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ABSTRACT

This is the first stage of a research project concerned with the various ways in which parents perceive and categorize children's behavior and the effect this perception may have on parental reaction to such behavior. The present study compared the various ways in which mothers and fathers perceptually categorize the behavior of girls and boys. A group of white middle-class parents who had a boy and a girl between 6 and 11 were individually interviewed about the social behavior of their children. A long list of phrases descriptive of children's behavior was formed and submitted to another similar group of 40 parents who were asked to sort each phrase on the basis of how they would react if the behavior occurred in a boy or a girl of their own. Various statistical procedures indicated the existence of a strong evaluative dimension of a good-bad social behavior underlying the structuring of the stimulus material. Seven other psychological dimensions were also revealed. Moreover, fathers and mothers differed in their perceptions of the social behavior of boys and girls. The authors discuss a number of studies which are either going to be conducted or which are currently being conducted. (Author/SE)

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COGNITIVE STRUCTURING OF PARENTAL PERCEPTIONS OF CHILDREN'S BEHAVIOR:

A RESEARCH REPORT

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EDUCATION & WELFARE
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I. Overview of Original Project

In June, 1972, we received a grant (Grant number: OEG-222-B097) from the Office of Education for $9,100 to cover an 18 month period. This was later extended to March, 1974.

As projected in the original proposal, the research undertaken was concerned with the various ways in which parents perceive and categorize children's behavior and the effect this perception may have on parental reaction to such behavior. Research on socialization has usually concentrated on those aspects of adult-child interaction which tend to "shape" the behavior of the child. Such research has generally ignored the fact that the response of a parent to the behavior of a child must, in turn, be largely determined by the way the parent perceptually structures the child's behavior. The research project was directed to this neglected aspect of adult-child interaction.

Hierarchical clustering and multidimensional scaling analyses, as well as factor analysis, were used to uncover the underlying perceptual categories and dimensions typically used by various groups of adults in response to the behavior of children. In contrast with previous methods of studying childhood socialization these techniques do not require that the parent respond according to categories imposed by the investigator. Instead, the underlying categories and dimensions are revealed by the data analysis, thereby allowing the discovery of perceptual structures which the respondent may not be able to verbalize and which may not have been anticipated by the investigator.

II. Problem and Objectives

Research interest in various aspects of parental influence on the social behavior of children has been extensive. However, in the vast

area of publication which is essentially concerned with the search for significant variables in the parental handling of children there has been little attention paid to parental perception and categorization of children's behavior. The research for which funds were requested is in the general field of childhood socialization; it focuses on the ways in which parents cognitively organize the behavior stream of children and the effect of this organization on the socialization pattern.

Traditionally, research concerned with adult-child interaction has concentrated on parental reaction -- rewarding, punishing, ignoring, etc. -- to so-called "classes" or "systems" of behavior.[1] In all such cases, the definition and delineation of categories and dimensions of behavior has been imposed by the investigator. The two main techniques of investigation of parent-child interaction have involved either (1) some variant of the interview or (2) some method of direct observation of behavior (see, for example, Hoffman and Lippitt, 1960, especially pp. 973-982 and pp. 999-1003). In the interview type of investigation the parent is usually asked what he or she does in response to certain kinds of behavior. For example: "How about when P is playing with one of the other children in the neighborhood and there is a quarrel or fight -- how do you handle this?" (Minturn et al., 1964, p. 307). This question is designed to

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[1]For example, in their recent review article on socialization, Zigler and Child (1969) organize their discussion according to the following "systems" of behavior: oral, excretory, sexual behavior, dependence, achievement, and aggression.

investigate individual and cultural differences in the way in which parents handle aggressive interaction between children. The very large question which is not even considered is the point at which the observing parent perceives the observed interaction as aggressive (or as something else) and as sufficiently so to take whatever action he conceives to be appropriate. The parental response to such questions is undoubtedly influenced by the perceptual structure suggested by the question. Also, the parent may not use the same perceptual dimensions in his response to behavior as that imposed by the question. His answer may therefore have little to do with what he actually does in a given situation. For example, if asked the question "What do you do when P tries to get his own way with you?" (Minturn, et al., 1964, p. 307), middle class New England parents might show considerable uniformity in their answers -- indicating in some way a refusal to "give in" (since "not giving in" is a part of the cultural norm for good parents in New England). On the other hand, there might be much less agreement among parents as to the behavior they would label as "getting his own way". In the presence of a given sequence of child behavior, therefore, it might be quite impossible to predict how the parent would behave without knowledge of how he perceived the behavior.

In the method of direct observation, again the investigator routinely imposes his own perceptual dimensions on the data gathered. Either the behavior observed is recorded in predetermined categories or the recorded behavior is, in the process of analysis, coded in investigator-described packages. The latter observational method, often called "specimen records" (Barker and Wright, 1949) is described in detail by Wright (1960). The former method, which has been more

frequently used, is illustrated by Swan's (1938) study of facial expressions in 2- to 4-year-old children: A number of facial expressions (e.g., attentive, laughing, grimacing) were coded directly by observers as they watched the children in free-play situations.

The area of investigation reported here is concerned with that part of parent-child interaction where the parent himself categorizes (consciously or unconsciously, verbalizably or not) the behavior of the child. That this process occurs is unquestioned. In the last analysis, the behavior emanating from the child is received as a series of sense impressions by the parent which are then perceived as relevant or meaningful according to the cognitive organization of the parent. Perception, almost by definition, involves categorization.

This process of categorization of child behavior is engaged in by all socializing agents and is in need of extensive investigation. Fortunately recent refinements of statistical method are making it increasingly possible to study categories and dimensions of perception. Multidimensional scaling and clustering techniques (see Green and Carmone (1970) for in-depth discussions of these techniques) provide new insights into the perceptual organizations which often underlie behavior. The unique aspect of these techniques for our purposes lies in the fact that the task imposed on the subject is relatively unstructured. Typically, the respondent is asked to rate the similarity between stimuli but the basis for judgment is not specified by the investigator and the respondent need not be aware of the reasons for his judgments. Thus the data-gathering technique does little to predetermine the categories of response. The latter are revealed by the statistical analysis rather than imposed by the investigator.

The significance of this perceptual categorization cannot be over-emphasized. It is a significant intervening variable between the child's behavior and the parent's reaction to this behavior. The parental reaction in turn influences the subsequent behavior of the child, either directly, through rewards and punishments or indirectly, by shaping the child's personality (e.g., Kelley, 1963, pp. 179-183) and self-concept (e.g., Videbeck, 1960). If an adult perceives a given sequence of a child's behavior as aggressive, his response to it will be quite different than if he perceives it as merely playful. The adult response will in turn tend to structure the child's perception of the same sequence, and in time, his own relationship to such sequence.

The research reported here is conceived as the first-stage study of a series of related investigations, all concerned with various aspects of adult perceptual structuring and their effect on child-rearing patterns. Since this adult perceptual structuring is conceived as a learned cognitive response, it must be greatly influenced by membership in various social groups. Thus, although individual differences in this type of perceptual activity would be expected to occur, a considerable agreement and consistency among the members of different groups would also be predicted. Men would be expected to perceive children's behavior in consistently different ways than women, Irish parents would tend to use different perceptual categories than Jewish parents, and adults among the Ngoni of Africa (Read, 1960) would tend to perceive children's behavior along different dimensions than adults among the Taira of Okinawa (Maretski & Maretski, 1966).

