1961) as an illustration of the problems encountered by behavioral empathy scales, a number of studies (e.g., Rappaport & Chinsky, 1972) have cast doubt on whether this frequently-used instrument is a valid measure for therapist empathy, defined by Truax as "the therapist's sensitivity to the client's current feelings and verbal facility to communicate this understanding in a language attuned to the client's current feelings" (Truax, 1961). First of all, studies have indicated a lack of any relationship between this scale and various other measures of empathy (Burnstein & Carkhuff, 1968; Caracena & Vicory, 1969).

Also, Truax (1966) found that AE ratings were essentially unchanged by the presence or absence of the client's statements when four-minute segments were judged. It is hard to reconcile this latter finding with the fact that this scale ostensibly measures how successfully a therapist perceives and understands the client's emotions. Furthermore, AE has been found to be strongly correlated with such variables as therapist genuineness and commitment (Bergin & Jasper, 1969; Kiesler, Mathiew, & Klein, 1967).

Behavioral empathy measures and child adjustment. Only a few studies have examined parent empathy using behavioral measures. Guerney, Stover and Demerritt (1968) developed a direct observational scale of empathic communication for adults in spontaneous play with a child. The seven point bipolar scale ranged from a highest level of responsive and empathic behavior at one extreme, to the least empathic, highest self-involvement measured at the other extreme. In a later study (Stover, Guerney, & O'Connell, 1971), this scale was elaborated to allow for separate coding on three distinct variables which the authors believed made up the total of empathic behavior. These dimensions were: (a) communication of acceptance; (b) allowing the child self-direction; and (c) involvement. Support for the validity of the revised measure was provided by the finding that parent empathy scores increased after parents participated in training in filial therapy (Guerney, 1964), which focuses on training parents to help

their emotionally disturbed young children by the use of client-centered play therapy. Filial therapy has among its goals "the development of empathic understanding on the part of the parent as to the basic needs and feelings the child is trying to communicate and express through his play . . . and his immediate communication back to the child that these needs and feelings are understood, and that he as an individual is fully accepted, whatever his feelings or thoughts may be" (p. 306).

In their final report to NIMH on the effects of filial therapy on the child's adjustment (Guerney & Stover, 1971), the authors report that the children showed gains at a very high level of statistical significance on all measures of improvement. However, when improvement was related to the measure of parent empathy, the results were nonsignificant. From the findings of this study there is no indication that a behavioral measure of parent empathy is superior to a predictive measure. Up to now, neither type of measure has been found to be consistently related to children's adjustment.

A New Measure of Accuracy of Parents' Perceptions of Their Child's Experience

In the present research a new measure of parent perceptual accuracy was developed and its relationship to children's social adjustment was examined. The "Parental Accuracy" indices measure how accurately a parent

perceives his/her child's perceptions of the parent's own caregiving behavior. The instrument used, which is described more fully in a later section, is based on part of Dymond's predictive procedure for measuring accuracy of person-perceptions, rather than on the behavioral procedure. However, it incorporates several features that previously have not been used to measure parent predictive accuracy. First, the Parental Accuracy measure is based on the parents' perceptions of how the child views the parent, rather than how the child views himself. Secondly, the parent is asked to rate the child's responses about particular behaviors, rather than global personality traits or characteristics, which typically have been the basis for previous parent accuracy measures. Reasons for these changes are discussed below, along with a rationale for choosing this particular content area and level of experience for study.

The choices of the specific "level" of the child's experiences--perceptions of behavior--and the specific content area--parents' caregiving behavior--as the basis for measuring parents' accuracy derive from the material presented in the previous discussion, as well as from some other factors. First, it was influenced by the belief that accuracy of perceptions is multidimensional in nature, and the caution voiced earlier that particular parent accuracy measures should be treated as separate variables and expected to have differing effects on parent-child

interaction. Results found for the selected measure should not be generalized to other accuracy measures unless there is direct evidence showing a high correlation between the two measures. Therefore, the measure of parent predictive accuracy used in the present research was one which could be expected to be directly important to the socialization process and children's adjustment, rather than being merely indirectly linked to these through being hypothesized as an index of some generalized empathic trait. For example, it would not have sufficed to use a measure of the parents' ability to judge their child's musical tastes, since there is little reason to expect a direct relevance of perceptual accuracy in this area to children's adjustment.

With this injunction in mind, it was further expected that if the parental predictive accuracy measure chosen for study was to have direct relevance to children's adjustment, its manner of influence on the quality of the parent's caregiving behavior should be easily postulated. It seemed more likely that the effectiveness of parental caregiving behavior would be influenced by the accuracy with which the parent was able to judge how the child viewed him/her than by the accuracy with which the parent was able to judge the child's self-description.

First, there is some indirect evidence for this. Children's perceptions of their parents have been found in numerous studies to be related to children's adjustment

(see the review of this research by Goldin, 1969). These perceptions are the "mediating variables" which "shape" the parents' behavior as it is "taken in" by the child. The child is not affected directly by the actual parent behavior, but by this behavior as it is "filtered" through his/her person-perceptions. Given the importance of children's perceptions, one could speculate that parents' ability to infer these accurately might also be important to the parents' ability to guide their child's growth.

A more detailed theoretical argument can be made. Writers in the symbolic interactionist tradition in social psychology (e.g., Mead, 1934) have suggested that people are continuously making judgments about how they appear to another person, and that their "perceptions" of how they appear to significant others influence both how they view themselves (their self-concepts) and their behavior in interaction with the significant other. Furthermore, people often attempt to project a desired image of themselves to the significant other. With respect to relations between parents and children, this argument leads to the speculation that parents frequently judge how their caregiving behavior is being perceived by their child and that these judgments influence the way they seem themselves (their self-image) as parents. Where the self-image is inconsistent either with their "idealized self" or with their conception of how it is best for the child's well-being to see them, they will alter their responses so that their

image will begin to become more congruent with their intentions. Such a process may affect both their immediate response to the child in a specific situation and their general mode of responding to the child. For example a parent may wish to appear immediately punitive in reaction to a situation in which the child has broken an important rule, and yet, wish to be seen overall as an accepting and loving parent. But in order to obtain the intended image of himself/herself in the child's eyes, and therefore, the intended self-image, the parent must be able to infer accurately how the child is currently perceiving him/her, as well as how a specific response or series of responses to the child has altered the child's perceptions. When the parents' inferences are generally accurate, the child's actual perceptions of the parent will correspond closely to the parents' intentions, and the child's responses to the parent will confirm this image for the parent. There will be a "finely-tuned" aspect to the process described, which should lead to more effective parental responses to the child. Thus, this inferential process is seen as existing as an important interaction variable in it's own right, and can be viewed as more than a "test" of general empathic ability.

Goldin (1969) gives a hypothetical example of how a parent's accurate inferences about how the child views him/her may be put to good use by the parent of a delinquent child. If it were found that delinquent

children as compared with normal children reported their fathers to be less accepting of their athletic achievement, and if the father accurately inferred this to be the case with his own child, he could modify the child's perceptions by programming experiences in which he would go out of his way to show interest and encouragement of his child's athletic interests. By altering both the conditions leading to the deviant perceptions and the specific perceptions themselves, Goldin believes that both the attitudinal and environmental support for the deviant outcome behavior (i.e., aggressive acts) can be eliminated. He sees such techniques as falling between the traditional psychotherapy approach and the behavioral modification approach to treatment. From the child's viewpoint, his father's effective responses to his unsatisfactory or unhappy perceptions would seem immediate and predictable; he would learn to feel secure that his father will continue to be able to respond effectively to his needs.

On the other hand, misconstruing the child's perceptions of parent behavior could be detrimental in that it may become a source of frequent conflict between parent and child. For example, if the parent infers that the child perceives him/her as very permissive and seldom punishing, while the child actually perceives the parent as exhibiting the average amount of punishing behavior, the parent may be more punishing than is necessary in order to enforce limits with the child. This may cause the child to view the

parent as much more punishing than the parent intended. Over the long-run, such situations could cause the child to view the parent as unpredictable in his/her responses. Furthermore, the child could be presented with a long series of "double binds" where the parent would verbalize that she/he is responding in a loving manner, when to the child these responses appear withholding and punishing.

This reasoning led to the following prediction, which was examined empirically by the present research:

Hypothesis 1: Parental Accuracy in predicting their children's judgments about their caregiving behaviors will be positively related to their children's adaptive behaviors and negatively related to their children's unadaptive behaviors.

Choosing Dimensions of Children's Perceptions of Parent Behavior to be Rated

In discussing methodological issues surrounding measures of perceptual accuracy, Cronbach (1955) suggested that "any index combining results from heterogeneous items presents serious difficulties of interpretation. Whatever factors the items measure, a 'global' measure combines with definite weights into a composite. Effects which operate differently on the several factors are masked" (p. 178).

In most of the accuracy studies performed to date, global accuracy scores have been the rule. The present

study, however, heeds Cronbach's caution in that separate accuracy scores were used for the three dimensions of children's perceptions of parent behavior which have been found to represent the universe of the content of children's perceptions in this area (Goldin, 1969). This procedure permitted examination of the extent to which Parental Accuracy on the three dimensions differ with respect to their relationship to child behavior and adjustment.

Dimensions of children's perceptions to be rated. Within the specific area of children's perceptions of their parents there has been some success in isolating the dimensions by which a child views his/her mother and father. Goldin (1969) reviewed the past literature on children's reports of parent behavior in terms of a model combining features from two well-constructed scales, the Bronfenbrenner Parent Behavior Questionnaire (BPB) (Siegelman, 1965) and the Child's Report of Parental Behavior Inventory (CRPBI) (Schaefer, 1965a, 1965b). He found that three orthogonal factors: Loving (Acceptance-Rejection), Demanding (Psychological Control), and Punishment, and the intersecting planes of the first two factors (best defined as Over-Controlling Love or Contingent Love), described quite well the traditional domain of parent-child interaction variables as reported by children. However, process variables (such as perceived parental consistency, delay of reward, etc.) and noninteractional variables (such as parental social and economic sex role) were not described

by the combined model.

A third well-constructed instrument for measuring children's perceptions of parent behavior is the Parent-Child Relations Questionnaire (PCR) (Roe & Siegelman, 1963). The factors derived from the PCR were Loving-Rejecting, Casual-Demanding, and Overt Concern. Thus, the first two factors in all three of these scales appear very similar, while the third factor in each seems to tap a somewhat different aspect of children's perceptions of parent behavior.

Schaefer's conceptual model of children's perceptions of parent behavior. Factor analysis, by itself, cannot distinguish the conceptual space by which a child organizes his perceptions of parent behavior. It cannot adequately answer the questions "what categories do children use to perceive parent behavior?" and "do these categories differ from the categories used by adults to perceive their own care-giving behavior?" This was noted by Schaefer (1965b), who attempted to arrive at a better understanding of the categories children use in their perceptions of parents through developing a configurational analysis of these perceptions.

> The factor definitions have been determined by the sampling of parent behavior concepts and the rotations resulting from that sampling. The exclusion of certain scales or the inclusion of others might have resulted in somewhat different dimensions. However, plotting these dimensions may reveal invariant configurations that could be replicated with another sampling of the universe. . ." (p. 555).

Earlier, Schaefer (1959) developed such a configurational analysis of parent behavior based on an organization of psychologists' ratings of parent behavior. The organization was interpreted both as independent dimensions--Love vs. Hostility and Autonomy vs. Control--and as a circumplex or circular order of neighboring concepts. Additional confirmation of the model was obtained from a reanalysis of the data from a number of prior investigations of parent behavior. Schaefer (1965b) attempted to fit children's perceptions as measured by the CRPBI into this configurational analysis. Of the three factors of children's perceptions: Acceptance vs. Rejection, Psychological Autonomy vs. Psychological Control, and Firm Control vs. Lax Control, the section of the plane generated by the first two factors are identified in the model. Schaefer then suggested a spherical (3-dimensional) conceptual model that would take into account all three factors.

The revised conceptual model of parent behavior as perceived by the child which is formed by the intersect of the three factorial dimensions, accounts for the differences between the factor structures obtained by Siegelman (1965) and those obtained by Schaefer (1965a,b). Schaefer (1965b) showed empirically that the CRPBI reference scales of Punishment and Strictness (which coincide with Siegelman's Punishment factor) fall at the conceptual intersect of Firm-Control and Psychological-Control. Therefore, it would appear that differences

between the factor structure of these two instruments are more apparent than real, in that both tend to account for the same reported parental behaviors, with only minor differences in emphasis (Goldin, 1969).

Three indices of "Parental Accuracy". In the present study, the accuracy with which parents could predict how their children perceive their behavior was examined for the three Siegelman-Schaefer dimensions. Since these three dimensions have been found to be distinct and together account for the domain of children's perceptions in many past studies (Goldin, 1969), it seemed reasonable to expect that parents' ability to infer the child's perceptions on each dimension would have somewhat different effects on children's behavior and adjustment. Thus, the indices of parental accuracy derived from the three dimensions were treated as separate variables in the present study.

Choice of an Instrument for Parents' and Children's Ratings

The instrument chosen to measure parents' and children's judgments of parent behavior in the present study was a modified version of the BPB. Although more research on children's perceptions has used the CRPBI, the BPB was judged to have the following advantages: (1) the BPB is much shorter than the CRPBI, having 45 items per parent in the original version, as compared to 192 items per parent in the original Schaefer measure. For this reason, it was less taxing to complete in terms of the

attention span required, and therefore, more appropriate for use with early elementary school-aged children who were the child subjects in this study; (2) An inspection of the two scales showed that the BPB items were in general more appropriate to the lives of the seven-year olds who served as subjects, and that, in general, the BPB contained an easier vocabulary than the CRPBI; (3) In his review of the past research pertaining to the factors of children's perceptions derived from the BPB and CRPBI, Goldin (1969) concluded that, although the Schaefer and Siegelman factors were very similar, "an investigation of the degree of parsimony with which each system explains earlier studies shifts the balance in favor of Siegelman's (1965) dimensions. His system better explains earlier, intercorrelational studies of children's reports of parent behavior" (p. 223-224). Goldin concluded that the main difficulty associated with the Schaefer factors is that in order to account for much of the earlier literature in terms of his model, it is necessary to invoke repeatedly the intersecting plains of two of his dimensions (Firm Control-Lax Control and Psychological Autonomy-Psychological Control); while the three factors of the BPB seem to fit the data from earlier studies more parsimoniously. Thus, it is somewhat surprising that subsequent studies have generally not used the BPB. Perhaps a reason for this is that most research on children's perceptions have focused on the perceptions of older children or the recollections of young adults

concerning their parents' behavior while they were growing up. In these latter age groups, test-taking ability, reading skill, and attention span are much more highly advanced than in earlier elementary school-aged children.

Parental Real Similarity and Children's Adjustment

In discussions of perceptual accuracy and real similarity between the Judge's and Other's perceptions, real similarity is almost always treated as a possible confounding factor in the accuracy score. However, it is possible that the extent of real similarity between parent's inferences of their children's perceptions, and the children's perceptions of their parents, may itself be an important parent-child relationship variable related to the children's behavior and adjustment.

The degree to which parents and children's perceptions of parent behavior are similar may be indicative of a basic similarity in outlook. Sullivan (1953) speculated about the importance of mutual agreement in perception by parent and child as a factor that enables them to draw closer together and to establish real communication. From the perspective of the child, a high level of real similarity may be an indication that his/her "world"--in which parent behavior towards him/her is of great importance--is a predictable place. If the child and parent view parent behavior similarly, it is more likely that the child will be able to anticipate correctly the parent's

behavior in a particular situation, since the parent will be acting on similar perceptions of the situation as the child. On the other hand, if parents' self-perceptions and children's perceptions of the parents' behavior differ, breakdowns in communication and understanding may result. The example used earlier with respect to Parental Accuracy applies here as well. If the parent perceives himself/herself as high on the dimension of Loving, while the child views the parent as low on Loving, the child may, from the perspective of his/her own perceptions, need and demand greater affection from the parent. However, the parent may react hesitantly to the child's requests, since she/he believe she/he already is very Loving. She/he may interpret the child's demands as an indication of excessive neediness and dependency, and his/her responses may become more distant and punishing, rather than more affectionate.

Furthermore, as with low Parental Accuracy, a low level of Parental Real Similarity raises the possibility that "double bind" situations will occur. When the parent's and child's perceptions of parent caregiving behavior differ sharply, the result may be that the child finds himself in a double bind situation with respect to the parent, since the parent's verbalizations about his/her caregiving behavior, based on his/her self-perceptions, will differ from the child's understanding of the caregiving behavior. Two types of double binds conceivably may occur: (1) The "classical" double bind would occur when the child's

perceptions are essentially correct and the parent's perceptions are distorted. The child will then be confronted with parent behavior that contradicts the parent's verbalizations (i.e., the parent acts withholding while saying she/he is loving); (2) A different type of double bind would occur in the situation in which it is the child's perceptions, rather than the parent's perceptions, that are distorted. In this case the child still will be perceiving the parent's caregiving behavior differently from the parent's verbalizations concerning the behavior, and therefore still will be perceiving contradictory types of messages.

This reasoning generated a prediction, which also was examined in the present research:

Hypothesis 2: Parental Real Similarity (on the three BPB dimensions) will be positively related to "adaptive" child behaviors and negatively related to "unadaptive" child behaviors.

Adaptive and Unadaptive Child Behaviors

The two hypotheses advanced above are stated in terms of adaptive and unadaptive behaviors. Therefore, it was crucial to define conceptually the dimensions of children's activities that would identify these behaviors as adaptive or unadaptive. To this end Leary's Circumplex model of social functioning was employed (Friedman, Leary, Ossorio, & Coffey, 1951; Leary, 1957). Leary conceptualized

social behavior as falling within a two-dimensional space. One dimension is concerned with Affiliation vs. Disaffiliation while the other focuses on Dominance vs. Submission. Of these two dimensions Affiliation-Disaffiliation seems to be the most important as an index of adaptive vs. unadaptive child behavior. Affiliative child behavior is in most cases adaptive. (An exception might be if the adult acts hostily to the child). The child's affiliative behavior indicates an openness towards, an involvement with, and an ability to derive pleasure from the relationship. It shows, for example, a lack of anxiety in the child about interacting with an unfamiliar person in an unfamiliar setting--which was exactly the interpersonal situation that the child subjects in the present study encountered.

With respect to the Dominance-Submission dimension, a competent child might be expected sometimes to be the more dominant and sometimes to be the more submissive, depending on setting, structure, and other situational aspects of the interaction. This seems especially true of the social setting of a playroom interaction, examined in the present research. Here, one task, free play, probably called for more dominant child behavior, while other tasks (learning proverbs and manipulating an Etch-a-Sketch) probably called for the child to take a more submissive role.

In the present research it was predicted that Parental Accuracy (and Parental Real Similarity) would be related to children's behavior in a playroom interaction as

described by the Circumplex system. It was expected that there would be positive relationships between Parental Accuracy indices and Circumplex behavior in the Affiliation-Dominance and Affiliation-Submission quadrants (here labeled "adaptive behavior"), while there would be negative relationships between these measures and Circumplex behaviors in the Disaffiliation-Submission and Disaffiliation-Dominance quadrants (labeled "unadaptive" behaviors).

Description of the Circumplex behavior categories.

Presented below is a description of the 16 Circumplex behavior categories and a brief explanation of why each was categorized as either adaptive or unadaptive.

Dominate is a somewhat adaptive behavior. More specific examples of dominate are such acts as state with authority, change subject, correct, order directly. Such behavior is indicative of the child's sense of competency and self-esteem. However, it also involves active control over the other's behavior.

Structure is an adaptive behavior. Behavioral examples of this category are suggest, work with, make a guess, interpret, help. Once more, such behavior is indicative of the child's sociability and competency.

Reassure is also an adaptive behavior. Such behaviors as support and say nice things are examples of this category of activity. This type of behavior implies that the child cares about the other person and is willing to act altruistically.

Love is another adaptive behavior. Expressive of Love is show admiration, appreciate, be affectionate, identify with. Such behavior is indicative of the child's ability to show affection and get close to an adult.

Cooperate is also an adaptive behavior. It is exemplified by such behaviors as collaborate, confide in, agree with, accept. Cooperation is indicative of the child's ability to work productively with, and accept guidance from, an adult.

Depend is categorized as a somewhat adaptive behavior. Contained in this type of behavior are such social acts as ask for help, reassurance, or affection, express need, and ask for directions. Such behavior indicates that the child is able to express needs and feelings and to ask an adult for support. This category of behavior is particularly appropriate to those encounters which require the child to rely on the adult with whom she/he was interacting.

Passively Question also is categorized as a somewhat adaptive behavior. Example of behaviors in this category are ask for information, inquire, and admit others' expertise. Such behavior indicates the child's ability to look to an adult for guidance.

Submit is categorized as a somewhat unadaptive behavior. Contained in this category are such behaviors as obey, defer, comply. While such activity may be indicative of an ability to look to an adult for guidance, this category connotes an overemphasis on letting the adult be

in control, to the extent that the child's own wishes and needs are left unsatisfied.

Be Helpless also is categorized as an unadaptive behavior. Specific examples are such behaviors as condemn self, withdraw, back down, give up, apologize, show fear, and show anxiety. Such behavior is indicative of the child's low self-esteem, lack of autonomy, and depth of anxiety.

Suspect is another unadaptive behavior. Falling within this category are such behaviors as distrust, accuse, question motives. Such behavior prevents the child from moving towards, and opening himself/herself up to other people.

Complain also is an unadaptive behavior. Behaviors such as resist passively, obstruct, be difficult, sulk, tease and whine are considered to be acts of complaint. Such behavior is often indicative of hostility in the child that cannot be expressed openly.

Hate is categorized as an "unadaptive" behavior. Included in this category are such behaviors as dissafiliate, attack, criticize, glare, beguile, show active dislike. Again, this category implies hostility in the child, but of a more open kind.

Punish is also categorized as an unadaptive behavior. Examples of this type of social act are challenge, be angry, be aggressive, lose temper, throw tantrum, mock. This category is also indicative of the child's hostility.

Compete is categorized as a somewhat unadaptive behavior. Included here are such behaviors as disagree, combat, argue, negate, oppose, refuse, and reject. This category usually is indicative of a "negative" relationship with the other person and implies hostility.

Actively Resist is another unadaptive behavior. This category contains such behaviors as interrupt, be self-centered, be rude, and show self-interest. This category shows a lack of caring for the other and a concern focused mainly on oneself.

As described in detail below, the present research examined children's social behavior using a modification of a coding system (Freedman, Leary, Ossorio, & Coffey, 1951) that was based upon the Circumplex Model.

CHAPTER II

METHOD

Overview

The child subjects were one hundred fifty, 7-year old second grade children who were transported to Michigan State University, where each interacted with an undergraduate student for 30 minutes in a playroom. The playroom sessions were videotaped. Afterwards, each child was taken to another room where a "child experimenter" administered the children's perceptions measure, which elicited his/her perceptions of one of his/her parents' caregiving behavior. Later, parents were contacted by mail and asked to complete and return a parents' inferences measure and a parents' self-perceptions measure.

These three original perception measures were used to compute three derived perception measures: Parental Accuracy, Parental Real Similarity, and Parental Assumed Similarity. The derived Parental Accuracy indices were calculated by computing absolute difference scores between Parents' Inferences and Children's Perceptions on three dimensions of caregiving behavior. The derived Parental Real Similarity indices were calculated by computing absolute difference scores between Parents' Self-Perceptions

and Children's Perceptions. The third derived perception measure, Parental Assumed Similarity, was calculated by computing absolute difference scores between Parents' Inferences and Parents' Self-Perceptions.

In addition, ratings were made for 16 categories of child behavior based on the Circumplex Rating System developed by Leary (Freedman, Leary, Ossorio, & Coffey, 1951).

Participants in the Study

Children. In the Fall of 1974, 7-year old, second grade children were recruited through the East Lansing Michigan School District to serve as subjects in a psychology research project. The parents were told in a letter soliciting their cooperation that transportation would be provided for their child and that the child would receive $5 for his/her one hour of participation. Parents indicated their willingness to allow their child to be involved by returning a postcard to the experimenters. In all of about 600 postcards sent to parents, about 300 postcards were returned, out of which 143 children from 141 families were randomly chosen to participate. All children in the final subject sample were Caucasion and the great majority belonged to families of middle or upper-middle class socioeconomic status.

Undergraduates. The undergraduate students who interacted with the children in the playroom were 71 males and

72 females at Michigan State University. These students were recruited as part of another study (Messé & Stollak, 1976) concerned with the measurement of perceptual style. The undergraduates were paid volunteers.

Parents. Parental data were obtained from the parents of the children who participated in the study. Parents were contacted by mail after their child had participated in the research and were asked to complete a set of questionnaires that would provide more information about their children and their own child-rearing practices. The parents were asked to fill out the questionnaires independently of each other.

Procedure

One hundred and forty-three undergraduate students at Michigan State University served as the "adult companion" for the children. Children and undergraduates were randomly assigned to each other. When an undergraduate arrived for the experiment, and when the child was picked up at home by the researchers, the procedure of the study was explained and the undergraduate and the child's parents were asked to sign appropriate consent forms. The undergraduates and parents were informed that the playroom session would be videotaped from behind a one-way mirror. However, the children were not told that the session was being recorded.

Playroom interaction. The playroom interactions took place in three observation playrooms at the Psychological

Clinic at Michigan State University. Each playroom was equipped with a standard array of toys and craft materials. A number of undergraduate students were enlisted to be trained as video-tape equipment operators, experimenters, and child interviewers (see below).

Once together in the playroom, the pair was allowed 10 minutes to do "whatever they wanted." They then were asked to draw a figure together on an "etch-a-sketch," with each person only controlling one direction that the line could take. Finally, in the last 10 minutes, the undergraduate was asked to teach the child the meaning of several proverbs. (Appendix C presents both the design that the subjects were asked to copy on the etch-a-sketch and the list of proverbs.)

Obtaining children's perceptions. After the play session, the child was met at the playroom by an interviewer who escorted him/her to another room. There the child was asked to complete a schedule consisting of the BPB questionnaire, described above, that was designed to measure his/her perceptions of the parent of the same sex as the undergraduate with whom she/he interacted (same-sex parent), as well as two additional questionnaires concerning his/her perceptions of the undergraduate and of the playroom situation which were not used for the present study. The interviewers were three male and two female undergraduate students especially trained in interview skills with children. Four of the five interviewers also

had completed a year-long class offered by Professor Gary Stollak of the Psychology Department, Michigan State University, entitled "Sensitivity to Young Children," which was directed toward teaching methods of communicating sensitively to children. The other interviewer had previous professional experience working with children. Interviewers were randomly assigned to children.

Questions were administered verbally and the child's verbal responses were recorded on the questionnaires by the interviewer. The interviewer was careful to make sure that the child understood the directions for each part of a questionnaire before it was administered. Any words that a child did not understand were defined. Otherwise, the interviewer did not elaborate on any of the items. If the child did not understand or could not answer a question (which happened only rarely) the interviewer proceded to the next question. To make sure that the child understood and could pronounce all possible answers, the interviewer requested that the child repeat the possible responses to the questionnaire before she/he began to answer the items (see the instructions for the interviewers, presented in Appendix A). The child was reminded of the possible answers that she/he could give after every five responses.

Original Perception Measures

Children's perceptions of parent behavior (Children's BPB). The Bronfenbrenner Parent Behavior Questionnaire (BPB) is a revision of an earlier measure of children's perceptions of parent behavior--the Parent Activity Inventory (Bronfenbrenner, 1961). The oldest form of the questionnaire consisted of 100 items designed to measure 20 different dimensions of the parent-child relationship. The child was asked to answer questions of about how his/her parents acted towards him/her. Following the conceptual distinction suggested by Parsons and Bales (1955), the variables were grouped into two broad classes: expressive functions, typically associated with the mother and including such variables as "nurturance," "affection," "indulgence," etc., and instrumental functions, traditionally connected with the father--for example, "physical punishment," "power," "principled discipline," etc. The original inventory consisted of 5 items, scattered throughout the questionnaire, for each dimension. Subjects were asked to indicate, by rating on a 5-point scale, the extent to which each item applied to the parent's treatment of him/her as she/he grew up. The items were the same for mother and father.

A later form of this questionnaire was used by Siegelman (1965) in his factor analytic study of children's perceptions of parent behavior (see earlier discussion). This version of the questionnaire included 15 of the 20 original dimensions. Three items were used for each

subscale and some of the items were slightly reworded.

The form of the BPB used in the current study contained some further modifications of the Bronfenbrenner instrument. (The complete questionnaire as it was used in the present research appears in Appendix A.) The following changes were made in Siegelman's version of the questionnaire, for the specific purpose of making the instrument more appropriate for use with early-elementary-school-aged children: (1) Some of the items were reworded slightly so that the language was easier for a young child (age 7) to understand; (2) The words "he" or "she" were added to the items on the appropriate questionnaire; (3) Only two items were used for each of the 15 subscales, thus reducing the total number of items for each parent from 45 to 30. The items selected were those deemed the most pertinent ones to the life of a seven-year old. (For example, the original item "Insists that I get permission first before I go to a movie, a carnival, or some other entertainment" was judged to be generally inappropriate for this age group.); (4) The responses to the items were changed from responses denoting frequency (e.g., almost every day, once a month, etc.) to a forced choice format. Each item could be answered with one of the following alternatives: "Definitely yes," "Probably yes," "Definitely no," or "Probably no." The child was instructed to answer definitely yes if she/he felt that the behavior described was definitely a behavior shown (more than rarely) by the

parent. A response of probably yes indicated that the child felt the parent probably engaged (more than rarely) in the described behavior. A response of definitely no indicated that the child felt the parent definitely did not engage in the described behavior, while an answer of probably no indicated that she/he felt the parent probably did not engage in the behavior. This format was chosen because it was thought to be easier for a young child to understand and answer, since it did not require an estimation of time span; (5) Although almost all of the subjects probably could have read the items, it was decided to administer the questionnaire orally to make the task less frustrating and time consuming for the child.

Scoring of the Children's BPB was done by assigning a score of 4 to each "Definitely yes" response, a score of 3 to each "Probably yes" response, a score of 2 to each "Probably no" response, and a score of 1 to each "Definitely no" response.

Parents' self-perceptions of their behavior with their child (Parents' BPB-Self-Perceptions). Only one parent per child (see below) was asked to complete a modified BPB, giving perceptions of his/her own behaviors towards the child who participated in the research. The items essentially were identical to those that were presented to the children, with the only change being the substitution of the word "I" (indicating that the parent is answering about his/her own behavior) for the words

"she" or "he" on the child's form. The scoring system was identical to that used on the children's BPB. This questionnaire is presented in Appendix A.

Parents' inferences of their children's perceptions (Parents' BPB-Inferences). The parents also were asked to complete a different modified BPB, this time indicating their inferences of how their child perceives them. The following instructions were given:

> Now please imagine you are your child, the one who participated in the study, and you are asked to comment upon the following statements about you--his/her mother or you--his/her father. That is, we'd like to know how you think your child sees you. These statements are the same as before, only this time put yourself in your child's place.

The items for this questionnaire were identical to those on the Children's BPB. The scoring system was identical to that used for the other questionnaires. This questionnaire is also presented in Appendix A.

Derived Perception Measures

Parental Accuracy. The extent to which parents made accurate inferences about their child's perceptions of them was measured by computing the absolute difference between parents' inferences of the child's perceptions and children's perceptions of parent behavior on each of three composite scores (see below) that reflected a particular dimension of parent behavior.

Parental Real Similarity. The extent of actual similarity between parents' and children's perceptions of

parent caregiving behavior was measured by computing the absolute difference between parents' reports of their behavior and children's perceptions of parent behavior on each of the three composite scores.

Parental Assumed Similarity. The extent to which parents inferred that their children would perceive them as they viewed themselves was measured by computing the absolute difference between parents' self-perceptions and their inferences on each of the three composite scores.[1]

Circumplex Ratings of Children's Interaction with an Undergraduate

Ratings were made of children's interactions with a college student in a playroom setting. Although the most likely relationship would be between parent-child interaction and accuracy of parental inferences, it was decided to examine children's behavior with an undergraduate rather than children's behavior with a parent because of the possibility that a parent's behavior in the playroom would both be related to the child's behavior and be related to Parental Accuracy (and Parental Real Similarity), thus confounding the attempt to discern whether child behavior was related specifically to the derived perception scores.

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[1]Although a large absolute difference score reflects little accuracy, real similarity, or assumed similarity, in order to aid in the reading of the behavior findings, the correlations were transformed so that a positive correlation reflects a positive relationship with the derived measure.

The child's pattern of behavior with the undergraduate should be somewhat characteristic of his/her interpersonal behavior across other social relationships (e.g., with teachers, peers, etc) and should be indicative of the child's general psychological and social adjustment. Although the child's behavior will be affected by the behavior of the undergraduate with whom she/he interacts, if Parental Accuracy and Parental Real Similarity are important variables in children's personality and social development, one would find relationships between these variables and the children's behavior, independently of the particular person with whom the child interacts.

The half-hour playroom interaction was divided into three ten-minute tasks: free play, proverbs, and etch-a sketch. These tasks represented three important types of interactions that a child has with an adult: (1) the adult plays with the child; (2) the adult teaches the child; and (3) the adult and child work jointly on a task. These tasks are described in more detail in a later section.

The system used to categorize children's playroom behavior was developed by Leary (Freedman, Leary, Ossorio, & Coffey, 1951) and uses as a cornerstone the concept of "interpersonal mechanism," which describes verbal behavior in terms of its interpersonal function. As discussed in some detail in the introduction, Leary designed a two-dimensional (Affiliation-Disaffiliation, Dominance-

Submission) circumplex arrangement of behavioral categories. In the rating scheme that was designed to reflect the Circumplex Model, behavior is coded from the perspective of an "interpersonal mechanism." The basic unit of verbal interaction is defined as the "meaningful speech" which is comprised of one or more words that serve an interpersonal function and are not interrupted by the other person. Sixteen categories of interpersonal behavior are scored. These are Dominate, Structure, Help, Reassure, Love, Cooperate, Depend, Passively Question, Submit, Be Helpless, Suspect, Complain, Hate, Punish, Compete, and Actively Resist.

Several investigators have successfully used the Circumplex system to measure behavior interaction between adults and children (Raush, Dittman and Taylor, 1959; Raush, Farlman, and Llewellyn, 1960). Rowland (1968) suggested that one problem in studies using the Circumplex system to measure interaction of adults and children is that a different frame of reference is necessary for rating each group. To correct this, he developed separate definitions of the behavior categories for children and for adults (see Appendix B). The present study used Rowland's definitions for the Circumplex categories. (These definitions also are contained in Appendix B, along with examples of child behaviors for each category and a modified Circumplex diagram showing the behaviors.)

Each videotape of a child-undergraduate interaction was rated independently by two different coders (see Appendix B for scoring sheet). Ratings were made for each act or every 30 seconds of a continuous behavior. Each of the three segments of the playroom session (free play, etch-a-sketch and proverbs) was coded separately and then the scores were combined to give a total score for the 16 behavior categories. The total scores were used as the measure of children's behavior in the current study.

Because the undergraduate had been preselected on a measure of perceptual bias by Messé and Stollak as part of a related experiment (Note 1), it was necessary to eliminate the confounding effect of this variable by transformation of the data to standard scores on the basis of the undergraduate's "perceptual style." To eliminate any effect which the sex of the undergraduate may have had on the child's behavior, a second transformation to standard scores was done based upon the undergraduate's sex.