This perceptual structuring would also be expected to show regularity of variation with different "categories" of child. It would

be predicted, for example, that the same adults would use different perceptual categories and dimensions with the following groups of children: Younger children vs. Older children; "Own" child vs. "Other" child; "Own" ethnic--race--cultural--group child vs. "Other" ethnic-race-cultural-group child.

The whole question of the congruence between adult perception of a child's behavior and the child's perception of the same behavior is another large and fascinating area which awaits exploration. Questions of the effectiveness of techniques of behavior change or reinforcement must vary greatly as a function of such congruence. Presumably the child eventually accepts the adult perception, but what about variations in the degree to which he does or doesn't? Can such variations be related to concepts of ego strength, of identification? And how are they related to the rules of effective use of rewards and punishments? (Bandura & Walters, 1963).

These and other areas of investigation are projected by this series. Fortunately, although the area is large, it is easily broken up into concrete, well-defined and logically related research units. We began with a study in which we compared the various ways in which mothers and fathers perceptually categorize the behavior of girls and the behavior of boys. We controlled for variations in socio-economic status by confining ourselves in this study to middle-class parents, and we controlled for age by using early school-age children. (Details of method and procedure given below.)

III. Basic Study: Sex differences in parents' perception of the social interaction of early school age children.

We undertook as our first project a study of sex differences in the

parental perceptions of children's behavior. It is clear from cross-cultural studies of child-rearing that boys and girls are treated differently in most societies, and that mothers and fathers respond differently to the behavior of their sons and daughters (Cf.,Barry, Bacon, and Child [1957] and accompanying ethnographic references). On the basis of such observations and recent work on perception, it seems logical to hypothesize that, when presented with the same bit of social behavior, mothers and fathers might tend to perceive it differently, i.e. place it in different perceptual categories or on different perceptual dimensions. For example, it might be guessed that middle-class mothers would be more likely to perceive a given instance of social interaction between two boys as aggressive than fathers would. Similarly, mothers will perceive the same bit of behavior differently when it occurs in girls than when it occurs in boys.

Mothers and fathers would also be expected to differ in their perception of what would be the appropriate response to the same bit of behavior. For instance, middle-class mothers, presented with a behavior sequence perceived as aggressive, might consider it necessary to intervene at an earlier stage than fathers would.

This first project thus began the investigation of the significant parameters of perceptually-determined socialization practices. At the same time it explored methodological techniques designed to facilitate the study of the perception of children's interactions. Since there has been little research on the ways in which people organize the perception of children's interactions, questions of methodology are extremely important.

IV. Method for Basic Study.

(A) General Considerations. In developing a method for investigating how parents perceive child behavior a number of assumptions were made. It was assumed that this perceptual organization involves the use of categories and dimensions, which are consistent with the implicit theories of child behavior held by parents, and which may be explored through an analysis of the way parents cognitively organize verbal representations of child behavior.

Since the focus of the investigation was on the way parents perceive the behavior of children, it was crucial that the verbal representations in this domain be elicited from parents initially rather than imposed by the investigator. If it is possible to elicit typical parental verbalizations about the social behavior of children then it becomes feasible, through the use of various scaling techniques, to explore the underlying cognitive structures used by parents in organizing their perceptions in this area.

The method involved in this investigation, therefore, may be summarized as consisting essentially of four main tasks:

(1) The elicitation from a sample of parents of spontaneous verbalizations (verbatim) regarding the social behavior of children and the development from these verbalizations of a vocabulary of behavior descriptions for use as stimulus material in Stage 2.

(2) Presentation of the stimulus items derived from Stage 1 to another sample of parents in some task which permits the determination, for each stimulus item, of some measure of proximity or similarity-dissimilarity between items.

(3) Scaling analyses of the proximity measures obtained in order to

discover the categories and dimensions used by parents in their task performance in Stage 2. The statistical methods utilized here include Multidimensional scaling, Hierarchical clustering and Factor analysis. (4) Testing the validity of the categories and dimensions suggested by the analysis in Stage 3 by having another sample of parents judge the degree to which each of the stimulus items from Stage 2 are adequately described by these categories and dimensions. Through multiple regression analysis and analysis of variance, then, some measure may be obtained of the degree to which these judgments fit the output from the multidimensional scaling and the clustering analysis.

(B) Sample of Parents. Since it was assumed that parents' ways of perceiving child behavior are subject to influence by variations in cultural group, sex role, age of child observed, etc., these factors were taken into account in the selection of the respondents. The various samples involved in this study all consisted of white middle-class mothers and fathers residing in suburbs in central New Jersey, who had a son and a daughter between the ages of 6 and 11.[2] Parents were asked to respond in terms of their own children of appropriate age and sex.

This sample selection ensured that all subjects had experienced parenthood of both a boy and a girl of this age range. It also provided some control for possible effects of cultural variations among perceivers and age differences among the perceived. At the same time, it permitted

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[2] Originally the age range was limited to 6-9 but the difficulty of obtaining an adequate sample of parents who fulfilled these requirements led us to increase the range to 6-11, inclusive.

the comparison of perceptual frames of reference in four conditions of sexual variation, i.e. mothers and fathers viewing sons and daughters.

(C A.) Elicitation of Stimulus Material: Development of Non-Structured Interviews. Throughout the study the interviewers consisted of graduate students in anthropology and psychology. Except in the initial exploratory stage, fathers were interviewed by male students and mothers by female students. Prior to the initial, eliciting interviews, all interviewers were instructed at some length as to the purpose of the study and the importance of avoiding influencing the content of the verbal output of the parent. It was emphasized that the aim of the initial interviews was to record verbatim the spontaneous verbalizations of parents with regard to the social behavior of their sons and daughters. In preliminary sessions various leading sentences were tried out which were designed to stimulate descriptive response. Eventually a minimally structured interview was developed. (See Appendix A for the framework of this interview, also the eliciting sentences explored). This interview was used with a small sample of mothers and fathers who had children of the appropriate age and sex. Participation in interviews was voluntary and anonymous.

(C B.) Collection of Stimulus Material. With the permission of the respondents, all eliciting interviews were taped. Over 10 hours of interviews were taped from repondents. These taped interviews were transcribed and from this material were extracted verbatim all words or phrases descriptive of the behavior of children.

In our original plan of research we had intended to collect from parents verbalizations of two kinds: (1) a list of words or phrases

which described the social behavior of boys and girls in this age group. Thus: "cries a lot", "Tags along with brother" etc. (2) Sentence frames used by parents which suggested typical categorizations of behavior. Thus: "When a child_____one should take him to the doctor." "_____is just a stage children go through". Following the method used by D'Andrade et al. (1972) in their study of beliefs about disease, we expected to set up a task whereby the experimental sample of mothers and fathers would be asked to judge on a 5-point scale the degree to which each phrase might fit into each sentence frame. Multidimensional scaling techniques applied to the ratings derived from this approach might then yield some insight into the way parents cognitively organize such material. With this plan of research in mind, attention was first directed to (1) above, namely, to the development of a list of behavior labels spontaneously used by parents. The mass of descriptive words and phrases resulting from the transcription of the tapes was reduced in number by a series of stages. First, all sentences in which the subject referred to a child were extracted, and all phrases or words referring to personality traits rather than items of behavior were eliminated.

In the second reduction stage, the 650 behavior labels resulting from the first reduction were simultaneously judged by the two authors and two graduate students. At this time, terms with the same meaning were reduced to the most frequently used item, and items were eliminated which described behavior not involved in social interaction. Other groups of labels were reduced to the most general statement of the behavior in question. For example, the verbatim transcripts yielded many phrases referring to specific preferred activities of the child,

such as: "likes to build model airplanes", "likes to build dog-houses", "play houses", "rocket ships", etc. On the agreement of the four judges, such items were reduced to "likes to build things."

The 180 behavior labels remaining after these procedures were typed in lists and submitted to a sample of 30 parents (16 mothers and 14 fathers) with instructions to mark those behavior descriptions which were not descriptive of children of this age, were not clear, or should be worded differently. Parents of this sample were also asked to add to the list any additional behavior descriptions which they thought should be included.

This procedure did not produce many suggested alterations or additions. The 180 items in the listing resulting from this procedure were finally judged by the two authors, and items were retained or eliminated by the agreement of both investigators. An attempt was made to obtain a rough balance of items which seemed intuitively to represent positive, negative or neutral kinds of behavior. (Although this procedure seemed reasonable at the time, subsequent analysis suggests that it may have introduced some bias into our findings. See discussion section.) The list of behavior labels was by this means reduced to 99 (see Appendix B).

According to our original design, the taped interviews were also explored for the extraction of sentence frames. It became increasingly clear, however, that the extraction of sentence frames constituted, in fact, the intuitive extraction of categories and dimensions utilized by parents and thus involved the kind of structuring of data by the investigator that we wished to avoid. It seemed, therefore, that this step was premature at this stage of the exploration of the perceptual

structure of parents and that the categories and dimensions used by parents might be better derived by having parents sort the behavior labels other parents had emitted into categories of their own choosing. Accordingly, the 99 behavior labels were converted to 2 sets of 99 sentences, one for each sex of child. Thus the phrase, "is a part of conversation at dinner " yielded the two sentences: "A girl is a part of the conversation at dinner" and "A boy is a part of the conversation at dinner."

(D) The Sorting Task. Forty pairs of parents volunteered to participate in the sorting task. Each set of parents had children of both sexes in the 6-11 year age period (inclusive). Parents were recruited largely through the local school system and were interviewed in their own homes. Mothers and fathers were interviewed separately by a graduate student of the same sex. In order to avoid emphasis on the sex differences factor, each pair of parents was asked to sort the behavior sentences for the same-sexed child. Thus one set of parents would sort the sentences for girls, while another set would sort them for boys.

In the sorting, each parent was directed to sort the behavior sentences into piles on the basis of kinds of behavior that seemed to go together. They were asked to respond as though the senteces referred to a child of their own. (For "Directions for Sorting" see the Appendix C.) Each parent sorted the sentences twice and each sorting was recorded. When finished with each sorting parents were asked to give names or labels to their different piles of senteces.

(E I). Analysis of Sorting Data: Measures of Category Coocurrence. Both Multidimensional scaling and Hierarchical clustering provide a geometric representation of a set of items in such a way that the

distance between the items in space corresponds to some empirical measure of psychological relatedness. In the present investigation the measure of psychological relatedness may be found in the degree of co-occurrence of pairs of items in the same category. Thus as parents sorted the sentences into piles that represented items that were to them related in some way it became possible to derive for each pair a measure of proximity or distance based on the frequency or infrequency of their co-occurrence in categories. Since disassociation is positively related to inter-item distance in a multidimensional configuration, it is more convenient to refer to the degree of distance or disassociation between two items rather than to their association. Two types of distance measure were calculated and combined in one measure of disassociation (σ). The computational formulae and rationale for these two measures are described in Rosenberg, Nelson and Vivekanathan (1968). The first was a direct measure of co-occurrence, "disagreement score" for each pair of sentences, representing a count of the number of subjects who put the sentences in different piles. Thus if 25 out of 40 subjects put the two sentences in the same pile, the disagreement score would be 15. The second distance measure included in the disassociation index represents indirect co-occurrence. Thus if sentences i and k occurred together in one pile but not j whereas another pile may have contained j and k but not i, then k could be considered an indirect link between i and j. The disassociation measure (σ) is essentially equal to twice the disagreement score squared plus a series of other squared terms representing the degree to which two sentences occur together differentially with the other sentences in the group data.

The 8 sets of sorting data (two sorts each for mothers and fathers sorting sentences for boys and girls) were thus converted to scores representing degree of disassociation between sentences. This was done by means for a computer program developed by Rosenberg, Nelson and Vivekanathan (1968).

(E 2.) Analysis of Sorting Data: Multidimensional Scaling. The measures of disassociation (σ) for the 8 conditions were subjected to multidimensional scaling analyses (MDS Version 3 , Kruskal, 1967) This program can produce a geometrical representation of the data in one or more dimensions. The procedure for determining appropriate dimensionality for a set of items is to obtain a measure of goodness of fit ("stress") at each successive dimension -- 1, 2, 3, etc. -- and select that which is most "satisfactory". The stress measure is typically expressed as a percentage and is essentially a normalized sum of squared residuals in which 0% stress means that a perfect monotone relationship exists between σ_{ij} and $d_{ij}^{(t)}$. The $d_{ij}^{(t)}$ is the distance between objects i and j obtained from a t dimensional solution. Kruskal suggests that a stress of 5% is "good", 10% "fair".

In this study a geometrical representation of the data for 5, 4, 3, 2, and 1 dimension was obtained for all 8 conditions.

(E 3.) Analysis of Sorting Data: Hierarchical Clustering. In order to investigate the degree to which parents may structure child behavior in categories or types rather than, or in addition to, dimensional structures, clustering analyses were used. The disassociation measures served as input for a hierarchical clustering program (diameter method) written by S. Johnson (1967). This program partitions the behavior labels into a set of nonoverlapping clusters on the basis of the information provided by these input measures. The clustering is

hierarchical in the sense that a sequence of clusterings is produced where each succeeding cluster consists of a merging of one or more clusters from the preceding clustering. Each successive clustering is produced when an increasingly larger distance (disassociation index value) is taken as the criterion for putting behavior sentences in the same cluster. Thus the clustering procedure starts with each behavior sentence in its own cluster and ends with all traits in the same cluster.

Each cluster contains those behavior sentences judged by mothers and fathers (viewing sons or daughters) to resemble each other in some way. Those clusters occurring at the level of the smallest diameter presumably represent groups of behavior items judged most nearly alike. Successive levels of clustering group more diverse elements possibly by some other criterion of similarity.

(E 4.) Analysis of Sorting Data: Factor Analysis. A principal components factor analysis with a Varimax rotation was also done using the sorting data.

V. Preliminary Findings of Basic Study.

A report of preliminary findings, under the same heading as this report, was presented as a paper at the meetings of the American Anthropological Association (Section on Cognitive Studies) in Mexico City, November 20, 1975. As a statement of first level analyses this paper is included here.

This paper is a preliminary report of studies concerned with the way parents perceive and cognitively organize the behavior of children. In the extensive research on socialization, little attention has been paid to the cognitive structures used by adults in their response to

child behavior. In what categories, and along what dimensions do parents perceive and classify such behavior? How do they break up the behavior stream of the child and what labels do they apply to the resulting sequences of action?