Design and Statistical Analysis

The data from the three original perception measures--Child's Perceptions, Parent's Inferences, and Parent's Self-Perceptions (of the same sex as the undergraduate with whom the child interacted)--were pooled and submitted to a principal axis factor analysis. The pooling of data appeared appropriate given that preliminary analyses of the factor structures for each of the individual instruments

showed them to be very similar. To determine whether sex of child or sex of parent influenced the behavior dimensions derived from the factor analyses, separate factor analyses were also conducted for the father-son, father-daughter, mother-son, and mother-daughter data. The factor structures for all of these groups again were very similar, and, thus, the decision was then made to use the original factor analysis (of the total sample) as the basis for subsequent data analyses.

A set of criteria was developed for defining the factors and for deriving composite scores for each. These composite scores then were used for the analyses that are described below. To examine relationships among the different derived measures, correlation analysis was employed. Correlation analysis was also used to determine the relationship between the derived measures and their component variables. To examine the relationship between Parental Accuracy and children's playroom behavior, as well as to examine the relationship between Parental Real Similarity and children's playroom behavior, correlational analyses, including partial correlations and step wise multiple regressions were used.

CHAPTER III

RESULTS

Final Subject Pool

One hundred forty-three responses were received from 70 percent of the total group. The respectable participation rate makes it likely that the final parents' subject pool was representative of the population sampled.

Factor Analysis of BPB

The data for the 15 subscales of the Children's BPB, the Parents' BPB-Self-Perceptions, and the Parents' BPB-Inferences were pooled and submitted to principal components factor analysis. $\underline{R}^2$ was used as the estimate of communality, and factors were rotated to varimax solution. This procedure generated four factors. The factors that were produced by varimax rotation were defined by the following criteria: (1) all items that were relevant to a factor had to load higher than .45 on that factor, and (2) such items also had to load less than .3 on every other factor, unless (3) the difference between the highest loading and the next highest loading was greater than .2, and (4) at least two items had to meet these criteria for a factor to be defined as useful.

Of the four factors derived from the rotation, the first three, accounting for 92.5 percent of the cumulative variance, met the definition criteria. Factor I, labeled "Love," has high loadings on the subscales of Nurturance, Affective Reward, Instrumental Companionship, and Affiliative Companionship. Factor II, labeled Punishment, has high loadings on the subscales of Social Isolation, Expressive Rejection, Physical Punishment, Deprivation of Privileges, and Affective Punishment. Factor III, labeled Demanding, has high factor loadings on the subscales of Protection, Power, and Achievement Demands (see Table 2).

Factor I (46.2 percent of the total variance) involves the extent to which a parent was someone whom the child could talk to about everything, who would comfort the child, who would say nice things about the child to other people, who would praise the child, who would teach the child and help him/her make things and build things, who would go on walks and do nice things outside with the child, and who was happy when with the child.

Factor II (37 percent of the total variance) involves the extent to which a parent would punish the child by forbidding him/her to play with other children, send the child to bed early as punishment, tell the child that other children behave better than she/he does, scold and yell at the child, slap the child, spank the child, forbid the child to do his/her favorite things when the child is bad, and would punish the child by taking his/her favorite

Table 2. Summary of Factor Loadings for BPB (3 of 4 factors derived after rotation were defined)

Subscale	Loading	Next Highest Loading on a Defined Factor
Factor I--"Love" (46.2 percent of total variance)		
Nurturance	.61894	.14668
Affective Reward	.71439	-.16472
Instrumental Companionship	.64432	-.07917
Affiliative Companionship	.77602	-.12980
Factor II--"Punishment" (37 percent of total variance)		
Social Isolation	.60415	.18387
Expressive Rejection	.67171	.18741
Physical Punishment	.56062	.10278
Deprivation of Privileges	.72806	-.17889
Affective Punishment	.55317	.13281
Factor III--"Demanding" (9.3 percent of total variance)		
Protection	.48381	.10365
Power	.54853	.22500
Achievement Demands	.44828	.09409

things away. Other behaviors loading highly on this factor measure the degree of showing disappointment and sadness when the child misbehaves and telling the child that one doesn't want to have any more to do with him/her when she/he misbehaves.

Factor III (9.3 percent of the total variance) involves the extent to which a parent would want to know exactly how the child spends money when she/he buys some little things for himself/herself, would tell the child exactly when she/he should come home, would insist that the child make a special effort in everything she/he does, and would demand that the child does better than other children. Other behaviors loading highly on this factor measure the extent to which a parent would come with the child when the child goes someplace for the first time and would not let the child roam around because something might happen to him/her.

Composite scores were calculated based on the three factors by summing the scores for the subscales that defined each factor. For example, the composite score for Factor I was computed by adding the scores for the subscales: (1) Nurturance; (2) Affective Reward; (3) Instrumental Companionship; and (4) Affiliative Companionship.

Comparison of present dimensions to the Siegelman-Schaefer Model of Children's Perceptions. The decision to combine the child and parent perception data did not change greatly the factor structure one would expect to find from

an analysis of children's perception data alone. The BPB factors defined here are quite similar to those obtained by Siegelman (1965) in his analysis of children's perceptions that were derived from the BPB. These factors also conform closely to the dimensions Goldin (1969) derived from the combined BPB-CRPBI model, which he showed accounted for most of the previously investigated dimensions of children's perceptions. An interesting finding is that the dimensions of "Contingent Love," which Goldin found to be important in the past research, but which did not appear as a distinct factor in either the BPB or the CRPBI, is incorporated into the Punishment factor in the present study. In this study, the Punishment factor is a composite of the various socialization forces that parents use to coerce children to change their behavior. In Siegelman's investigation the Affective Punishment subscale was highly loaded on the Demanding factor, while in the present study it was highly loaded on the Punishment factor. Indulgence was loaded highly on the Punishment factor in Siegelman's study, but not here. Another difference between the present factors and those found by Siegelman is that in this study the first factor--Love--did not have high loadings for Prescription and Principled Discipline, as was the case in Siegelman's (1965) study. However, the Love factor derived here is more in keeping with Goldin's BPB-CRPBI model, which found perceptions of parental affection to be an important dimension investigated in previous research.

Reliability and Frequency of Circumplex Behavior Categories

Table 3 shows the average reliability across coder pairs for the 16 Circumplex behavior categories. This ranged from .29 to .93 with the median at .43.

Table 3 also shows the relative frequency of the 16 Circumplex behavior categories. This ranged from .08 percent of the total behaviors to 55.12 percent of the total behaviors. Because several of the behaviors were observed very infrequently it seemed likely that any relationship found between these behaviors and the indices for Parental Accuracy and Parental Real Similarity would not be stable enough to interpret meaningfully. Therefore, those behaviors for which the relative frequency was under .5 percent were not analyzed further. The behaviors that were omitted were Suspect, Hate, and Punish. Thus, there remained eight behaviors which were earlier categorized as "adaptive" and five behaviors which were earlier categorized as "unadaptive" to be examined in terms of their relationships to Parental Accuracy and Parental Real Similarity.

Means and Standard Deviations for Parental Accuracy, Parental Real Similarity, and Parental Assumed Similarity

The subscale means and subscale standard deviations for each composite measure of the three derived scores are presented in Table 4. The highest degree of Parental Accuracy was on Factor I (Loving); the lowest Parental

Table 3. Average Inter-Rater Reliabilities Across Coder Pairs and Percent of Occurrence of Sixteen Children's Behavior Categories

	Category	Average Reliability Across Coder Pairs	Percent of Total Behavior
1.	Dominate	.57	6.86
2.	Structure	.43	55.12
3.	Help	.32	3.46
4.	Reassure	.58	3.85
5.	Love	.43	.63
6.	Cooperate	.34	12.77
7.	Depend	.38	.70
8.	Passivly Question	.61	7.45
9.	Submit	.51	2.64
10.	Be Helpless	.43	3.78
11.	Suspect	.29	.46
12.	Complain	.39	1.94
13.	Hate	.93	.08
14.	Punish	.62	.34
15.	Compete	.46	1.39
16.	Actively Resist	.43	1.24

SOURCE: Messé and Stollak

Table 4. Means, Standard Deviations, and Correlations Among the Derived Perception Measures

Parent Variable	Subscale Mean	Subscale S.D.	Correlation with Parent Variable		
			Accuracy	Real Similarity	Assumed Similar
Factor I: Loving					
Accuracy	1.04	.83	--	.71**	.40**
Real Similarity	.82	.75	--	--	.08
Assumed Similarity	.54	.44	--	--	--
Factor II: Punishing					
Accuracy	1.35	.98	--	.70**	.19*
Real Similarity	1.20	.82	--	--	.05
Assumed Similarity	.57	.49	--	--	--
Factor III: Demanding					
Accuracy	1.05	.80	--	.83**	-.05
Real Similarity	1.12	.80	--	--	.04
Assumed Similarity	.39	.40	--	--	--

NOTE: Means indicate the average absolute difference between perception measures; thus, higher numbers reflect greater inaccuracy and greater dissimilarity.

* $P < .05$

** $P < .21$

Accuracy occurred for Factor II (Punishing). The greatest degree of Parental Real Similarity also occurred for Factor I data, and the lowest again occurred for Factor II data. The highest Parental Assumed Similarity occurred for Factor III (Demanding) while the lowest again occurred for Factor II.

The highest variability for Parental Accuracy was on Factor II score, while the lowest was on Factor III. The highest variability for Parental Real Similarity was on Factor II, the lowest on Factor I. The highest variability for Parental Assumed Similarity was on Factor II, the lowest on Factor III.

Relationship of Parental Accuracy to Circumplex Behavior Categories

Correlation analysis was conducted to examine the extent to which there were relationships between the three Parental Accuracy indices and the 13 frequently occurring Circumplex behavior categories (see Table 5). Of the 39 correlation coefficients that were computed, 27 (69 percent) were in the expected direction and, of these, 8 (or 30 percent) were found to be statistically significant ($p < .05$). Seven (or 88 percent) of the significant correlations were in the expected direction. Of the correlations that were in the expected direction, 7 (26 percent) also were found to be marginally significant ($p < .10$). All of the marginally significant correlations were in the expected direction.

Table 5. Correlations of Parental Accuracy with Circumplex Behavior Categories

Behavior Category	Factor I: Loving	Factor II: Punishing	Factor III: Demanding
Dominate	.12	.04	.11
Structure	.04	.09	.07
Help	.16*	.20**	.15*
Reassure	.19**	.17*	.08
Love	.15*	.26***	.12
Cooperate	.13	.28***	-.05
Depend	.19**	.03	-.03
Passivly Question	.08	.00	.16*
Submit	.07	-.13	.05
Helpless	.03	.07	-.27***
Complain	.22**	.10	-.01
Compete	.01	.01	.08
Actively Resist	-.18*	-.19**	-.17*

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Accuracy.

* $\underline{P} < .10$

** $\underline{P} < .05$

*** $\underline{P} < .01$

Multiple regression analyses. In order to clarify the above findings and especially to determine how the three Parental Accuracy scores independently related to playroom behavior, stepwise multiple regression analyses were performed for each of the 13 frequently occurring Circumplex categories (see Table 6).

The stepwise multiple regressions for the three Parental Accuracy scores showed that the predictions for seven of the 13 Circumplex behavior categories reached significance ($p < .05$). Parental Accuracy significantly predicted "Reassuring" and "Dependent" child behavior. The greater the accuracy on Factor I composite scores (Loving), the more reassuring and dependent the child acted in the playroom. Parental Accuracy significantly predicted "Loving" child behavior in the playroom interaction. The more parents' inferences were accurate on the Factor II composite scores (Punishing), the more loving the children acted during the playroom interaction. Parental Accuracy also significantly predicted the children's use of "Cooperating" behaviors in the playroom. The more parents' inferences were accurate on Factor II composite scores, the more cooperative the children were in the playroom. Also the greater the parent's accuracy on Factor II scores, the more "Helpful" the child acted in the playroom and the less "Actively Resistant" the child acted. Parental Accuracy significantly predicted children's "Helpless" behavior. The more accurate the parents' inferences were on Factor III

Table 6. Circumplex Behaviors and Significant Parental Accuracy Predictor Variables Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r ±	± to Enter or Remove	Significance	Beta W+	Overall ±	Significance
Help	1	Parental Accuracy Factor II	.20302	1.831	.036	.20302	1.831	.036
Reassure	1	Factor I	.19373	1.744	.043	.19373	1.744	.043
Love	1	Factor II	.25639	2.343	.011	.25640	2.343	.011
Cooperate	1	Factor II	.27743	2.55	.007	.27742	2.55	.007
Depend	1	Factor I	.19241	1.732	.044	.19241	1.732	.044
Helpless	1	Factor III	-.27471	2.523	.007	-.27471	2.523	.007
Actively Resist	1	Factor II	-.18647	1.676	.049	-.18647	1.676	.049

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Accuracy.

scores (Demanding), the less the children emitted helpless behavior in the playroom interaction.

Of the seven significant predictions of Circumplex behavior, all were in the expected direction.

Sex differences. Because multiple regression analysis gives a clearer picture of the relationships between the three Parental Accuracy indices and the Circumplex behavior categories, it was decided also to use multiple regression analysis to examine parent and child sex differences in these relationships.

Examination of the Parental Accuracy findings for the four parent-child sex dyads--father/son (FS), father/daughter (FD), mother/son (MS), and mother/daughter (MD)--showed that Parental Accuracy on one or more of the three indices predicted significantly 11 of the frequently occurring Circumplex behavior categories for at least one parent-child sex dyad (see Tables 7-11). Significant predictions were obtained for the following behavior categories: Dominance; Structure; Help; Love; Cooperate; Depend; Passively Question; Be Helpless; Complain; Compete; and Actively Resist.

Thirty-seven percent of the 52 predictions were significant for at least one factor. Two behaviors had significant predictions for three of the four sex dyads; four were predicted by two of the four sex dyads; five were predicted by one sex dyad. Of the 19 significant predictions of Circumplex behavior categories, 16 or 84 percent were in the expected directions.

Comparison of significant circumplex predictions for the four sex dyads with predictions for the total sample.--Differences between the significant predictions for the four sex dyads and those for the total sample are reported below. The father/son dyad predicted three of the frequently occurring behaviors (see Table 7). The predictions for Cooperate and Actively Resist were for the same factors and in the same direction as reported earlier for the total sample. However, Help was predicted by Factor I whereas it was predicted by Factor II for the total sample.

The father/daughter dyad predicted six of the frequently occurring Circumplex behaviors (see Table 8). The predictions for Love and Be Helpless, were for the same factors and in the same direction as was reported earlier for the total sample. Dominate was predicted by Factor II and Factor III, Structure was predicted by Factor I, as was Passively Question. Complain was predicted by Factor I.

The mother/son dyad predicted three of the frequently occurring Circumplex behavior categories (see Table 9). The prediction for Actively Resist was by the same factor and in the same direction as reported earlier for the total sample. However, Dominance and Structure were predicted by Factor II (positive correlation), although they were not significantly predicted by any factor for the total sample.

The mother/daughter dyad predicted seven Circumplex behaviors (see Table 10). The predictions for Cooperate

Table 7. Circumplex Behavior and Significant Parental Accuracy Predictor Variables for Fathers of Boys Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r	+ to Enter or Remove	Significance	Beta W+	Overall t	Significance
Help	1	Parental Accuracy Factor I	.48631	1.928	.039	.4863108	1.928	.039
Cooperate	1	Factor II	.49747	1.987	.035	.4974700	1.987	.035
Actively Resist	1	Factor II	-.48344	1.913	.04	-.4834428	1.913	.04

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Accuracy.

Table 8. Circumplex Behavior and Significant Parental Accuracy Predictor Variables for Fathers of Girls Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	$\underline{r}$	$\underline{+}$ to Enter or Remove	Significance	Beta W+	Overall $\underline{t}$	Significance
Dominate	1	Parental Accuracy Factor II	.51944	2.579	.01	.5194426	2.579	.01
Dominate	2	Factor III	.43799	1.988	.032	.3745873	2.418	.006
Structure	1	Factor I	.43365	2.042	.028	.4336535	2.042	.028
Love	1	Factor II	.45720	2.181	.022	.4572038	2.181	.022
Passively Question	1	Factor I	.45320	2.157	.023	.4531985	2.157	.023
Helpless	1	Factor III	-.52405	2.611	.009	-.5240461	2.611	.009
Complain	1	Factor I	.71308	4.315	.0001	.7130847	4.315	.000

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Accuracy.

Table 9. Circumplex Behaviors and Significant Parental Accuracy Predictor Variables for Mothers of Boys Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r	t to Enter or Remove	Significance	Beta W+	Overall t	Significance
Dominate	1	Parental Accuracy Factor II	.38794	1.786	.036	.3879370	1.786	.036
Structure	1	Factor II	.59339	3.128	.003	.5933924	3.128	.003
Actively Resist	1	Factor II	-.38219	1.755	.048	-.3821950	1.755	.048

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Accuracy.

Table 10. Circumplex Behaviors and Significant Parental Accuracy Predictor Variables for Mothers of Girls Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r	t to Enter or Remove	Significance	Beta W+	Overall t	Significance
Dominate	1	Parental Accuracy Factor II	-.47785	2.665	.014	-.4778457	2.665	.014
Structure	1	Factor I	-.52006	2.983	.006	-.5200562	2.983	.006
Help	1	Factor III	.37916	2.007	.028	.3791565	2.007	.028
Love	1	Factor III	.34678	1.811	.042	.3467791	1.811	.042
Cooperate	1	Factor II	.47168	2.621	.008	.4716814	2.621	.008
Depend	1	Factor I	.44032	2.403	.012	.4403233	2.403	.012
Compete	1	Factor II	-.46933	2.604	.008	-.4693300	2.604	.008

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Accuracy.

and Depend were by the same factor and in the same direction as for the total sample reported earlier. However, MD predicted several behaviors that were not predicted for the total sample. Dominance was predicted by Factor II; Structure was predicted by Factor I; Compete was predicted by Factor II. Furthermore, there was one behavior that was predicted by both MD and the total sample, but on different factors: Help was predicted by Factor III for MD, whereas it was predicted by Factor II for the total sample.

Comparison of Circumplex behavior findings among the four sex dyads. Of the four sex dyads for Parental Accuracy, MD predicted the most Circumplex behaviors, followed by FD, and finally by FS and MS which each predicted an equal number.

An examination of child sex differences showed that there was a greater number of significant predictions of behavior categories for girl dyads than for boy dyads (out of the 26 possible) ($X^2 = 4.06$ $p < .05$). There was no significant difference when the results were examined with respect to parent sex, nor was the interaction of parent sex and child sex significant.

Partial Correlations for Parental Accuracy

Partialing out Assumed Similarity from the correlations for Parental Accuracy. Hastorf and Bender (1952) suggested that Assumed Similarity can be caused, in part, by the Judge's projection of his/her self-perceptions onto

Table 11. Comparison of Predictions of Child Playroom Behavior by Parental Accuracy for the Four Parent-Child Sex Dyads

Behavior Category	Father/Boy	Father/Girl	Mother/Boy	Mother/Girl
Dominate		FII+ FIII+	FII+	FII-
Structure		FI+	FII+	FI-
Help	FI+			FIII+
Reassure				
Love		FII+		FIII+
Cooperate	FII+			FII+
Depend				FI+
Passively Question		FI+		
Submit				
Helpless		FIII-		
Complain		FI+		
Compete				FII-
Actively Resist	FII-		FII-	

NOTE: FI = Love; FII = Punishing; FIII = Demanding; + = positive correlation with Parental Accuracy; - = negative correlation with parental accuracy.

The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Accuracy.

the Other, and thus, the Assumed Similarity score can be considered the upper limit of the amount of projection (see earlier discussion). To determine if the findings for Parental Accuracy and children's behavior were an artifact of the correlation between Parental Accuracy and Assumed Similarity, on the one hand, and children's behavior and Assumed Similarity, on the other, the variance resulting from these two relationships were removed from the Parental Accuracy analyses via partial correlations.

The results, in fact, showed a net increase of one in the number of significant or marginally significant findings for Parental Accuracy (see Table 12). Although the correlation of Factor I with Love was no longer marginally significant, the correlation of Complain with Factor II which previously was nonsignificant, became marginally significant, and the correlation of Cooperation with Factor II, which formerly was nonsignificant became marginally significant. There also was an increase in strength of the obtained relationships for seven of the 15 significant and marginally significant zero order correlation coefficients for Parental Accuracy. Taken together, the above results demonstrate that Assumed Similarity, and, therefore, projection, did not underly obtained relationships between Parental Accuracy and children's behaviors.

Partialing out Parental Real Similarity from the correlations for Parental Accuracy. The high correlations obtained between the factor composites for Parental

Table 12. Significant and Marginally Significant Correlations for Parental Accuracy with Circumplex Behavior Categories

Behavior	Factor	Zero Order Correlation	Correlation with Parental Real Similarity Partialed Out	Correlation with Parental Assumed Similarity Partialed Out
Dominance	FI	--	.15*	--
Help	FI	.16*	--	.20**
	FII	.20**	.26***	.22**
	FIII	.15*	--	.16*
Reassure	FI	.19**	.20**	.15*
	FII	.17*	.23**	.18*
Love	FI	.15*	--	--
	FII	.26***	.19**	.27***
Cooperate	FI	--	--	.16*
	FII	.28***	--	.31***
Depend	FI	.19**	--	.17*
Passively Question	FIII	.16*	.16*	.16*
Submit	FII	--	--	-.16*
Helpless	FIII	-.27***	--	-.27***
Complain	FI	.22**	.15*	.21[a]*
Actively Resist	FI	-.18*	--	-.17*
	FII	-.19**	--	-.20**
	FIII	-.17*	-.17*	-.17*

FI - Factor I: Loving; FII - Factor II: Punishing
FIII - Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with the derived measures.

[a]A two-tailed test was used in this instance since the direction of this correlation is not as predicted.

* $p < .10$

** $p < .05$

*** $p < .01$

Accuracy and Parental Real Similarity raise the question of whether these two measures in fact may not be tapping identical, underlying process(es). If this were true, one would expect that when one partials out the variance due to the correlations between Parental Real Similarity and Parental Accuracy, on the one hand, and the correlations between Parental Real Similarity and children's behavior on the other, none of the resulting correlations would remain significant or marginally significant.

Results of the partial correlations showed this not to be the case. Of the 15 significant or marginally significant zero-order correlations, seven were still significant or marginally significant in the partial correlation analysis. In addition, one formerly nonsignificant correlation became marginally significant in the partial correlations (see Table 12). There was an increase in strength of the obtained relationships for three of the 15 significant or marginally significant zero-order correlations. Therefore, these findings demonstrate that Parental Accuracy appears to tap underlying processes that are somewhat different from those tapped by Parental Real Similarity.

Relationship of Parental Real Similarity to Circumplex Behavior Categories

Correlation analysis was performed to examine the extent of the relationship between the three Parental Real Similarity indices and the 13 frequently occurring Circumplex behavior categories (see Table 13). Of the 39

Table 13. Correlations of Parental Real Similarity with Circumplex Behavior Categories

Behavior Category	Factor I: Loving	Factor II: Punishing	Factor III: Demanding
Dominance	.02	.03	.08
Structure	.03	.09	.15*
Help	.13	.03	.18*
Reassure	.07	.00	.02
Love	.18*	.18*	.21**
Cooperate	.09	.27***	-.01
Depend	.15*	-.06*	-.08
Passively Question	.15*	.09	.09
Submit	.15*	-.16*	.01
Helpless	.03	-.17*	-.24**
Complain	.16*	.15*	.02
Compete	-.06	.01	-.001
Actively Resist	-.12	-.13	-.09

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Real Similarity.

* $p < .10$

** $p < .05$

*** $p < .01$

correlation coefficients that were computed, 27 (or 69 percent) were in the expected direction, and of these, three (or 11 percent) were significant ($p < .05$). All of the significant correlations were in the expected direction.

Of the correlations that were in the expected direction, 11 (or 28 percent) were found to be marginally significant ($p < .10$). Seven (or 64 percent) of the marginally significant correlations were in the expected direction.

Multiple regression analyses. In order to clarify these findings and especially to determine how the three Parental Real Similarity factors were independently related to playroom behavior, stepwise multiple regression analyses were done for each of the 13 frequently occurring Circumplex behavior categories (see Table 14).

The stepwise multiple regressions for Parental Real Similarity showed that Real Similarity significantly predicted three of the 13 frequently occurring Circumplex behavior categories. Factor II (Punishing) for Parental Real Similarity significantly predicted children's cooperation. The more the parents and children agreed in their perceptions of punishing behavior, the more the children were cooperative in the playroom. Factor III (Demanding) for Parental Real Similarity predicted children's Helpless behavior. The more similarity with respect to perceptions of the parent's demanding behavior, the less helpless the children acted in the playroom. The prediction of Loving child behavior by Factor III for Parental Real Similarity

Table 14. Circumplex Behaviors and Significant Parental Real Similarity Predictor Variables Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r	t to Enter or Remove	Signif-icance	Beta W+	Overall ±	Signif-icance
		Parental Real Similarity						
Love	1	Factor III	.21011	1.898	.031	.2101142	1.898	.031
Cooperate	1	Factor III	.27280	2.504	.007	.27280	2.504	.007
Helpless	1	Factor III	-.24106	2.194	.016	-.26378	2.194	.016

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Real Similarity.

Factor I: Loving Factor II: Punishing Factor III: Demanding

also was significant. The more agreement about the parent's demanding behavior, the more loving the children acted in the playroom.

All of the three significant predictions of Circumplex categories were in the expected direction.

Sex differences. Again, because multiple regression analysis gives a clearer picture of the relationships between the three Parental Real Similarity indices and the Circumplex behavior categories, it was decided to also use multiple regression analysis to examine parent and child sex differences in these relationships.

Examination of the Parental Real Similarity findings for the four sex dyads showed that Parental Real Similarity on one or more of the three indices predicted significantly 10 categories of child behavior for at least one dyad (see Tables 15 to 19). Significant predictions were found for the following categories of child behavior: Dominate, Structure, Help, Love, Cooperate, Depend, Passively Question, Submit, Be Helpless, and Complain. Twenty-three percent of the 52 predictions were significant for at least one factor. Two of the behavior categories were predicted by two of the four sex dyads; eight of the behavior categories were predicted by one sex dyad. Of the 12 significant predictions of Circumplex behavior categories (total possible = 52), 10 or 83 percent were in the expected direction.

Comparison of significant Circumplex predictions for the four sex dyads with predictions for the total sample.-- Differences between the significant predictions for the four sex dyads and those found for the total sample are reported below. One frequently occurring Circumplex behavior was predicted by the father/boy dyad. Help was predicted by Factor I (positive correlation) for FS (see Table 15). This behavior was not significantly predicted by any of the Parental Real Similarity indices for the total sample. Five Circumplex behaviors were significantly predicted by the father/daughter dyad. Be Helpless was predicted by Factor III for both FD and the total sample. Love was predicted by Factor I for father/daughter, whereas it was predicted by Factor III for the total sample. Dominate was predicted by Factor III together with Factor II for FD; Passively Question was predicted by Factor I for FD: Complain was predicted by Factor II for FD (see Table 16). None of these behaviors was significantly predicted by any of the Parental Real Similarity indices for the total sample.

One frequently occurring Circumplex behavior was predicted by the MS dyad. Structure was predicted by Factor II (see Table 17). This behavior was not significantly predicted by any of the Parental Real Similarity indices for the total sample.

Five Circumplex behaviors were significantly predicted by the MD dyad. Cooperate was predicted by the same factor for MD as was reported earlier for the total sample.

Table 15. Circumplex Behavior and Significant Parental Real Similarity Predictor Variables for Fathers of Boys Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r ±	± to Enter or Remove	Signif-icance	Beta W+	Overall ±	Signif-icance
Help	1	Factor I	.59182	2.543	.013	.591827	2.543	.013

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Real Similarity.

Table 16. Circumplex Behaviors and Significant Parental Real Similarity Predictor Variables for Fathers of Girls Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r	t to Enter or Remove	Signif-icance	Beta W+	Overall ±	Signif-icance
Dominate	1	Factor III	.49264	2.402	.014	.4926422	2.402	.014
Dominate	2	Factor II	.43571	2.409	.014	.4390059	2.560	.004
Love	1	Factor I	.42144	1.970	.032	.4212243	1.970	.032
Passively Question	1	Factor I	.38422	1.766	.047	.3842176	1.766	.047
Helpless	1	Factor III	-.62283	3.378	.002	-.6228298	3.378	.002
Complain	1	Factor II	.68892	4.032	.001	.6889172	4.032	.001

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Real Similarity.

Table 17. Circumplex Behaviors and Significant Parental Real Similarity Predictor Variables for Mothers of Boys Based Upon Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r ±	± to Enter or Remove	Signif-icance	Beta W+	Overall ±	Signif-icance
Structure	1	Parent-Child Agreement Factor II	.42921	2.016	.030	.4292130	2.016	.030

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Real Similarity.

Structure was predicted by Factor I for MD; Help was predicted by Factor III for MD; Depend was predicted by Factor I for MD; and Submit was predicted by Factor II for MD (see Table 18). None of these behaviors was significantly predicted by any of the Parental Real Similarity indices for the total sample.

Comparison of Circumplex findings among the four sex dyads.--Of the four sex dyads for Parental Real Similarity, FD and MD predicted the most Circumplex behavior categories, followed by FS and MS which each also predicted an equal number.

An examination of child sex differences showed that there was a greater number of significant or marginally significant predictions of behavior categories for girl dyads than for boy dyads (out of 26 possible) ($X^2 = 6.93$, $p < .01$). There was no significant difference when the results were examined with respect to parent sex, nor was the interaction of parent and child sex significant.

Partial Correlations for Parental Real Similarity

Although it was considered necessary to partial out Parental Assumed Similarity from the behavior relationships for Parental Accuracy, it was not deemed necessary to do this for Parental Real Similarity. First of all, there is no theoretical reason for assuming that the behavior relationships for Parental Real Similarity would be affected by eliminating the variance due to "projection" as was the

Table 18. Circumplex Behavior Categories and Significant Parental Real Similarity Predictor Variables for Mothers of Girls Based Upon a Step Wise Multiple Regression Analysis

Behavior	Step	Variable Entered Removed	r	+ to Enter or Remove	Signif-icance	Beta W+	Overall t	Signif-icance
Structure	1	Parental Real Similarity Factor I	-.48465	2.714	.012	-.4846468	2.714	.012
Help	1	Factor III	.42411	2.294	.016	.4241080	2.294	.016
Cooperate	1	Factor II	.40724	2.184	.02	.4072352	2.184	.02
Depend	1	Factor I	.37833	2.002	.029	.3783330	2.002	.029
Submit	1	Factor II	-.45301	2.489	.01	-.4530054	2.489	.01

Factor I: Loving Factor II: Punishing Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with Parental Real Similarity.

case with Parental Accuracy. Secondly, the correlations between the corresponding factors of Parental Real Similarity and Parental Assumed Similarity were in each case low, unlike some of those for Parental Accuracy.

Partialing out Parental Accuracy from the behavior relationships for Parental Real Similarity. The results of the partial behavior correlations for Parental Accuracy, in which Parental Real Similarity was partialed out, demonstrated that Parental Accuracy tapped somewhat different underlying processes from those tapped by Parental Real Similarity, and that these independently were related to children's behavior. However, one cannot conclude from these findings whether the reverse necessarily was true--whether Parental Real Similarity tapped underlying process(es) not tapped by Parental Accuracy, and whether these were related to the Circumplex behavior categories. To test this, it was necessary to partial out the variance due to the correlations between Parental Accurcay and Parental Real Similarity on the one hand, and the correlations between Parental Accuracy and children's behavior, on the other, from the behavior relationships for Parental Real Similarity.

Results of this analysis showed that, with Parental Accuracy partialed out, Parental Real Similarity was significantly or marginally significantly correlated with four of the 14 Circumplex behavior categories that were previously found to be significantly or marginally significantly

Table 19. Comparison of Predictions of Child Playroom Behavior by Parental Real Similarity for the Four Parent-Child Sex Dyads

Behavior Category	Father/Boy	Father/Girl	Mother/Boy	Mother/Girl
Dominate		FII+, FIII+		
Structure			FII+	FI-
Help	FI+			
Reassure				
Love		FI+		
Cooperate				FII+
Depend				FI+
Passively Question		FI+		
Submit				FII-
Be Helpless		FIII-		
Complain		FII+		
Compete				
Actively Resist				

FI = Love FII = Punish FIII = Demanding

\+ = positive correlation with Parental Real Similarity

\- = negative correlation with Parental Real Similarity

NOTE: The correlations were transformed so that a positive correlation refelcts a positive relationship with Parental Real Similarity.

correlated in the zero order correlations. In addition, the correlations of Factor II of Parental Real Similarity with Help and Reassure, both of which were nonsignificant in the zero order correlations, were marginally significant (both negative correlations) in the partial analysis. The strength of two of the marginally significant zero order correlations increased in the partial correlation analysis (see Table 20). These findings show that Parental Real Similarity does tap underlying process(es) not tapped by Parental Accuracy which are related to children's behavior.

Comparison of Behavior Findings for Parental Accuracy and Parental Real Similarity

Partial correlations were performed for Parental Accuracy and Parental Real Similarity in order to test whether these two measures reflect different underlying processes. Another way of determining whether the two measures are different is to examine the pattern of relationships to children's behavior found for each. If Parental Accuracy and Parental Real Similarity measured the same phenomenon, one would expect identical relationships with child behavior for the two derived measures. However, if Parental Accuracy and Parental Real Similarity measured different phenomena, one would expect to find at least some differences in the pattern and magnitudes of relationships between them and the measures of children's behavior. To examine these possibilities, several comparisons of the

Table 20. Significant Correlations for Parental Real Similarity with Circumplex Behavior Categories

Behavior Category	Factor	Zero Order Correlation	Correlation with Parental Accuracy Partialed Out
Structure	Factor III	.15*	.16*
Help	Factor II	--	-.16*
Reassure	Factor III	.18*	--
	Factor II	--	-.16*
Love	Factor I	.18*	--
	Factor II	.18*	--
	Factor III	.21**	.20**
Cooperate	Factor II	.28***	--
Depend	Factor I	.15*	--
Passively Question	Factor I	.15*	--
Submit	Factor I	.15*	.29***
	Factor II	-.16*	--
Helpless	Factor II	.17*	.16*
	Factor II	-.24**	--
Complain	Factor I	.16*	--
	Factor II	.15*	--

Factor I: Loving; Factor II: Punishing; Factor III: Demanding

NOTE: The correlations were transformed so that a positive correlation reflects a positive relationship with the derived measures.

* $p < .10$

** $p < .05$

*** $p < .01$

correlations between Parental Accuracy and children's behavior and Parental Real Similarity and children's behavior were made.

With respect to the number of significant findings, when the correlations for the total sample were examined, there were 15 significant or marginally significant correlations for Parental Accuracy, whereas there were 14 significant or marginally significant correlations for Parental Real Similarity. Of these, eight correlations for Parental Accuracy were significant ($p < .05$), while there were only three significant correlations for Parental Real Similarity (see Table 5 and 13). Parental Accuracy also predicted more behaviors. Eight Circumplex categories were significantly or marginally significantly predicted by Parental Accuracy, while only three behaviors were significantly or marginally significantly predicted by Parental Real Similarity (for the total sample) (see Tables 6 and 14).

Perhaps of greater importance, there were only seven significant or marginally significant correlations which were common to both the 15 significant or marginally significant correlations for Parental Accuracy and the 14 significant or marginally significant correlations for Parental Real Similarity. This number is significantly smaller than one would expect by chance ($X^2 = 4.27$, $p < .05$).