Traditionally, in research on adult-child interaction the definition of categories and dimensions of behavior has been imposed by the investigator. Often the parent is asked what he or she does in response to certain kinds of behavior, labeled by the investigator. Or, direct observations of behavior are either recorded in pre-determined categories or coded in such packages in the process of analysis.

Obviously the parent may perceive child behavior in different ways than the investigator. And it is the parent's cognitive organization of the observed behavior that will determine his response. If a given sequence of a child's activity is perceived as aggressive, the response to it will be quite different than if it is perceived as merely playful. The parental response will, in turn, influence the subsequent behavior of the child and may eventually tend to structure the child's perception of the same sequence.

In this exploration it is assumed that parents have implicit theories of child behavior, or perceptual frames of reference against which they view any given fragment of a child's activity. It is further assumed that, although individual differences in these frames of reference undoubtedly exist, there will be also similarities among individuals as a function of their membership in various groups. Men would be expected to perceive child behavior in consistently different ways than women. Similarly, parents in different cultural groups would tend to show variation in the perceptual categories and dimensions

they habitually use with this kind of behavior. Other sources of regular variation related to different "categories" of child would also be predicted -- e.g., "own" child vs. "other" child , also children of different age groups. These and other areas of investigation are projected.

This study represents an initial attempt to explore and compare the cognitive structures used by mothers and fathers to organize the behavior of boys and of girls. Multidimensional scaling and hierarchical clustering techniques have been used. Such techniques are uniquely applicable to this type of problem since they may be applied to relatively unstructured responses from the subject. The subject is asked to classify material on the basis of similarity. However, the basis for the judgment of similarity is not specified by the method of investigation and may, indeed, be implicit for the respondent. The data-gathering technique, therefore, does little to pre-determine the categories of response utilized by the subject. These categories are revealed by statistical analysis rather than imposed by the investigator.

Subjects and Procedure

Two samples of parents were involved in the initial collection of data in this study. In an effort to control for possible social-class variations in perception, all parents were chosen from a white middle-class suburban area of New Jersey. Each set of parents had at least one son and one daughter between the ages of 6 and 11 years. Thus the experience of parenthood of school-age children of both sexes was held in common by all subjects.

Parents of the first sample were asked, in minimally structured interviews, to discuss the social behavior of boys and girls of this

age period. These interviews were recorded. From this material, 650 phrases descriptive of child behavior were extracted verbatim. This list of "behavior labels" was eventually reduced to 99 by an explicit set of directions designed to exclude unclear or redundant items, infrequently-occurring items, and phrases apparently referring to personality traits (e.g. "is fussy").

Each of the 99 behavior labels was then converted to 2 sentences, one for each sex of child. For example, the phrase "teases younger children" became, respectively:

"A boy teases younger children". and

"A girl teases younger children".

The resulting two sets of 99 behavior sentences constituted the stimulus material presented to our second sample of respondents. This sample consisted of 40 pairs of parents. Each pair was asked to sort one or the other set of behavior sentences into categories "on the basis of how you would think, feel, or respond if the behavior occurred in a boy(or girl) of your own." The sorting task was done twice by each mother and father independently. Demographic and other data were collected.

8 sets of sorting data were obtained by this procedure: Mothers sorting behavior sentences for girls (first and second sort), Fathers sorting sentences applied to girls (first and second sort), mothers sorting for boys, etc. (For the analyses presented here, the 2 sorts have been collapsed to 1.)

The data obtained from these 4 conditions were converted to scores for each of the 99 items -- the scores representing degree of dissimilarity among items (on the basis of co-occurrence in

categories).[1] These dissimilarity or distance measures were subjected to multidimensional scaling analysis.[2] This program can produce a geometrical representation of the data in one or more dimensions and may provide information concerning the underlying dimensions of perception utilized by parents in sorting the behavior labels.

Since it seems possible that parents may use a categorical (or "typological", Rosenberg and Sedlak, 1972) rather than a dimensional structure to organize children's behavior, the dissimilarities data were also subjected to hierarchical clustering analyses (Johnson, 1967). Here the dissimilarity scores are used as a basis for partitioning the stimuli into a set of non-overlapping clusters. The clustering is hierarchical in that a sequence of clustering is produced. Each succeeding cluster represents a merging of one or more clusters from the preceding level (produced by taking an increasingly greater distance as the criterion for including stimuli in the same cluster.

Results and Discussion:

Initial findings from the MDS analysis indicated the existence of a strong evaluative dimension underlying the structuring of the stimulus material.[3] This occurred for both mothers and fathers and in both conditions for each, e.g., sorting sentences for boys and for girls. Inspection of the positioning of the stimulus items in relation to this dimension, suggested that parents were judging the items primarily

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[1]This was done by means of a computer program developed by Rosenberg, Nelson and Vivekananthan (1968).

[2]MDS Version 3, Kruskal, 1967.

[3]Inspection of the various stress levels for each type of sorting indicated that no more than a 2-dimensional representation was necessary to represent the relationships between the points.

in terms of a good-bad social behavior dimension. At the same time there were suggestions in the data of the use of other dimensions which were possibly being obscured by the strong evaluative trend.

To investigate further the possible presence of categorical structures in the parental ordering of the data, the results of the hierarchical clustering were examined in some detail. Here also was found evidence of the use of categories which might be of psychological significance for parents. Seven such dimensions were suggested by both the scaling and clustering data. These were designated as follows:

1. Mature vs. immature behavior.
2. Shows sexual interest vs. no sexual interest.
3. Parent should seek to change such behavior vs. parent should seek to encourage such behavior.
4. Typical vs. not typical behavior.
5. Hostile-aggressive behavior vs. not hostile.
6. Normal vs. problem behavior.
7. Good vs. bad social behavior.

In order to provide some test of the psychological validity of these dimensions in describing the structuring suggested by the scaling and clustering analyses, a third set of parents was asked to rate each of the 99 pairs of behavior sentences as to the degree to which they might fit on each of the 7 dimensions. (Ratings were obtained on each item for each dimension, for boys and girls, from at least 7 mothers and 7 fathers.) A multiple regression analysis was then used to see how well these ratings fit the multidimensional solution.[4] The multiple

[4] In the multiple regression analysis, the MDS solutions for 3, 2, & 1 dimension for each of the 4 sorting conditions were used.

correlations (R's) resulting from this analysis were in all cases statistically significant. For 5 of the 7 dimensions the correlations were in the.80's and.90's (Mature-immature, Change or encourage behavior, Hostile-non hostile, Normal vs. problem, Good-bad social). For the remaining two dimensions (Shows sexual interest and Typical-nontypical) the correlations were less but still significant, ranging from .34 to .77.

In other words, these findings tend to validate the use of these 7 dimensions to describe the MDS solutions and to suggest, at the same time, that the parents who sorted the behavior sentences tended to make use of dimensions of this sort in categorizing the behavior described.

These results can be spatially represented for each of the four conditions of sorting. These configurations are presented on pages 28 through 31. You have the four diagrams before you, each of which represents a condition of sorting. They are labeled: FaDa, MoDa, FaSo, MoSo. On each diagram the intersecting lines represent the vectors for the dimensions resulting from the multiple regression analysis for the two dimensional MDS solutions. Each line represents one of the 7 dimensions. The dots stand for points which represent the positioning in space of some of the behavior sentences relative to these dimensions.