A comparison of the correlations for the two measures showed that there were significant or marginally significant correlations on two behaviors--Reassure and

Actively Resist--for Parental Accuracy that were not found to be related to Parental Real Similarity. There were significant or marginally significant correlations on two behaviors--Structure and Submit--for Parental Real Similarity that were not found to be related to Parental Accuracy. Furthermore, for the behavior categories on which significant or marginally significant correlations were obtained for both measures, the factors involved often differed. On Help, there was a significant positive correlation with Factor II for Parental Accuracy, whereas the correlation for Factor II of Parental Accuracy on this factor was lower and nonsignificant. On Passively Question there was a marginally significant correlation with Factor I for Parental Real Similarity, whereas the correlation for Parental Accuracy was very low on this factor. On Helpless there was a marginally significant correlation for Factor II for Parental Real Similarity, while the correlation for Factor II of Parental Accuracy was very low. On Complain, there was a marginally significant positive correlation with Factor II for Parental Real Similarity, whereas the correlation for Parental Accuracy was lower and nonsignificant.

With respect to the behaviors which were significantly or marginally significantly predicted by Parental Accuracy and Parental Real Similarity in the step wise multiple regression analyses for the total sample, all three behaviors predicted by Parental Real Similarity were

also predicted by Parental Accuracy. However, Love was predicted by Factor III (positive correlation) for Parental Real Similarity, whereas it was predicted by Factor II (positive correlation) for Parental Accuracy. Helpless was predicted by Factor II (negative correlation) and Factor II (positive correlation) for Parental Real Similarity, whereas it was predicted only by Factor III (negative correlation) for Parental Accuracy.

Taken together, the above comparisons give further support for the belief that Parental Accuracy and Parental Real Similarity tap different underlying process(es).

Relationships Among Parental Accuracy, Parental Real Similarity, and Parental Assumed Similarity

Relationship between Parental Accuracy and Parental Real Similarity. Table 4 shows the correlations among the three derived measures. As is indicated in Table 4, Parental Accuracy and Parental Real Similarity are highly correlated on all three factors. The more parents tended to perceive how their children viewed their caregiving behavior accurately, the more parents' self-perceptions and their children's perceptions tended to agree.

Relationship of Parental Accuracy and Parental Real Similarity to Parental Assumed Similarity. Gage and Cronbach (1955) demonstrated that there are two degrees of freedom associated with the potential relationships between Accuracy, Real Similarity, and Assumed Similarity. Thus,

given the high correlations between Parental Accuracy and Parental Real Similarity that were found in the present study (reported above), there would be no reason to expect a high correlation between Parental Assumed Similarity and these two measures. This is not to say that a moderate correlation could not occur, because the correlations between Parental Accuracy and Parental Real Similarity were not perfect. In fact, for Factor I there was a significant correlation ($p < .01$) between Parental Assumed Similarity and Parental Accuracy, but not between Parental Assumed Similarity and Parental Real Similarity. Table 4 presents these correlations. Examination of the correlations of Parental Accuracy and Parental Real Similarity with Parents' Inferences reveals why, in a statistical sense, the significant correlation between Parental Accuracy and Parental Assumed Similarity occurred for Factor I composite scores, but not for Parental Assumed Similarity and Parental Real Similarity on Factor I, nor between Parental Assumed Similarity and the other derived measures for Factors II and III.

The relationships between Parental Assumed Similarity and the other two derived measures appear to be a function of the relationship between these measures and Parents' Inferences. For Factor I the relationship between Parents' Inferences and Parental Accuracy was moderately high ($r = .64$), while the correlation between Parents' Inferences and Parental Real Similarity was substantially lower

(r = .31). Given the moderate correlation between Parental Assumed Similarity and Parents' Inferences (r = .43 for Factor I) it is reasonable that there also was a moderately high correlation between Parental Assumed Similarity and Parental Real Similarity. In addition, given that the correlation between Parental Accuracy and Parents' Inferences were not substantial for Factors II (r = -.29) and III (r = .15), it is reasonable that the correlations between Parental Accuracy and Parental Assumed Similarity were not high.

Relationship of the Child Component to the Parental Accuracy and Parental Real Similarity Scores

The Parental Accuracy indices and the indices of Parental Real Similarity have been posited as parent variables with a large enough variability of the parent component to make individual differences in these measures interesting to study. However, it is possible that the parental component of the Parental Accuracy and Parental Real Similarity scores actually has very little variability and that it is mainly the variability of the child component which causes differences in these scores. Such a situation might have occurred if social desirability was a large factor that determined the responses of the parents. One might expect that the parents would be much more likely to give socially desirable inferences and self-perceptions of their caregiving behavior than would the children, thereby

resulting in uniformly positive parent inferences and self-perceptions. In the present case this would mean judgments that were uniformly high on Factor I (Loving) and uniformly low on Factor II (Punishing). Then, if the child saw the parent as high on Loving and low on Punishing, the Parental Accuracy and Parental Real Similarity scores would be high. If the child, on the other hand, saw the parent as low on Loving and high on Punishing, the Parental Accuracy scores and Parental Real Similarity scores would be low. Gage and Cronbach (1955) pointed out a second factor that could lead to similarly "positively biased" parental inferences, thereby affecting the Parental Accuracy score in the same way as was suggested with respect to social desirability. The authors reported that there was a global disposition among Judges to expect a "preferred" or "liked" Other to give favorable self-descriptions on a questionnaire. Since, for parents, their children are likely to be such "preferred others," one might expect a similar situation to occur with respect to parents' ratings of how their children will perceive them.

Besides making the Parental Accuracy and Parental Real Similarity scores artifactual, the situations described above could also lead to artifactual findings of relationships between Parental Accuracy and child behavior, and between Parental Real Similarity and child behavior (Gage & Cronbach, 1955). Although the Circumplex behavior ratings are, at face value, independent of the Parental Accuracy

and Parental Real Similarity scores, if nearly all parents infer that they will be perceived, and give self-perceptions of themselves as being high on Factor I (Loving) and low on Factor II (Punishing), the situation described above would occur where there Accuracy and Real Similarity scores would be largely determined by the child's perception component rather than by the parent component. If the child saw the parent as high on Loving and low on Punishing, there would be a high Parental Accuracy and Parent Real Similarity score; if the child saw the parent as low on Loving and high on Punishing, these scores would be low. Then, if children's perceptions of their parents as high on Loving and low on Punishing are in turn strongly related to the adaptive child behavior categories used, this would cause an artifactual relationship between Parental Accuracy and adaptive child behavior, and between Parental Real Similarity and adaptive child behavior.

The possibility of such artifacts in the present study was investigated by examining the correlations of Children's Perceptions with the Parental Accuracy and Parental Real Similarity scores for the three factors. If the correlations, in fact were low, one can conclude that it is not primarily the children's perceptions that determined the two derived scores, and that the behavior findings for these scores cannot be artifactual in the manner described above.

Results of the correlations between children's perceptions and Parental Accuracy, and between children's perceptions and Parental Real Similarity are presented in Table 21. The only significant correlation is for Factor II (Punishing) for children's perceptions and Parental Accuracy, and while this does raise the possibility that children's perceptions are more influential in the Parental Accuracy score for this factor, the fact that the correlation is only moderate suggests that Parental Accuracy and Parental Real Similarity were not determined primarily by the children's component. This rules out the possibility that almost all parents gave uniformly positive self-perceptions and inferences and demonstrates that the two derived scores must be considered something more than the children's perception score accompanied by some small chance variation. Furthermore, the generally low correlations reduce the possibility that the behavior results obtained for Parental Accuracy or for Parental Real Similarity were artifactual.

Relationship of the Parent Components to Parental Accuracy and Parental Real Similarity

In the previous section the question of whether the child component might be largely responsible for the Parental Accuracy and Parental Real Similarity scores was examined and it was shown that this could not be the case. In this section, the converse possibility is examined: that

Table 21. Correlations Between Derived Measures and Their Component Measures

	Parental Self-Perceptions	Parental Inferences	Children's Perceptions
Factor I: Loving			
Parental Accuracy	--	.64**	-.06
Parental Real Similarity	.27**	--	.16
Parental Assumed Similarity	-.03	.43**	--
Factor II: Punishing			
Parental Accuracy	--	-.29**	.38**
Parental Real Similarity	-.09	--	.04
Parental Assumed Similarity	-.03	-.47**	--
Factor III: Demanding			
Parental Accuracy	--	.15	.14
Parental Real Similarity	.20*	--	.01
Parental Assumed Similarity	.30**	-.11	--

* $p < .05$

** $p < .01$

the parental components might largely have determined the Parental Accuracy and Parental Real Similarity scores, with the children's perceptions being essentially uniform. If this were true, we would really have, in one case (Parental Accuracy) a parents' inference score accompanied by some chance variation and in the other case (Parental Real Similarity) a parents' self-perception score accompanied by some chance variation.

To test for this possibility, the correlations between Parents' Inferences and Parental Accuracy and the correlations between Parents' Self-Perceptions and Parental Real Similarity were examined (see Table 21). As is indicated in Table 21, the correlation between Parents' Inferences and Parental Accuracy for Factor I was fairly high, while the correlations for Factor II and Factor III were not substantial enough to determine completely the Parental Accuracy scores. Also, the correlations between Parents' Self-Perceptions and Parental Real Similarity were not substantial enough for all three factors to determine completely the Parental Real Similarity scores. Except possibly to a small degree for Factor I for Parental Accuracy, it does not appear that the parental components of the Parental Accuracy and Parental Real Similarity scores were largely responsible for the derived scores. Thus, it appears that the results were due to something more, in Parental Accuracy and Parental Real Similarity, than the original parent perception scores combined with some small

chance variation.

Relationship of the Two Parental Components to the Parental Assumed Similarity Scores

A similar analysis can be made for the two parental components of the Parental Assumed Similarity score: parents' inferences and parents' self-perceptions. Examination of the correlations of each component with the derived score for the three factors (see Table 21) showed that for Parents' Inferences there were moderately high correlations for Factor I and Factor II, and for Parents' Self-Perceptions there was a moderate correlation for Factor III. Neither of these component scores, therefore, were primarily responsible for the Parental Assumed Similarity scores; which once more appear to be different from their component variables.

Relationship between Behavior Findings for Derived Measures and Original Perception Measures

To demonstrate that the behavior findings for Parental Accuracy and Parental Real Similarity were not, in fact, identical to the behavior findings for their component parts, correlations between the behavior categories and the derived variables were compared systematically to those between the behavior categories and the component scores.

Of the 15 significant and marginally significant correlations of the Parental Accuracy factor composites with Circumplex behaviors, only five were also significant

or marginally significant for Children's Perceptions, and only six were significant for Parents' Inferences. Likewise, of the 14 significant and marginally significant correlations for Parental Real Similarity factor composites with Circumplex behavior categories, only three were likewise significant or marginally significant for Chidlren's Perceptions and only four were likewise significant or marginally significant for Parents' Self-Perceptions. In each case the number of identical significant or marginally significant relationships obtained for the component measures were significantly less than would be expected by chance (X^2 ranged from 5.40 to 8.64).

These comparisons again demonstrate that the Parental Accuracy and the Parental Real Similarity measures can be considered as qualitatively different from the original perception measures from which they were derived, even though in a number of cases there was significant correlation between a component measure and a derived score.

CHAPTER IV

DISCUSSION

Findings for Parental Accuracy

The results of the original correlation analyses, the stepwise multiple regressions analysis, and the partial correlation analyses, support the hypothesis that Parental Accuracy is related to children's behavior and adjustment. Furthermore, the fact that the Parental Accuracy indices were found to correlate with, and predict in the expected direction, both the presence of adaptive and unadaptive behavior is congruent with the results found by Truax et al. (1973) concerning the relationship between therapists' accurate empathy and their child clients' adjustment, in which the relative absence of therapist accurate empathy actually led to a decrease in the children's adjustment over the course of therapy.

The reason for the significant negative correlation between Parental Accuracy on Factor I (Loving) and Complaining child behavior, which also was significant and marginally significant in the two partial correlations, is unclear. One possible explanation for this finding is that children's complaining during the playroom interaction may not be unadaptive, but may actually indicate such

adaptive characteristics as a capacity for independence and an ability to express feelings. It is uncertain whether the findings in the opposite direction from what had been expected for three of the 20 significant predictions by Parental Accuracy factors when the results were analyzed separately for the four sex dyads, are psychologically meaningful, or whether these are chance findings resulting from the small number of parent-child pairs in each cell.

The reason why some Circumplex categories were found to be related to Parental Accuracy while others were not is also unclear. One possible explanation stems from the greater importance of the affiliative-disaffiliative axis than the dominant-submissive axis in determining adaptive and unadaptive child behavior (see earlier discussion). When one examines the behaviors for which significant and marginally significant correlations and significant predictions were obtained for the total sample, there seems to be a grouping around the affiliative axis by the adaptive behaviors that were found to have significant or marginally significant relationships. Thus, it seems that Parental Accuracy was more strongly related to those behaviors which are most adaptive--the ones that have a large affiliative component.

In examining the differences in the frequency and pattern of findings for the three Parental Accuracy factors it is unclear why one factor or combination of factors, and not another, was related to a particular behavior. It

seems, from the different pattern of relationships for the three factors, that Parental Accuracy should be thought of as a multidimensional variable. This has important implications for the study of that part of social perception that has been called "empathy." Though previous theorists and researchers have pointed to different dimensions of empathic process (e.g., Bucheimer, 1963), there has been little consideration of whether empathic ability varies with respect to the content area of subjective experience in the other person that the "empathizer" is attempting to understand (or about which she/he is trying to communicate understanding). A number of different theoretical schemas have been proposed for conceptualizing the multidimensional nature of empathy. Further empirical studies of the validity of the different schemas is called for.

The reason for the sex difference finding that Parental Accuracy is more strongly related to girls' playroom behavior than boys' playroom behavior is also unclear. One possible explanation is that girls may be more "home-oriented" and therefore more "open" to the hypothesized socialization process whereby parents attempt to control how their behavior appears in their child's eyes, as well as more influenced by the lack of predictability in the parent's behavior that was speculated to arise when parents make inaccurate perceptions.

Rebuttal of Criticism that Parental Accuracy Behavior Findings are Confounded by "Projection"

Earlier the criticism that perceptual accuracy measures are subject to being confounded by the Judge's projection of his/her own characteristics onto the Other was discussed. As it pertains to the present research, this argument would maintain that the accuracy score mainly reflects the degree to which parents' self-perceptions of their behavior happen to match the child's perceptions of this behavior. Such a situation seems unlikely in the present study, however, since if Parental Accuracy were primarily a measure of projection, the predicted behavior relationships would not have been likely to occur. To the degree that there is a confounding of Parental Accuracy by projection, the accuracy measure is a "conservative" test of the hypotheses. Any contamination that does occur should only make it more difficult to obtain the expected correlations with, and predictions of, children's behavior.

Problem of the Validity of Children's Reports as Measures of their True Perceptions

One also might question whether children are accurately reporting their true perceptions of their parent's caregiving behavior, and therefore, whether the difference scores are valid measures of Parental Accuracy and Parental Real Similarity. One possibility investigated in this study was that the children tended to give uniformly positive

reports of their parents' behavior because of a social desirability response set. However, it was demonstrated that this could not be the case, since the correlations between Parental Accuracy and Parental Real Similarity with their original parental components were not substantial enough to be the primary determinant of the Parental Accuracy and Parental Real Similarity scores. Furthermore, several investigators have suggested (e.g., Ausubel, Balthazar, Rosenthal, Blackman, Schpoont, & Welkowitz, 1954) that it is less likely that a child, who is relatively naive, would be influenced by social desirability, than that the parent would be influenced by social desirability.

However, even if the child's responses did not perfectly represent his/her perceptions, to the degree that the child's reports are distorted and the parent can still predict how the child will complete the questionnaire, this shows a sensitivity not only to the child's perceptions, but also to the pressures the child might feel in the test-taking situation. In either case, parental sensitivity to the child's experiences is indicated.

Additional Conceptual Questions Concerning Parental Accuracy

Earlier, a number of conceptual issues involved in interpreting the Parental Accuracy score were discussed. The discussion focused first on an examination of the types of processes that might be responsible for Parental Accuracy and second, to the extent that empathy was one of

these processes, on what specific dimensions of empathy are being tapped by Parental Accuracy.

Gage and Cronbach (1955) raised another difficulty concerning interpretation of the accuracy scores. They asked whether indices of perceptual accuracy really measure the Judge's ability to understand the subjective experience of a specific Other, or whether this score taps more the Judge's knowledge of the typical responses of the Other's reference group. Relating this to the present study, one might ask whether the parent with a high accuracy score has specific insight into his/her child's perceptions, or whether the parent is basing his/her inferences more on a hypothesis about how children in general tend to view their parents. Gage and Cronbach suggested a way of conceptualizing the accuracy score as consisting of two components. The first, which they call "stereotype accuracy," refers to the Judge's ability to predict the pooled responses of a given category of persons. The second component, called "differential accuracy," refers to his/her ability to differentiate among individuals within a category--i.e., how <u>this</u> individual differs from the norm. Gage and Cronbach proposed several methods that could be used to control the Judge's predictions for stereotype accuracy and that might be incorporated in further investigations of Parental Accuracy. While these suggestions have merit, once more it should be emphasized that the effect of Parental Accuracy itself was the main focus of

this study. It may be less important whether parents' ability to infer their children's perceptions of them is derived from knowledge of children as a group or from specific insight into their child, than that the parents have this ability, whatever the source.

Findings for Parental Real Similarity

The secondary focus of the study was on the relationship of Parental Real Similarity in perceptions of parent behavior, to children's playroom behavior. The hypothesis concerning such a relationship was generally supported by the correlation and regression findings.

Again, the reason why any particular behavior category was found to be related (either positively or negatively) to Parental Real Similarity, while others were not is unclear. In examining the differences in the frequency and pattern of findings for the three factor composites, it is also unclear why particular factor(s), and not others, were related to a particular behavior. As with Parental Accuracy, it appears from the different pattern of relationships that Parental Real Similarity should be thought of as multidimensional with respect to domain.

The reason for the sex difference finding--that Parental Real Similarity, like Parental Accuracy, is more strongly related to girls' behavior than to boys' behavior--again is not readily explainable. One possibility is that,

since girls are more "home-oriented" than are boys, they may be more open to the socializing influences hypothesized earlier for Parental Real Similarity.

Interpretation of the partial correlations for Parental Real Similarity. When the behavior relationships for Parental Real Similarity were examined with Parental Accuracy partialed out, the positive correlations of Factor II (Punishing) with two behavior categories--Help and Reassure--were marginally significant in the opposite direction as the findings for Parental Accuracy. In each case this came about because the zero order correlations for Parental Real Similarity were very weak, while the correlations for Parental Accuracy were significant or marginally significant in the nonpredicted direction. On the one hand, this reversal of signs could be caused by the variance left over after the partial correlations were performed being a statistical artifact, and therefore not psychologically meaningful. On the other hand, it could be that the partial correlations are meaningful and that Parental Real Similarity, independent of Parental Accuracy, in some cases produces behavior relationships in the opposite direction from those produced by Parental Accuracy.

With Parental Accuracy partialed out, Parental Real Similarity was found to be significantly or marginally significantly positively correlated with two adaptive behavior categories and two unadaptive behavior categories. It was also found to be marginally significantly

negatively correlated with two adaptive categories. In both cases where there was a positive correlation with an adaptive behavior category, this occurred on Factor III (Demanding). It is possible, therefore, that there are benefitical affects of Parental Real Similarity in the area of demanding parent behavior, but that Parental Real Similarity with respect to Loving and Punishing parent behavior may be detrimental to the child.

Differences in the Underlying Processes Tapped by Parental Accuracy and Parental Real Similarity

The finding of high correlations between Parental Accuracy and Parental Real Similarity raises the question of whether it made sense to call the major variable of this study "Accuracy" and whether the underlying process(es) tapped by Parental Accuracy are qualitatively different from those tapped by Parental Real Similarity. In keeping with the belief that these questions should be approached empirically, it was anticipated that: (1) First, if Parental Accuracy and Parental Real Similarity obtained significant and marginally significant relationships with children's behavior after the variance accounted for by the other was partialed out, this would indicate that the underlying process(es) were not identical and that the left-over variance for each measure was important to children's social adjustment; (2) Secondly, if a different pattern of behavior relationships were found for Parental

Accuracy and Parental Real Similarity, this would also indicate that the two measures tap different underlying processes. Again, this was found to be the case. Furthermore, to the extent that the pattern of the behavior findings for the two derived scores did show some similarity, this could be due to the fact that both measures may be important, yet different, aspects of "effective parenting" and therefore, would tend to be positively correlated with the adaptive behavior categories and negatively correlated with the unadaptive behavior categories. Thus, it appears that Parental Accuracy and Parental Real Similarity should be considered qualitatively different from each other (though they might still overlap). Finally, the fact that Parental Accuracy obtained a greater number of significant findings than Parental Real Similarity may indicate that this is the more influential of the two measures in terms of the child's social adjustment.

Further research could help clarify whether Parental Accuracy and Parental Real Similarity have different effects on children's behavior by developing a methodology where it would be likely that parents would <u>not</u> tend to give highly correlated self-perceptions and inferences, and therefore, would generally obtain less highly correlated Parental Accuracy and Parental Real Similarity scores. However, developing this procedure probably will prove to be a difficult task. To the extent that a social desirability

response set might result in parents tending to give uniformly positive self-perceptions and inferences, this might be combatted by rewarding the parents for obtaining high accuracy scores. Another possibility would be to warn parents of the general "fallacy" of assuming similarity in the case of predicting the child's perceptions of parent behavior. However, while such an intervention would probably result in a lower correlation between Parental Accuracy and Parental Real Similarity, it would also adversely affect the validity of the parents' scores on the accuracy indices, since these scores would no longer be a measure of the "natural" level of perceptual accuracy. Another possibility would be to choose a content area for parental predictions in which there is inherently less likelihood that the parents' and children's reports would be actually similar. For example, it seems unlikely that parents would give highly similar self-reports and inferences if the ratings were of "favorite activities," "places I'd like to visit," "musical tastes," etc., rather than "perceptions of parent behavior." However, here the problem discussed earlier arises that without empirical evidence to the contrary, one cannot assume generalizability of the effects of one type of Perceptual Accuracy to other types.

A more satisfactory approach that would permit examination of the differences between Parental Accuracy and Parental Real Similarity would be to conduct a longitudinal study using cross-lagged panel correlations

with behavior, Parental Accuracy, and Parental Real Similarity.

Whose Judgments of Parental Behavior are Most Correct?

The question of whether parents, or children, or both, are generally correct in their judgments of the parent's behavior cannot be answered by the present research. Furthermore, this question may be inherently unanswerable, given the difficulty of finding a true behavioral baseline with which to compare the parents' and children's judgments (Taiguiri, 1969). The present findings have shown, however, that there is sufficient variability in both the parental components and the child component of the derived measures that social desirability cannot be the overiding factor in determining the parents' and children's judgments.

Though this point has not been directly investigated, it is possible that in general there may be a positive relationship of both the Parental Accuracy measure and the Parental Real Similarity measure with "correctness" of judgments about parent behavior, since it is unlikely that both people would distort their perceptions in the same way by chance. The extent to which both parent's and child's perceptions are reality-oriented, rather than distorted by various systems of needs and defenses, may be an important aspect of a healthy parent-child relationship, and may, in part, explain the significant findings of the study. However, high Parental Accuracy and Parental Real

Similarity can sometimes occur even if both person's perceptions are distorted, as long as these distortions are in similar patterns and directions. In the cases where this happens, mutual "incorrect" judgments by parents and children might still be a source of perdictability and security for the child, and therefore be positively related to children's adjustment. The possibility of detrimental affects for the child when only one member of the dyad judges parent behavior correctly was discussed earlier.

Possible Explanations of the High Correlations between Parental Accuracy and Parental Real Similarity

Because the Parental Accuracy and Parental Real Similarity measures have identical child components, their high correlation must be due to a high correlation between parents' inferences and parents' self-perceptions. However, this itself needs explanation. As discussed earlier, one explanation for the high correlation is that parents' inferences may reflect "projection" of the parents' self-perceptions onto the child. This could be projection in the psychoanalytic sense, whereby the internal "needs" of the parent cause him/her defensively to distort his/her perceptions of the child, or by a second sort of "projection." The second type of projection would involve the parent making accurate judgments of his/her caregiving behavior, and the making the generally false assumption (Michaels, Messé, & Stollack, 1977) that the child will view the

behavior in a similar manner. In this second situation, no real distortion on the part of the parent would take place, and lack of accuracy would be caused by a lack of education about how children in general perceive the world, rather than by defensiveness on the part of the parent. If "projection" of the second type occurs, this would raise the possibility that parents could be relatively easily trained to assume dissimilarity with respect to their children's perceptions of their caregiving behavior, and that such training could result in higher Parental Accuracy scores.

If projection were the major cause of the high correlations between Parental Accuracy and Parental Real Similarity, then parents' inferences really would not be anything but parents' self-perceptions accompanied by some small chance variation. However, as discussed earlier, the fact that each of these derived measures was shown to obtain significant and marginally significant behavior relationships after the variance caused by the other was partialed out, as well as the fact that the magnitudes and patterns of the behavior relationships for the two measures differed, demonstrated that parents' inferences could not be <u>primarily</u> determined by projection. A more likely explanation is that the high correlations between Parental Accuracy and Parental Real Similarity are caused by their both being related to, and important aspects of, a third variable: "effective child caregiving." In other words,

it may be that the more effective a parent, the more likely she/he is to be an accurate perceiver of the child and also to have highly similar perceptions.

Implications of the Present Study

Although this study has had to face some of the same conceptual and methodological difficulties that have occurred in previous social perception studies using the prediction paradigm, nevertheless it appeared to be successful in showing that a previously unmeasured type of parent perceptual accuracy is related to seven-year old children's social adjustment. The findings are particularly striking since no previous study has successfully demonstrated a relationship between any measure of parental perceptual accuracy, or any other type of parental empathy measure, and the social adjustment of young children. Furthermore, because the present study found significant behavior differences for Parental Accuracy in a group of normal children, whereas the previous studies with adolescents which found significant findings for parental predictive accuracy all used in extreme groups design (i.e., normal vs. problem children), this study provides the strongest evidence to date of the importance of parents' accurate person perceptions to all children's social adjustment. In the broader context of the role of person-perceptions in child socialization, the present findings point to the utility of exploring the effects of a wide range of perceptual variables on parent-child interaction.

The results for Parental Real Similarity point to the importance of congruence of parents' and children's perceptions. Real similarity in perceptions of other aspects of their relationship should be related to children's adjustment. It is even possible that the amount of agreement may be more important than the content of the perceptions themselves.

Directions for Future Research

Several suggestions for future research in this area already have been given. Other suggestions are made here. One direction would be to have parent subjects judge, not how their own child will perceive them, but how a strange child whom they all see interacting with a parent would view that parent. In other words, each Judge would rate the same stimulus child. This could be done by having the Judges watch videotapes of parent-child interaction. Since there would be less likelihood of social desirability influencing the Judge's responses, such a procedure would be more likely to obtain the Judge's actual perceptions. Furthermore, the type of interaction the parents are exposed to, the length of that interaction, and the nature of the information concerning the child which is available to the parent could be carefully controlled. The Parental Accuracy measure could then be examined more directly as a person-perception measure and specific cues given by the child could be studied in terms of their affect on the parents'

ability to make accurate person perceptions of the subjective experiences (in this case perceptions of parent behavior) of the stimulus child. This would help remove the "magical aura" which surrounds many discussions of how empathy "works."

Future research should also focus on the personality characteristics of the parent that are associated with ability to predict how the child will perceive parent caregiving behavior. Research in person-perception has shown that the characteristics of the Judge may be even more important in person perception than the characteristics of the stimulus person. One area that needs further exploration is the possible influence of global perceptual sets of the parent on the Parental Accuracy scores. Recent research (Messé & Stollack, 1976) suggests that parents might have particular perceptual styles with respect to a tendency to attend to positive versus negative aspects of a child's overt behavior. Similar perceptual sets may exist with respect to parents' judgments of their children's subjective experience. Research into this problem could begin with situations where degree of aquaintance is close, and only a small degree of extrapolation is required. Under these conditions, a baseline could be established in which specific identifiable cues dominate the perceptions. Then the degree of extrapolation could be increased and decrease the degree of aquaintance. This procedure should permit determination of the point at which such perceptual sets

of the parent begin to appear and then to dominate (Gage & Cronbach, 1955).

The relationship between accurate person-perceptions of how the child views parental behavior could also be compared to the accuracy of person-perceptions of more surface or overt behaviors of the child (Messé & Stollak, 1976; Michaels, Stollak & Messé, 1977) and a variety of indices of parental accuracy in person perceptions could be related to children's behavior and adjustment.

Future research should focus directly on the relationship of Parental Accuracy and Parental Real Similarity to parents' caregiving behavior and on actual parent-child interaction sequences, so as to understand better how these variables affect family relationships, and consequently the child's adjustment.

The reliability of the Parental Accuracy indices should be examined by asking parents to predict the perceptions of more than one of their children, or if videotapes are used, of a number of different children.

Earlier, the value of examining different content areas within the level of the child's perceptions of parent behavior was discussed. It would be important to examine the parents' perceptual accuracy for other aspects of the child's perceptions of parent behavior--for example, his/her conception of parental roles within the family, or his/her perception of the flexibility or continuity of the parents'

caregiving "style." Future research also should determine to what extent "Parental Accuracy" is related to other measures of parental perceptual accuracy that use the predictive model. For example, one could investigate whether the accuracy with which parents infer their children's perceptions of their caregiving behavior is highly correlated with the accuracy with which parents can predict the child's personality self-descriptions, since the latter measure has been the most frequently used in studies of perceptual accuracy.

Furthermore, the Parental Accuracy measure should be related to other processes associated with empathy, such as empathic communication. It would be interesting to determine whether parents who make accurate inferences of their children's perceptions also have the ability to communicate their understanding to the child, especially since several studies (e.g., Cochrane, 1974) have shown that in other types of relationships; e.g., therapy), measures of empathic communication and empathic understanding are negatively correlated. The relationship of Parental Accuracy to other effective parenting behaviors, skills, and abilities also should be investigated.

An important area for future research would be to examine the relationship of parental perceptual accuracy to children's perceptual accuracy. It would be interesting to determine whether parents who can accurately infer their children's perceptions have children who can accurately

infer their parents' perceptions. Several writers have discussed the possibility that empathy is an interactive process (Dymond, 1949; Buchheimer, 1963; Rogers, 1975) where the empathic communication of one person results in the development of empathic understanding and communication in the Other, with the result being greater self-understanding on the part of both people.

In the above light, further research is needed to determine which aspects of children's behavior are most influenced by level of Parental Accuracy and by other types of parent perceptual accuracy.

Limitations of the Present Research

One limitation of the present research results from the fact that the perception measures were obtained for only one of the child's parents. Although all four types of parent-child dyads were represented, the strength of the effect of Parental Accuracy and Parental Real Similarity on children's behavior and adjustment might depend on whether both, or only one parent is accurate or innaccurate (or similar or dissimilar). The differential effect on the child of having both parents being highly accurate, one parent being highly accurate, or no parents being highly accurate, and in general, the effects of a discrepancy in Parental Accuracy among the two parents, was not assessed in this study. The same was true for Parental Real Similarity. However, the fact that the Parental Accuracy

and Parental Real Similarity scores for one parent alone were significantly related to children's behavior point to the importance of both these measures.

A second problem concerns the use of a correlation design and the inability to designate a cause and effect sequence to the perception measures and children's adjustment. Though a great deal of theorizing about empathy in the therapist-client relationship has stressed the point that therapist empathy is at least a necessary precondition for therapeutic success, and to some extent this can be carried over to the parent-child relationship, it is possible that the causal sequence could be the reverse of what is generally believed. Adjusted children, because their behavior is more rewarding to the parents might cause the parents to become more involved with them, and therefore, gain a more accurate sense of their subjective experience, as well as lead to greater similarity in their perceptions. In fact, it is likely that both these processes are operating and that either a "benign" or "hostile" cycle occurs. In the benign cycle, accuracy (or real similarity) in the parents leads to increases in the child's adjustment, which leads to increases in the parents' involvement, which leads to greater accuracy (or real similarity), etc. In the hostile cycle, a lack of accuracy (or real similarity) in the parents leads to increases in the child's maladjustment, which leads to decreases in the parents' involvement with the child, which leads to further decreases

in the parents' accuracy (or real similarity), etc.

Another problem with the use of the linear correlation design is that some of the relationships studied may be curvilinear, and therefore less likely to be discovered by the analysis used here. This may be especially true with respect to Parental Real Similarity, where a very high level of similarity may indicate a "psychological merging" of the parent's and child's personalities. Such a symbiotic-based agreement in perceptions may have detrimental effects on the child's personality development and social adjustment.

A problem with the attempt to relate Parental Accuracy and Parental Real Similarity to the various categories of children's behavior is the fact that while only the child's behavior is measured in the present study, all social behavior is, in fact, interpersonal. The presence or absence of a particular category of an individual child's behavior at a particular moment during the playroom interaction is invariably linked to the associated behavior of the undergraduate with whom the child is interacting. It was hoped, however, that if children's behavior was examined over all child-undergraduate interaction sequences, group relationships between the perception measures and child behavior would be found. This in fact did occur. Although there were a large number of significant correlations of the Parental Accuracy and Parental Real Similarity indices with the children's

behavior categories, most of these correlations were not high. Such low correlations perhaps can be explained by the fairly low reliability among coder pairs that was obtained for most of the Circumplex behavior categories, since low reliability would cause attentuation in the strength of the obtained correlation coefficients.

Finally, it should be noted that the relationship of Parental Accuracy and Parental Real Similarity to child behavior was examined for only one age group--7 year olds. Therefore, the relative saliency of these variables at different stages of a child's development and the possibility of different types of influences at different stages could not be investigated here. This remains an important task for future research. For example, Parental Accuracy might be most important during later childhood when the child is beginning to develop an independent view of his/her environment. The parents' ability to infer accurately the child's perceptions as they begin to differ from the parents' self-perceptions may reinforce the child's development of a separate world view and an autonomous personality.

This discussion suggests that there are a large number of important but as yet unanswered questions concerning the role of person perception variables in child caregiving and socialization processes. Results of the present study, however, appear to demonstrate that systematic investigations of these issues will be fruitful.

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APPENDIX A

CHILDREN'S BPB

PARENTS' BPB-SELF-PERCEPTIONS

PARENTS' BPB-INFERENCES

APPENDIX A

Instructions for Children's BPB

The child-interviewer reads the following directions, "I AM GOING TO ASK YOU SOME QUESTIONS AND I WANT YOU TO ANSWER: DEFINITELY YES, DEFINITELY NO, PROBABLY YES, OR PROBABLY NO. FOR THIS I WANT TO KNOW ABOUT YOUR REAL FATHER/MOTHER, NOT THE PERSON YOU WERE IN THE PLAYROOM WITH. REMEMBER, I WANT TO KNOW WHAT YOU REALLY THINK."

Make sure the child understands and can say the answers she/he can give. The child should not see you marking answers. Read the first item and give the child a chance to respond. If she/he doesn't repond by himself/ herself, say "ANSWER EITHER DEFINITELY YES, DEFINITELY NO, PROBABLY YES, OR PROBABLY NO." Mark the answer next to the item. After every five questions, repeat the instructions, "ANSWER EITHER DEFINITELY YES, DEFINITELY NO, PROBABLY YES, OR PROBABLY NO."