These diagrams suggest two areas in which there seem to be significant findings. The first concerns the nature of the over-riding evaluative dimension. The second suggests areas of difference between mothers and fathers in their perceptual structuring of the social behavior of boys and girls.

Under the first heading -- that concerned with the nature of the

evaluative dimension--it is clear in all 4 conditions of sorting that the Good-Bad Social and Change vs Encourage dimensions tend to coincide. It is intuitively reasonable that parents would tend to organize the behavior of children along a Social Desirability dimension. The Change vs Encourage dimension orders the behavior sentences according to whether they represent behavior which should be changed or encouraged. Again, it seems reasonable that parents would make use of such a dimension and that, for them it might tend to be highly correlated with the good-bad social dimension.

However, it should be noted that the Change vs Encourage dimension refers not to parental categories related to the social behavior of children but rather to categories related to the parental role. This seems to raise the question of the effect of the role of the observer vis-a-vis the observed on the perception of behavior. That these two dimensions might coincide for a sample of white middle class parents seems not surprising. It would be predicted, however, that this might not hold true in a sample of parents of another cultural group. Also, it might not hold true for a sample consisting of non-parental role-models for this same age group of children. This latter possibility is at present being tested by having older brothers and sisters of children of this age group sort the same sentences.

Inspection of the 4 diagrams shows further that the Mature-Immature dimension is also clearly allied to the evaluative dimension. In other words, both mothers and fathers tend to agree in viewing immature behavior as akin to bad social behavior and as behavior parents should try to change. This finding appears to be consistent with those white middle-class values which tend to reward achievement and the early acquisition of self reliance.

That this dimension would coincide as closely with the evaluative dimension in other cultural groups seems less likely.

With regard to the nature of the differences between mothers and fathers in their perceptions of child behavior -- our findings produce some interesting suggestions. One of the most outstanding differences appears to lie in the way parents differentially perceive the hostile-aggressive dimension of behavior for boys and for girls. For fathers, looking at the behavior of girls, the hostile-aggressive dimension is closely associated with the normal-problem dimension. This is in marked contrast to the way in which mothers perceive the hostile aggressive dimension for girls and also the way in which both mothers and fathers view this kind of behavior in boys. For fathers, hostile-aggressive behavior in girls is apparently bad social behavior, immature and "problem" behavior. Mothers also view hostile behavior in girls as bad social behavior and evidence of immaturity. They do not, however, perceive it as necessarily abnormal. Mothers and fathers agree, on the other hand, in viewing hostile aggressive behavior in boys as also generally unrelated to the normal-problem dimension. They also agree in considering it bad social behavior. However, mothers appear somewhat more inclined than fathers to perceive this kind of behavior in boys as immature and in need of change.

It is also interesting to note the relationship between the hostile aggressive dimension and the typical-nontypical dimension (not included on the graph). For fathers perceptions of girl behavior these two dimensions practically coincide. Mothers perceptions of girl behavior on these same dimensions is in sharp contrast. For mothers viewing

girls there is no relationship between the two dimensions. Mothers and fathers agree in perceiving these dimensions in boys as somewhat related. Thus fathers tend to perceive hostility as definitely not typical of girls but as somewhat typical of boys. Mothers also perceive hostility as somewhat typical of boys, but as quite unrelated to typicality in girls.

Examining the normal-problem dimension -- again it can be seen that the graph depicting fathers perceptions of girls behavior is most distinctive from the rest. For fathers, normality in girls is strongly associated with maturity, good social behavior, and absence of hostile behavior. Conversely, immaturity would be -- for girls, in the opinion of fathers -- problem behavior. For sons, on the other hand, fathers consider immaturity only somewhat related to problem behavior. Their view in this regard resembles mothers views of daughters. Mothers, however, expect even less by way of maturity as consistent with normal behavior in boys.

This introduces the final distinction to be noted here. Some evidence appears in the data that fathers tend to show less differentiation than mothers in their categorization of child behavior, i.e., they tend to collapse dimensions, especially when considering the behavior of girls. Inspection of the 4 conditions of sorting (See diagrams) from this point of view suggests they may fall on a continuum with regard to something we have called "elaboration of perception, which we hypothesize is influenced by three factors":

1. The amount of time spent with the child. It would be expected here that more frequent and prolonged contact with the child would lead to increased elaboration of perception.

2. The parent's perception of his or her role as a parent. Here it would be expected that the greater the degree to which the parental role is perceived as authoritarian the greater the emphasis on the "change-encourage" dimension and the less the degree of elaboration of perception.

3. Sex-role empathy

   The degree to which the parent empathizes with the child in his or her sex role identification would be expected to lead to increased elaboration of perception. Parents would usually rank higher on this factor for children of their own sex.

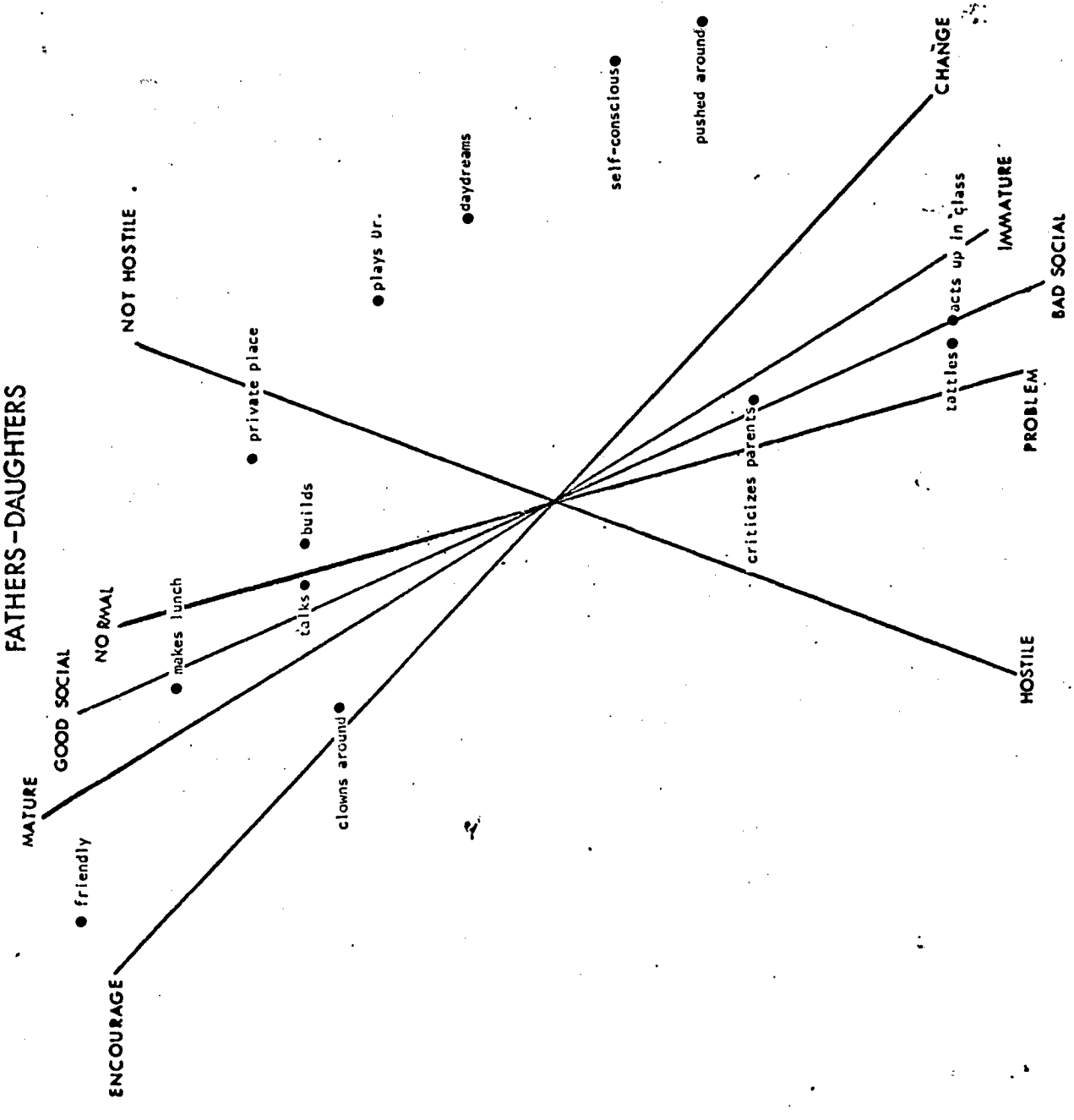
Applying these three factors to the present sample of parents should produce a continuum of elaboration of perception, ranging from FaDa at the low end of the continuum, through FaSo, MoSo, to MoDa at the upper end, since fathers spend less time with their children, perceive their roles as more authoritarian, and empathize more with boys. Mothers, on the other hand, spend more time with children, are less likely to perceive their roles as primarily authoritarian, and would tend to empathize more with girls. This may be summarized in the following diagram:

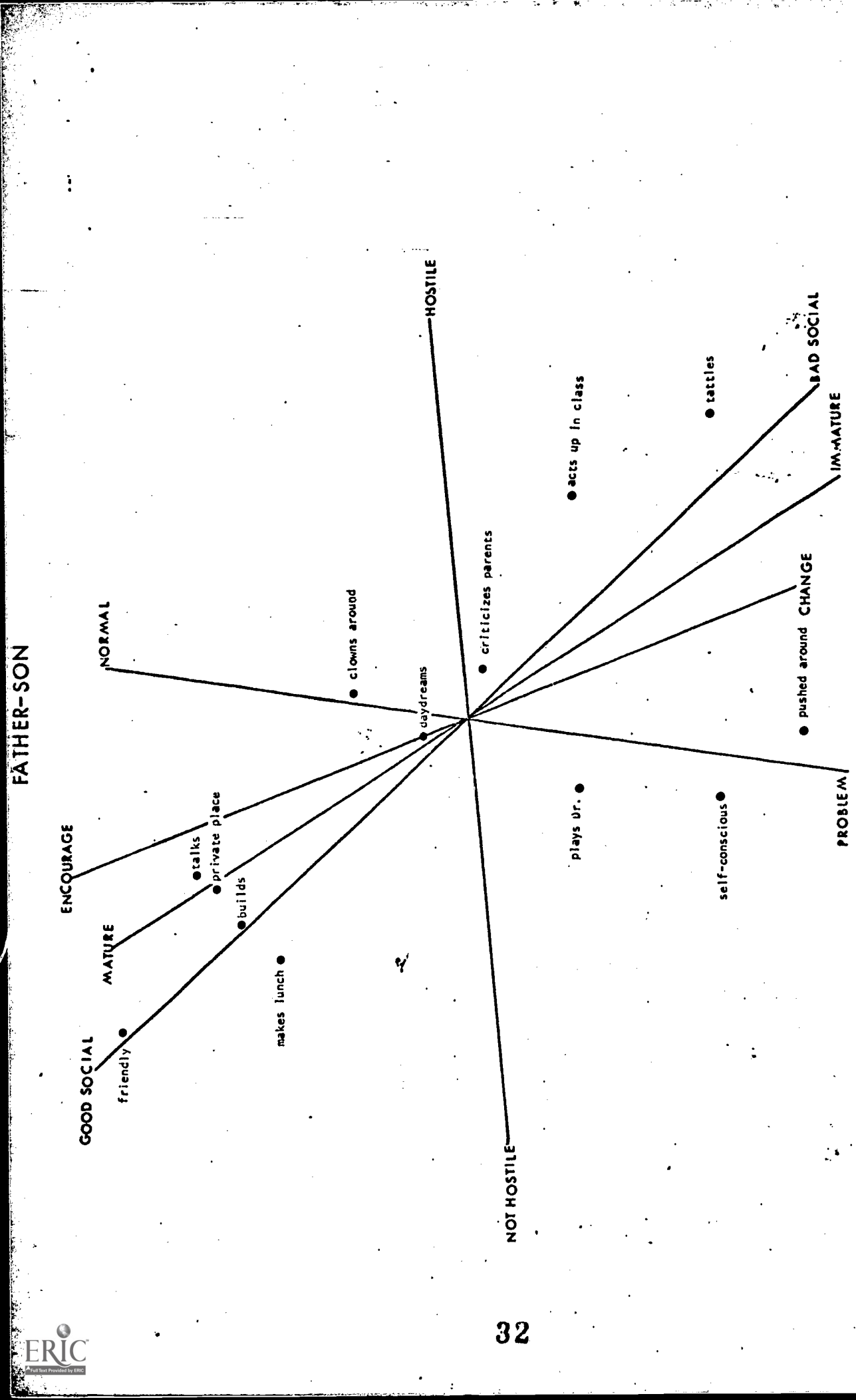
	FaDa	FaSo	MoSo	MoDa
1	-	-	+	+
2	-	-	+	+
3	-	+	-	+

In conclusion, these and other results suggested here are in need of further investigation. One of the most urgent questions concerns some of the dimensions suggested by the various analyses which seem better represented by points at one end of the distribution than the other. This suggests that the set of behavior sentences used as stimulus input

may have been unwittingly biased in this regard. Methods of eliciting contrasts to the existing significant points should be explored to see if the resulting phrases would indeed coincide with the dimension in question.

In our concluding remarks we would also like to emphasize that, although the findings presented here are fragmentary and tentative, they nevertheless indicate the existence of differences in perceptual frames of reference between mothers and fathers of the same cultural group -- differences that must inevitably have a profound effect on the way in which these socialization agents modify the behavior of their children.


FATHERS-DAUGHTERS
NOT HOSTILE
HOSTILE
CHANGE
IMMATURE
BAD SOCIAL
PROBLEM
NORMAL
GOOD SOCIAL
MATURE
ENCOURAGE
private place
plays Ur.
daydreams
self-conscious
pushed around
builds
talks
makes lunch
clowns around
friendly
criticizes parents
tattles
acts up in class


FATHER-SON
HOSTILE
BAD SOCIAL
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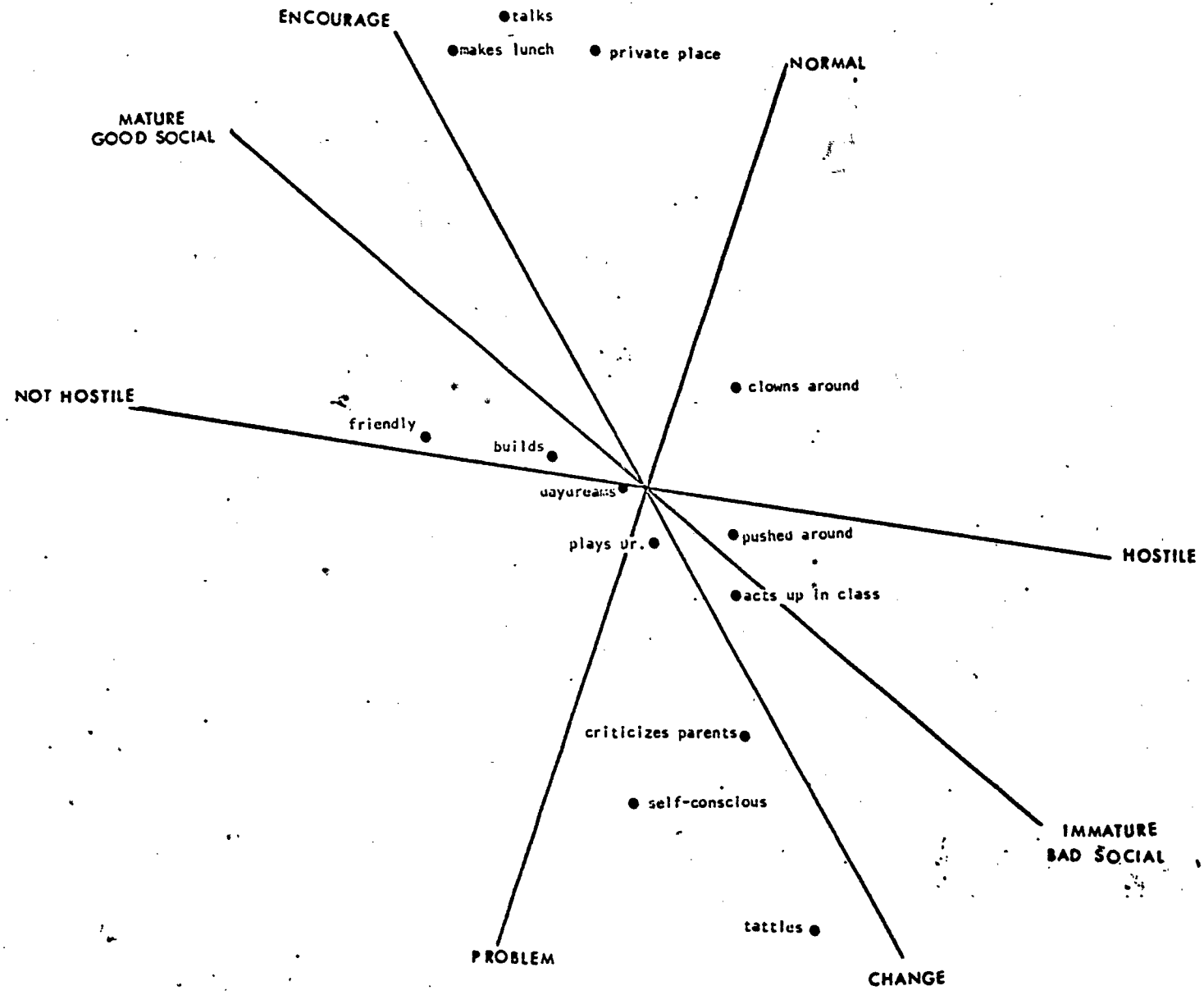
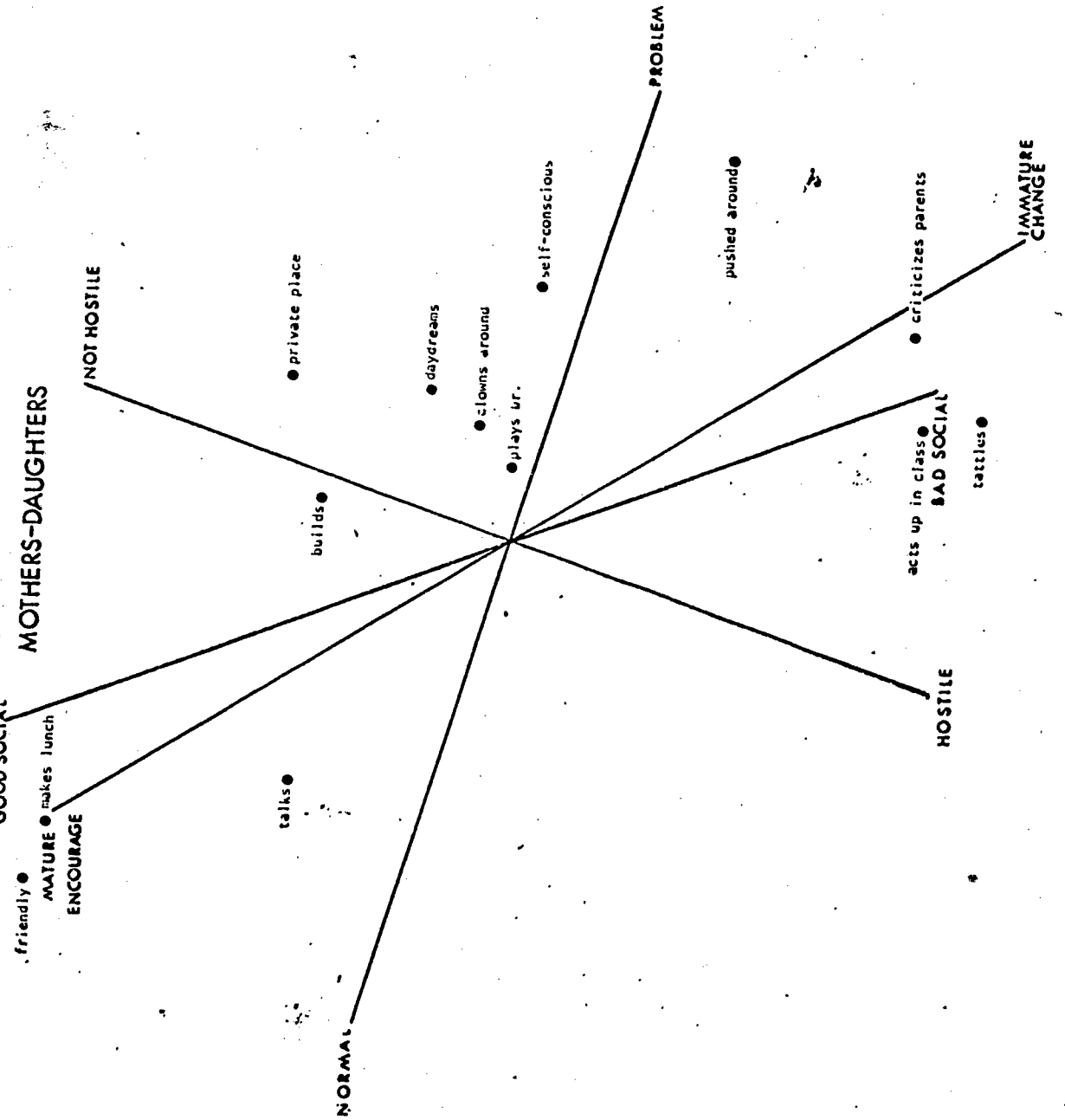
PROBLEM
NOT HOSTILE
NORMAL
ENCOURAGE
MATURE
GOOD SOCIAL
tattles
acts up in class
criticizes parents
clowns around
daydreams
pushed around
talks
private place
builds
friendly
makes lunch
plays gr.
self-conscious