(Form for Perceptions of Fathers)

Date:_____

Name of Interviewer: _____

Name of Child: _____

Sex of Child: _____ Sex of Adult:_____

Child Number: _____

	DY	PY	PN	DN
HE TELLS ME THAT OTHER CHILDREN BEHAVE BETTER THAN I DO.	___	___	___	___
HE SLAPS ME.	___	___	___	___
HE TELLS ME EXACTLY WHEN I SHOULD COME HOME.	___	___	___	___
HE TEACHES ME THINGS WHICH I WANT TO LEARN.	___	___	___	___
HE PUNISHES ME BY TAKING MY FAVORITE THINGS AWAY.	___	___	___	___
HE SEEMS DISAPPOINTED AND SAD WHEN I MISBEHAVE.	___	___	___	___
HE IS RIGHT WHEN HE PUNISHES ME.	___	___	___	___
I CAN TALK HIM INTO ALMOST ANYTHING.	___	___	___	___
HE COMES WITH ME WHEN I GO SOMEPLACE FOR THE FIRST TIME TO MAKE SURE THAT EVERYTHING GOES WELL.	___	___	___	___
HE WANTS ME TO MAKE A SPECIAL EFFORT IN EVERYTHING I DO.	___	___	___	___
WHEN I AM BAD HE FORBIDS ME TO DO THINGS I ESPECIALLY ENJOY.	___	___	___	___
HE MAKES ME FEEL BETTER AND HELPS ME WHEN I HAVE TROUBLES.	___	___	___	___
HE SAYS NICE THINGS ABOUT ME TO OTHER PEOPLE.	___	___	___	___

	DY	PY	PN	DN
HE EXPECTS ME TO KEEP MY OWN THINGS IN ORDER.	___	___	___	___
HE HELPS ME MAKE THINGS AND BUILD THINGS.	___	___	___	___
HE WANTS TO KNOW EXACTLY HOW I SPEND MY MONEY WHEN I WANT TO BUY SOME LITTLE THINGS FOR MYSELF.	___	___	___	___
HE EXPECTS ME TO HELP AROUND THE HOUSE.	___	___	___	___
I CAN TALK WITH HIM ABOUT EVERYTHING.	___	___	___	___
AS PUNISHMENT HE SENDS ME TO BED EARLY.	___	___	___	___
HE LETS ME OFF EASY WHEN I MISBEHAVE.	___	___	___	___
HE DOESN'T LIKE THE IDEA OF PUNISHING ME.	___	___	___	___
HE SHOWS ME HE LIKES IT WHEN I HAVE DONE SOMETHING GOOD.	___	___	___	___
HE DEMANDS THAT I DO BETTER THAN OTHER CHILDREN.	___	___	___	___
AS PUNISHMENT HE FORBIDS ME TO PLAY WITH OTHER CHIDLREN.	___	___	___	___
HE SCOLDS ME AND YELLS AT ME.	___	___	___	___
HE TELLS ME "I DON'T WANT TO HAVE ANY MORE TO DO WITH YOU" WHEN I MISBEHAVE.	___	___	___	___
HE IS HAPPY WHEN HE IS WITH ME.	___	___	___	___

	DY	PY	PN	DN
HE GOES ON NICE WALKS WITH ME AND DOES NICE THINGS WITH ME OUTDOORS.	___	___	___	___
HE WON'T LET ME ROAM AROUND BECAUSE SOMETHING MIGHT HAPPEN TO ME.	___	___	___	___
HE SPANKS ME.	___	___	___	___

PARENTS' BPB-SELF-PERCEPTIONS

INSTRUCTIONS FOR PARENTS' BPB-SELF-PERCEPTIONS

CODE NO. _____ NAME _____

READ THE FOLLOWING STATEMENTS CAREFULLY. WHICH DO YOU HONESTLY BELIEVE ARE AT LEAST SOMEWHAT TRUE OF YOU, THAT IS, MORE THAN VERY RARELY TRUE IN YOUR CASE? YOUR ANSWERS SHOULD PERTAIN SPECIFICALLY TO THE CHILD WHO PARTICIPATED IN THE RESEARCH.

Form for Mothers

CODE NO. _____

	DEFINITELY YES	PROBABLY YES	PROBABLY NO	DEFINITELY NO
I TELL MY CHILD THAT OTHER CHILDREN BEHAVE BETTER THAN HE/SHE DOES.	___	___	___	___
I SLAP MY CHILD.	___	___	___	___
I TELL MY CHILD EXACTLY WHEN HE/SHE SHOULD COME HOME.	___	___	___	___
I TEACH MY CHILD THINGS WHICH HE/SHE WANTS TO LEARN.	___	___	___	___
I PUNISH MY CHILD BE TAKING HIS/HER FAVORITE THINGS AWAY.	___	___	___	___
I SHOW THAT I AM DISAPPOINTED AND SAD WHEN MY CHILD MISBEHAVES.	___	___	___	___
I AM RIGHT WHEN I PUNISH MY CHILD.	___	___	___	___
I CAN TALK MY CHILD INTO ALMOST ANYTHING.	___	___	___	___
I GO WITH MY CHILD WHEN HE/SHE GOES SOMEPLACE FOR THE FIRST TIME TO MAKE SURE THAT EVERYTHING GOES WELL.	___	___	___	___
I WANT MY CHILD TO MAKE A SPECIAL EFFORT IN EVERYTHING HE/SHE DOES.	___	___	___	___
WHEN MY CHILD IS BAD I FORBID HIM/HER TO DO THINGS HE/SHE ESPECIALLY ENJOYS.	___	___	___	___

CODE NO. _____	DEFINITELY YES	PROBABLY YES	PROBABLY NO	DEFINITELY NO
I MAKE MY CHILD FEEL BETTER AND HELP MY CHILD WHEN HE/SHE HAS TROUBLES	___	___	___	___
I SAY NICE THINGS ABOUT MY CHILD TO OTHER PEOPLE.	___	___	___	___
I EXPECT MY CHILD TO KEEP HIS OWN THINGS IN ORDER.	___	___	___	___
I HELP MY CHILD MAKE THINGS AND BUILD THINGS.	___	___	___	___
I WANT TO KNOW EXACTLY HOW MY CHILD SPENDS HIS/HER MONEY WHEN HE/SHE WANTS TO BUY SOME LITTLE THINGS FOR HIMSELF/HERSELF.	___	___	___	___
I EXPECT MY CHILD TO HELP AROUND THE HOUSE.	___	___	___	___
I CAN TALK WITH MY CHILD ABOUT EVERYTHING.	___	___	___	___
AS PUNISHMENT I SEND MY CHILD TO BED EARLY.	___	___	___	___
I LET MY CHILD OFF EASY WHEN HE/SHE MISBEHAVES.	___	___	___	___
I DON'T LIKE THE IDEA OF PUNISHING MY CHILD.	___	___	___	___
I SHOW MY CHILD I LIKE IT WHEN HE/SHE HAS DONE SOMETHING GOOD.	___	___	___	___
I DEMAND THAT MY CHILD DOES BETTER THAN OTHER CHILDREN.	___	___	___	___

CODE NO. _____	DEFINITELY YES	PROBABLY YES	PROBABLY NO	DEFINITELY NO
AS PUNISHMENT I FORBID MY CHILD TO PLAY WITH OTHER CHILDREN.	___	___	___	___
I SCOLD MY CHILD AND YELL AT HIM/HER.	___	___	___	___
I TELL MY CHILD "I DON'T WANT TO HAVE ANY MORE TO DO WITH YOU" WHEN HE/SHE MISBEHAVES.	___	___	___	___
I AM HAPPY WHEN MY CHILD IS WITH ME.	___	___	___	___
I GO ON NICE WALKS WITH MY CHILD AND DO NICE THINGS WITH HIM/HER OUTDOORS.	___	___	___	___
I WON'T LET MY CHILD ROAM AROUND BECAUSE SOMETHING MIGHT HAPPEN TO HIM/HER.	___	___	___	___
I SPANK MY CHILD.	___	___	___	___

PARENTS' BPB-INFERENCES

INSTRUCTIONS FOR PARENTS'-BPB-INFERENCES

CODE NO. _____ NAME _____

NOW, PLEASE IMAGINE YOU ARE YOUR CHILD, THE ONE WHO PARTICIPATED IN THE STUDY, AND YOU ARE ASKED TO COMMENT UPON THE FOLLOWING STATEMENTS ABOUT YOU - HIS/HER MOTHER OR YOU - HIS/HER FATHER. THAT IS, WE'D LIKE TO KNOW HOW YOU THINK YOUR CHILD SEES YOU. THESE STATEMENTS ARE THE SAME AS THE PREVIOUS ONES. PLEASE ANSWER IN THE SAME WAY AS BEFORE, ONLY THIS TIME PUT YOURSELF IN YOUR CHILD'S PLACE. PLACE AN "X" IN THE SPACE ON THE ANSWER SHEET NEXT TO EACH STATEMENT WHICH YOU BELIEVE YOUR CHILD WOULD CHOOSE AS REPRESENTING HIS/HER PERCEPTIONS.

Form for Mothers

CODE NO. _____	DEFI-NITELY YES	PRO-BABLY YES	PRO-BABLY NO	DEFI-NITELY NO
MY MOTHER TELLS ME THAT OTHER CHILDREN BEHAVE BETTER THAN I DO.	___	___	___	___
MY MOTHER SLAPS ME.	___	___	___	___
MY MOTHER TELLS ME EXACTLY WHEN I SHOULD COME HOME.	___	___	___	___
MY MOTHER TEACHES ME THINGS WHICH I WANT TO LEARN.	___	___	___	___
MY MOTHER PUNISHES ME BY TAKING MY FAVORITE THINGS AWAY.	___	___	___	___
MY MOTHER SEEMS DISAPPOINTED AND SAD WHEN I MISBEHAVE.	___	___	___	___
MY MOTHER IS RIGHT WHEN SHE PUNISHES ME.	___	___	___	___
I CAN TALK MY MOTHER INTO ALMOST ANYTHING.	___	___	___	___
MY MOTHER COMES WITH ME WHEN I GO SOMEPLACE FOR THE FIRST TIME TO MAKE SURE THAT EVERYTHING GOES WELL.	___	___	___	___
MY MOTHER WANTS ME TO MAKE A SPECIAL EFFORT IN EVERYTHING I DO.	___	___	___	___
WHEN I AM BAD MY MOTHER FORBIDS ME TO DO THINGS I ESPECIALLY ENJOY.	___	___	___	___

CODE NO. _____	DEFINITELY YES	PROBABLY YES	PROBABLY NO	DEFINITELY NO
MY MOTHER MAKES ME FEEL BETTER AND HELPS ME WHEN I HAVE TROUBLES.	___	___	___	___
MY MOTHER SAYS NICE THINGS ABOUT ME TO OTHER PEOPLE.	___	___	___	___
MY MOTHER EXPECTS ME TO KEEP MY OWN THINGS IN ORDER.	___	___	___	___
MY MOTHER HELPS ME MAKE THINGS AND BUILD THINGS.	___	___	___	___
MY MOTHER WANTS TO KNOW EXACTLY HOW I SPEND MY MONEY WHEN I WANT TO BUY SOME LITTLE THINGS FOR MYSELF.	___	___	___	___
MY MOTHER EXPECTS ME TO HELP AROUND THE HOUSE.	___	___	___	___
I CAN TALK WITH MY MOTHER ABOUT EVERYTHING.	___	___	___	___
AS PUNISHMENT MY MOTHER SENDS ME TO BED EARLY.	___	___	___	___
MY MOTHER LETS ME OFF EASY WHEN I MISBEHAVE.	___	___	___	___
MY MOTHER DOESN'T LIKE THE IDEA OF PUNISHING ME.	___	___	___	___
MY MOTHER SHOWS ME SHE LIKES IT WHEN I HAVE DONE SOMETHING GOOD.	___	___	___	___
MY MOTHER DEMANDS THAT I DO BETTER THAN OTHER CHILDREN.	___	___	___	___

CODE NO. _____	DEFI-NITELY YES	PRO-BABLY YES	PRO-BABLY NO	DEFI-NITELY NO
AS PUNISHMENT MY MOTHER FORBIDS ME TO PLAY WITH OTHER CHILDREN.	___	___	___	___
MY MOTHER SCOLDS ME AND YELLS AT ME.	___	___	___	___
MY MOTHER TELLS ME "I DON'T WANT TO HAVE ANY MORE TO DO WITH YOU" WHEM I MISBEHAVE.	___	___	___	___
MY MOTHER IS HAPPY WHEN SHE IS WITH ME.	___	___	___	___
MY MOTHER GOES ON NICE WALKS WITH ME AND DOES NICE THINGS WITH ME OUTDOORS.	___	___	___	___
MY MOTHER WON'T LET ME ROAM AROUND BECAUSE SOMETHING MIGHT HAPPEN TO ME.	___	___	___	___
MY MOTHER SPANKS ME.	___	___	___	___

APPENDIX B

SCORING CATEGORIES FOR THE CHILDREN'S BEHAVIOR AND DEFINITIONS OF THE CATEGORIES

CIRCUMPLEX DIAGRAM

DIVISION OF CATEGORIES INTO QUADRANTS

INSTRUCTIONS FOR CODING

SCORING SHEET

APPENDIX B

SCORING CATEGORIES FOR THE CHILDREN'S BEHAVIOR

(Coding Manual)

1. Dominance. Includes behaviors indicative of taking over, being in command, telling the other what to do and what not to do. Direct active control of the other's behavior. Information, etc., is offered in an authoritarian manner. Actor behaves as if other cannot function for him/her self. Forcibly changing the subject and "riding over" the other's offerings are good examples of such behavior.
   Example for adult: "We'll do this proverb 1st, and then we'll go on to the others." A takes puzzle from C and begins to work on it, oblivious to C's attempts to proceed in his own way, A says, "Now! What's the next phrase mean?"
   Example for child: C corrects A; C changes the subject; C interrputs A and says what she was going to say; "Let me see it."

2. Structure and teach. Includes informing, instructing, giving opinions, advising, and asking questions, all performed from the dominant position and serving the function of structuring or teaching. Intellectualization belongs here, as do relating of events which occurred outside of session; giving information, clarifying, and explaining belong here as long as they are not directly related to giving a solution.
   Example from adult: "Here's the first proverb_____:" "I think this is the hardest one." "Are you ready?" "I talked to your teacher, etc." "What did you do in school today?"
   Example from child: C tells a story about what happened in Cub Scouts: "I think this is a harder one." "Now, where do you think this should go?" "Do you know what time it is?" "Do you know what Jim said to me?"

3. Help. Includes offer help, direct help whether or not it is task-oriented, suggestions for a solution, task-relevant information, clarification, or interpretation. Less dominant and more solution related than Category 2 (Structure). More for benefit of other and helping solve problem.
   Example from adult: "Maybe this piece goes there." A moves a piece of the puzzle; A points to a piece of the puzzle and says, "That one goes over there" (she's

offering, not dominating). "Would you like some help?" A supplies a word which C is struggling for.
Example from child: C takes some information from A and then comes up with an interpretation. "This seems to be Yogi's hat." C guesses at a proberb; A is confused about the puzzle, and C helps to clarify.

4. Reassurance. Includes support, sympathy and pity. Differs from Love (category 5) and Cooperation (category 6) because of its smothering, protective quality. These behaviors lack the egalitarian quality of Categories 5 & 6, but they do involve a more active, giving--if somewhat patronizing--approach than does category 6.
Example from adult: "That's too bad." "Don't worry, you have plenty of time." "That's right." "You don't have to do it if you don't want to."
Example from child: Very rare.

5. Love. Includes behaviors reflecting love and feeling with the other person. Intense affect. Real expressions of caring and affect are the behaviors in this category.
Example from adult: "I think you're OK even if you don't finish that old puzzle." A puts her arm around C, squeezes C, smiles etc.: "Boy, that was a hard one, wasn't it!"
Example from child: "Wow, you're good at this." "Gee, thanks." "A smiles of laughs and C does the same.

6. Cooperation. Includes collaborating and agreeing with the other, or more rarely, confiding in the other. If a question is asked by other, a response that is both appropriate and not an attempt to dominate is scored in this category.
Example from adult: C says, "Let's do this," and A replies, "OK." C is relating a story and A "lubricates" his commentary by repeating his points etc. (such behavior would be help if it went beyond cooperation by reflecting feelings, helping C express himself, or summarizing what C said); A nods her head as C moves a piece of the puzzle.
Example from child: A says, "May I see the puzzle?" and C yields it to her; C responds to a suggestions with, "Sure," "OK," "That's a good idea."

7. Dependency. Includes behaviors that encourage the other to take over, in a general way, to take charge. Expressions of a need for general help are scored here. Like Passive Questioning (Category 8), it includes behaviors calculated to get others to take dominant role, but this latter category (8) does so only through specific questions or requests.
Example from adult: "Here, you do it." (A is asking C to take over); "Will you help me with this?"

"Am I getting across to you?" (asks for reassurance); A obviously wants C to talk because she is uncomfortable. Example from child: "Do you know what Yogi should look like?" "I wonder what I should do;" "Is this right?"

8. Passive questioning. Includes behaviors that appear to be attempts to get other to become actively dominant through specific questions and/or requests.
Example from adult: "What do you think is the best way to proceed?" "I wonder what this phrase means?"
C is relating an account about school, and A asks relevant, "interested" questions.
Example from child: (Admiration)--Defined exactly as for mother. It is more typically child to parent type of questioning.

9. Submission. Includes behaviors that are submissive, deferrent and reminiscent of a child obeying his/her parents. Differs from Category 10 (Helplessness) in that this does not represent withdrawal from a previously held position, and the affect expressed is more neutral.
Example from adult: C hands puzzle to A with, "Here, you try it." and A takes the puzzle without comment; C says, "This piece goes here," and A says, "Uh huh" (she is not detached, and she seems more deferrent than cooperative).
Example from child: A takes over, works on puzzle, and C makes no response. A makes a point and C nods his head.

10. Helplessness. Includes behaviors that are indicative of feelings of helplessness, attempts to withdraw, backing down from a strongly held previous stand, giving up, degrading oneself. Such acts are more fearful and less restrictive than are those coded in Category 11 (Suspicion).
Example from adult: "I'm no good at puzzles" (affect appears more helpless than resistive). "I just can't seem to help you." "Let's go on to the next proverb and come back to this one later" (flight outweighs dominance or suggestion). A tries a few pieces to the puzzle, C complains, and A returns to her chair; C puts up a fuss, and A doesn't respond.
Example from child: "I can't do it;" whipmering (not sulking). "I'm no good;" C gives up.

11. Suspicion: Includes expressions of distrust, skepticism, as well as accusations and demands made from a passive, submissive position. This disbelief and distrust differ from active challenges--which are coded in Category 14 (Punishment)--and Complaints (Category 12), which are more negative and less fearful.
Example from adult: A raises her eyebrows in response to something C says; "I guess you can do fine without

me" (she's hurt); "What do you mean?" (she's looking for a hidden meaning): "What are you doing, are you trying to be smart?" (tone is suspicious and not strongly challenging); "I don't know what you mean" (she is resisting but is also threatened).
Example from child: Defined exactly as for the mother. It is likely to arise in examples such as: "I don't think this puzzle can be solved;" "I think he can hear us;" "You're supposed to watch me aren't you?" The comments may refer to the investigator, but it is apparent that C perceives A as an ally with or sharing secret knowledge with him.

12. Complaint. Includes behaviors that are more typical of children than adults; passive and negative expressions of dislike that connote an element of helplessness. Attempts to control via passive resistance, complaining, nagging, and sulking.
Example from adult: "Why don't you (please) stop that noise?" "I told you that wouldn't work;" C requests help and A indicates, "I don't know how to do puzzles;" "If you're not going to listen, then do it your way;" "These proverbs sure are stupid" (complaining about the task, but nevertheless saying something to C): On the basis of her previous behavior, some scorable silences may be inferred to represent passive resistance.
Example from child: "I don't want to do this" (affect is complaining); teasing in a complaining tone; A asks C a question to which he undoubtedly knows the answer, and he responds, "I don't know."

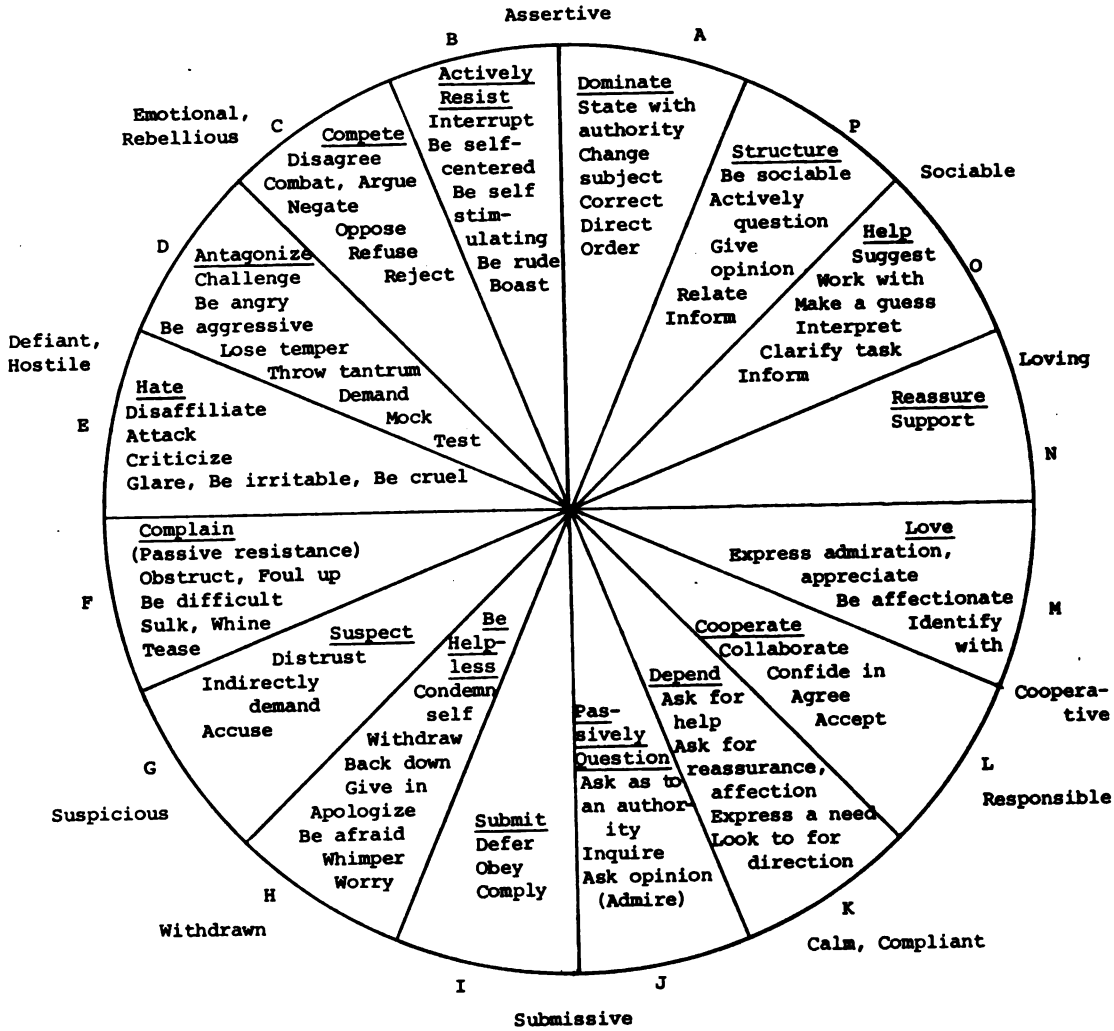
13. Fate. Includes affect laden behaviors that communicate to child that he/she is unwanted, undesirable, and loathsome. Intensely hostile, disaffiliative behavior via expressions of contempt and criticism. More a general attitude than a behavior control attempt--which would be Punishment (Category 14).
Example from adult: "That's no way to do it (stupid;" You're acting like a (disgusting) little child;" "Why don't you stop pestering me!" "Can't you behave like a mature boy." "You had it there for a minute, and now you've gone and fouled it up."
Example from child (rare): C glares at A.

14. Punishment. Includes behaviors that primarily are angry, punishing, mocking, threatening, or challenging if such acts appear to be attempts to control or influence the other's behavior. Probably less intense and more purposive than are the behaviors coded in Category 13 (Hate).
Examples from adult: "You'd better stop that." "What did you say!" A administers a spanking; A says with irrigation, "What do you want;" "Is that any way to behave?"

Example from child: "Are you crazy?" C loses temper, strikes A, etc. A tells C to stop doing something and he continues: "wise" comments belong here.

15. Competition. Includes behaviors that are primarily competitive, combative, or expressly oppositional in nature. Good examples involve disagreements with or rejections of other's expressions, or refusing requests. Less intense than Punishment (Category 14).
Example from adult: "No, you do it by yourself." "I don't think that's true at all;" C moves a piece of the puzzle and A makes a point of negating the move.
Example from child: "No, I don't want to do that;" "That's not right."

16. Active resistance. Includes behaviors that not only are dominant, but also are "distancing" regarding other. These indicate active resistance without clear rejection of the other as a person. Self-stimulating communications to other; person behaves towards other in a way that suggests that his/her needs rather than other's needs are the important issue.
Example from adult: A advises C in a boastful manner: A's behavior is condescending, though not clearly critical or mocking; "Yes it is a difficult puzzle, but I know you can do just fine;" A tunes out C's request or comment and responds in an irrelevant manner.
Example from child: C boasts; C interrupts or rides over M's statement and either makes his point prevail (without combat) or makes her point his own; "I'm going to do it by myself."



NOTE: Descriptive adjectives outside of the circle adopted from Becker's Circumplex Model for Boys' Behavior (1962).

SOURCE: Rowland, 1968.

Figure 1. Circumplex Diagram of Child Behavior

DIVISION OF CHILDREN'S SCORING

CATEGORIES INTO QUADRANTS

	Category	Quadrant
1.	Dominate	
2.	Structure	
3.	Help	Affiliation - Dominance
4.	Reassure	
6.	Love	
6.	Cooperate	
7.	Depend	Affiliation - Submissiveness
8.	Passively Question	
9.	Submit	
10.	Be Helpless	
11.	Suspect	Disaffiliation-Submissiveness
12.	Complain	
13.	Hate	
14.	Punish	
15.	Compete	Disaffiliation-Dominance
16.	Actively Resist	

Instruction for Coding of Tapes

A. Code by acts or every 30 seconds of a continuous behavior.

B. Code each segment on a separate sheet.

(I) Free play -- from time E leaves room to E returns

(II) Etch-A-Sketch -- from time E begins to read instructions to E's return.

(III) Proverbs -- from time E begins to read instructions to E's return.

C. Code both Adult's and Child's behaviors into following categories: (Only the child behavior was examined in the present research.)

	Adult	Child
1.	Dominate: Command; Direct; Control; Take over; Be authoritarian	State with authority; Change subject; Correct; Order directly
2.	Structure: Teach; Give opinion; Relate actively; Question; Advise; Inform; Explain; Clarify	Be sociable; Actively question; Give opinion; Relate; Inform
3.	Help: Suggest; Offer help; Interpret; Inform, etc. to help (not to teach)	Suggest; Work with; Make a guess; Interpret, etc. to help
4.	Reassure: Support; Protect; Sympathize	Support; Say nice things
5.	Love: Identify with; Empathize with; Praise; Show affection	Express admiration; Appreciate; Be affectionate; Identify with
6.	Cooperate: Collaborate; Agree; Participate with; Accept; Confide	Collaborate; Confide in; Agree with; Accept
7.	Depend: Ask help; Express need	Ask for help, reassurance, affection; Express need; Ask for directions

	Adult	Child
8.	Passively question: Ask for information; Inquire; Admit other's expertise	Ask for information; Inquire; Admit other's expertise
9.	Submit: Defer; Comply; Obey	Obey; Defer; Comply
10.	Be helpless: Give up; Buck down; Apologize; Condemn self; Show anxiety, etc.	Condemn self; Withdraw; Back down; Give up; Apologize; Show fear; Anxiety, etc.
11.	Suspect: Distrust; Accuse; Be skeptical; Question motives	Distrust; Accuse; Question motives
12.	Complain: Resist passively; Sulk; Nag; Tease	Resist passively; Obstruct; Be difficult; Sulk; Tease; Whine
13.	Hate: Dissafiliate; Criticize; Attack; Show contempt, disgust	Dissafiliate; Attack; Criticize; Glare; Beguile; Show active dislike
14.	Punish: Threaten; Challenge; Mock; Get angry	Challenge; Be angry; Be aggressive; Lose temper; Throw tantrum; Mock
15.	Compete: Oppose directly; Disagree; Withhold; Negate; Reject; Refuse	Disagree; Combat; Argue; Negate; Oppose; Refuse; Reject
16.	Actively resist: Be self contained; Narcissistic; Tune out; Ignore; Interrupt	Interrupt; Be self-centered; Be rude; Show self-interest

Scoring Sheet

Code Number_____ Date_____

Adult's first name_____ Coder's name_____

Child's first name_____ _____

Segment: ____Free Play; ____Etch-a-Sketch; ___Proverbs

Category	Adult	Total	Child	Total
(1) Dominate				
(2) Structure				
(3) Help				
(4) Reassure				
(5) Love				
(6) Cooperate				
(7) Depend				
(8) Passively Question				
(9) Submit				
(10) Be Helpless				
(11) Suspect				
(12) Complain				
(13) Hate				
(14) Punish				
(15) Compete				
(16) Actively Resist				

APPENDIX C

EXPERIMENTER INSTRUCTIONS AND PROCEDURES FOR PLAYROOM INTERACTION

APPENDIX C

Experimenter Instructions and Procedures

I. Welcoming the Child and 1st Task

When a child is brought to you, (he) (she) will be introduced to you by the "driver." Close door and sit down with the child and say the following (be friendly) slowly and naturally.

"I AM GLAD THAT YOU COULD COME AND HELP US TODAY. LET ME TELL YOU WHAT WE'RE GOING TO DO. IN A MINUTE AN ADULT WILL COME IN THE ROOM AND I'LL INTRODUCE HIM OR HER TO YOU. THEN BOTH OF YOU CAN DO WHAT YOU WANT IN HERE. THERE ARE SOME TOYS OVER THERE IF YOU WANT TO PLAY WITH THEM."

"AFTER ABOUT TEN MINUTES, I'M GOING TO COME BACK AND ASK YOU TO WORK ON A PUZZLE TOGETHER."

"THEN, IT WILL BE TEN MINUTES LATER, I'LL COME IN THE ROOM AGAIN AND ASK THE OTHER PERSON TO TEACH YOU THE MEANING OF SOME SAYINGS, O.K.? HOW DOES THIS ALL SOUND? I THINK ALL OF THIS SHOULD BE INTERESTING, BUT IF YOU WANT TO STOP AT ANY TIME JUST SAY SO, O.K.?"

Open door and let undergraduate in. Ask (his) (her) first name and ask to see (his)(her) code number card. Put code number down on your schedule sheet and introduce child

and adult by saying:

"_____, THIS IS_____. AS YOU KNOW, YOU TWO ARE GOING TO BE SPENDING ABOUT 1/2 HOUR TOGETHER."

First, facing child, say:

"SEE ALL THAT STUFF ON THE TABLE? DURING THE NEXT TEN MINUTES YOU CAN PLAY WITH ANY OF THEM IF YOU WISH. I AM GOING TO LEAVE YOU NOW, BUT I'LL RETURN WHEN I WANT YOU TWO TO GO ON TO YOUR NEXT TASK, O.K.?"

Say to adult:

"YOU CAN DO WHATEVER YOU WANT DURING THIS TIME, TOO, O.K.?"

Leave room, shutting door behind you.

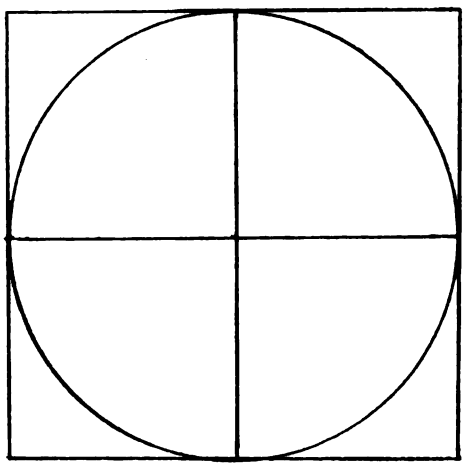
Experimenter Instructions and Procedures

II. Puzzle Task

(Enter room, closing door behind you, with "Etch-A-Sketch" and copy of model figure.)

Say: "PLEASE STOP WHAT YOU'RE DOING NOW." [sit down next to child (to child's right) and ask the undergraduate to come over if he or she is not already nearby. Show both "Etch-A-Sketch" and say (mainly to child)]: "DO YOU KNOW WHAT THIS IS? IT IS CALLED AN "ETCH-A-SKETCH" AND YOU CAN DRAW PICTURES WITH IT." (To both) say: "I WOULD LIKE THE TWO OF YOU TO WORK TOGETHER TO DRAW, AS CLOSE AS POSSIBLE, THIS PICTURE." (Show picture) "TO DO THIS I WANT YOU (look at child) TO CONTROL THIS KNOB (pointing to and turning left knob). SEE HOW TURNING THE KNOB MOVES THE DOT AND MAKES A LINE? YOU TRY IT NOW." (Looking at adult say): "I WANT YOU TO CONTROL THE RIGHT KNOB. PLEASE DON'T TOUCH THE OTHER ONE WHICH IS ONLY FOR _____ TO TURN. OKAY. LET'S SEE WHAT KIND OF A JOB YOU CAN DO WORKING TOGETHER TO COPY THIS PICTURE WHEN EACH OF YOU CAN ONLY MOVE THE DOT AND MAKE A LINE IN ONE DIMENSION: UP AND DOWN, OR LEFT AND RIGHT. IF YOU NEED TO ERASE AND START OVER, THIS IS HOW TO DO IT (Demonstrate: turn upside down and shake not too vigorously). Then say: "DO THE BEST JOB THAT YOU CAN AND WORK TOGETHER ANY WAY THAT YOU WISH AS LONG AS EACH OF YOU JUST TURNS ONLY THEIR KNOB. DO YOU UNDERSTAND?" (Answer questions) "OKAY, I'LL LEAVE NOW SO THAT YOU CAN BEGIN, AND I'LL COME BACK IN ABOUT TEN MINUTES AND THEN I'LL ASK YOU BOTH TO DO SOMETHING ELSE."

(Leave room closing door behind you.) (After ten minutes when you return for 3rd task. If figure is reasonably complete, give undergraduate the benefit of the doubt, hand him or her a bonus ticket which will be provided to you.)



Experimenter Instructions and Procedures

III. Proverb Task

Come in room, shutting door. Tell adult and child to take a few seconds to finish what they are doing, and then take the materials away.

Then say to undergraduate: DURING THE NEXT TEN MINUTES, WHICH WILL BEGIN AS SOON AS I LEAVE, YOU ARE ASKED TO TEACH THE MEANINGS OF AT LEAST TWO FROM THE FOLLOWING LIST OF PROVERBS TO _____. YOU MAY DO THEM IN ANY MANNER YOU WISH. WE ONLY ASK THAT YOU TRY TO COMPLETE AT LEAST TWO PROVERBS AND THAT THEY BE TAUGHT BY YOU AND LEARNED BY _____ TO YOUR SATISFACTION. GO THROUGH THE LIST NOW, READING EACH CAREFULLY, AND CHOOSE WHICH ONES YOU PLAN TO TEACH.

Leave room, shutting door, and return ten minutes later. Wait for interviewer to take child and test administrator to take adult. Then put room back on order.

Proverbs

Look before you leap.

The early bird catches the worm.

He who hesitates is lost.

Don't cross your bridges 'til you come to them.

Don't count your chickens until they're hatched.

A stitch in time saves nine.

Nothing ventured, nothing gained.

Fools rush in where angels fear to tread.

Don't put off until tomorrow what you can do today.

People in glass houses shouldn't throw stones.

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