ERIC

MOTHERS-SONS




MOTHERS-DAUGHTERS
NOT HOSTILE
PROBLEM
IMMATURE CHANGE
GOOD SOCIAL
HOSTILE
BAD SOCIAL
NORMAL
private place
daydreams
clowns around
plays ur.
self-conscious
pushed around
criticizes parents
builds
acts up in class
tattles
talks
friendly
MATURE
makes lunch
ENCOURAGE

VI. Research Currently in Progress.

At present we are further analyzing the factor analytic and hierarchical clustering data in preparation for an initial publication. As a direct outgrowth of our first study, we are also exploring with the raw data we now possess, a further elaboration and validation of our original findings. For example, we would like to try various ways of by-passing or reducing the prominence of the evaluative dimension found in all 8 conditions of the multidimensional scaling analysis of our data. We feel certain that other sources of variance are being obscured by this powerful over-riding influence in our data. That parents are strongly influenced by an evaluative structuring in their response to child behavior--especially that of their own child--seems both intuitively reasonable as well as statistically demonstrated by our findings. But it also seems clear that parents make use of other categorizations, (as also suggested by our data) and this we would like to know more about. Several ways of approaching this problem seem feasible. One is that we remove from our list of 99 behavior sentences those most heavily weighted at the extremes of the evaluative dimension. Multidimensional scaling can then be done on the remaining items, or (and possible preferably) new items could be substituted for those removed. Selection of these items would necessarily be governed by the same standards for elicitation observed in the original study. Two possibilities here come immediately to mind. (1) We can return to the 650 descriptive phrases (derived from the original interviews and used as the basis for the 99 behavior sentences sorted by the sample of parents) and select an alternate set of phrases which seem less evaluative, or (2) We can elicit from a new set of parents, another sample of descriptive phrases from which we could

derive a new list to substitute for those removed. From this point, the various multivariate analyses carried out on the original list can be repeated. Another possible approach to this problem has been suggested by Myron Wish (1975, personal communication). He suggests that we do separate MDS analyses of the items most strongly positively and most strongly negatively weighted on the evaluative dimension. By this means, structures within the evaluative dimension might be revealed.

Some combination of these methods might also provide a solution for another problem encountered in our original analysis -- namely the presence of "holes" in the structural representation produced by the MDS analysis. This absence of points in all parts of the space makes the validation of the dimensions hypothesized as operative more tentative. If, with a more comprehensive spread of points throughout the MDS space, our dimensional interpretation still holds we could feel more confident of our interpretation.

The second aspect of our present research is addressed to the effect of variations in role relationship between perceiver and perceived on the cognitive structuring of observed child behavior (by socialization agents). It seems clear that variations in role relationship must be associated with variations in perceptual frames of reference. Parents must perceive the behavior of their own children within a different set of cognitive categories than they use for the behavior of the neighbor's children. That such differences must occur seems perhaps too obvious to investigate. The question then becomes, "How do they differ? What is the nature of the difference in cognitive organization used by adults in different role relationships with children?"

We have already collected some preliminary data that is addressed to this question. As noted, our first study, concerned with parent's perceptions of behavior referred to their own children, revealed a strong evaluative dimension. Such a finding seems not unexpected, especially for a sample of white middle class parents. However, it might be hypothesized that a group of older siblings of children of the same age range would structure child behavior in different ways than parents, and that one of the differences might lie in the degree of emphasis on an evaluative dimension. The rationale for this hypothesis would be that if parents of this cultural group tend to view their role as parents to be one of teaching, guidance and "the molding of character", they would as a consequence have a strong tendency to perceive a child's behavior along a good to bad continuum. Certainly they would be more likely to do so than siblings who, presumably, feel less responsibility for the behavior of their younger brothers and sisters.

As an initial exploration of this question, we are in the process of repeating our study of parents of boys and girls of the 6-11 year age period with older siblings of children of this age. College students of both sexes who have brothers and or sisters in this age range have been asked to sort the same behavior sentences as those used in the first study. We have nearly completed collection of data from a sample of white middle class students, matched for the same 8 conditions of the original study with parents, e.g., first and second sort for brothers sorting sentences for boys and girls. We also have collected some data on white lower class students and both lower class and middle class black students, but this is far from complete.

We intend to repeat the multivariate analysis of the sorting data

from the white middle class sample of siblings for purposes of comparison with the data obtained from parents. This may provide us with a preliminary test of the general effects of role variation between these two groups. It may also throw some light on the question of the degree to which the evaluative dimension is influenced by role relationship.

VII. Preliminary Studies of Adult Perceptions of the Personalities of Children.

An important aspect of the study of adult perceptions of child behavior may be found in the tendency of parents, at least, to assign enduring personality traits to their children at a relatively early age. It would appear that such a practice, if it exists would tend to structure the child's personality development and self concept. Accordingly, we have initiated a series of pilot studies in this area.

The first (Schneider,1974, see Appendix D) was a preliminary investigation of how parents perceive the personalities of pre-school children. A sample of forty white middle class parents (twenty fathers and twenty mothers) of children attending nursery schools filled out an open-ended questionnaire which asked them to describe, using at least 30 words or phrases, their own child and another child of approximately the same age and sex. Analysis of the most frequently occurring "descriptors" revealed some overlap between Mothers describing Daughters, Mothers describing Sons, Fathers describing Daughters, and Fathers describing Sons (e.g. "independent", "bright", "sensitive"). At the same time a great deal of uniqueness was found in the vocabularies for each of these combinations of parent and child (e.g. only fathers describing daughters used the phrase "a tease"). A content analysis suggested that Mothers showed more concern for the emotional adjustment of their children than fathers did and described their sons in terms of personality traits more than fathers. Fathers mentioned intellectual

abilities and interests more for their own children than other children. It was also found that both mothers and fathers tended to be worried about being positive and consistent in their descriptions, particularly when describing their own child. The questionnaire format appeared to heighten this concern. A small number of interviews were conducted with parents in which they were simply asked to talk about their child's personality. Tape recordings of these interviews revealed much more negative content and seemingly less concern with presenting a consistent picture. The overall results of this study suggest that (a) parents do readily assign personality characteristics to even relatively young children; (b) care must be taken in constructing group or core vocabularies since descriptors vary as a function of sex of perceiver and perceived; and (c) an interview may be preferable to a questionnaire for eliciting naturalistic personality descriptions.

In addition to the Schneider study three other pilot studies concerned with the way parents perceive the personality characteristics of school age children ("own" and "other" children of both sexes) have been partially completed. A native born Puerto Rican student has collected personality descriptions of children in these categories from forty middle class native Puerto Rican parents (20 mothers and 20 fathers). A native born Indian graduate student has collected similar data from a sample of native-born Indian parents living in New York City. A third student collected personality descriptions from 172 parents (86 couples). These were distributed in these classifications as follows:

43 Jewish couples
11 White Catholics
9 White Protestants
3 Mormons
7 No preference as to religious affiliation
13 Black

Data from these three pilot studies have not yet been analyzed.

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INTERVIEW QUESTIONS

(First Revision)

Introduction to the Interview

I am helping with a study that is trying to find out more about the behavior of 6-9 year old children. One thing we are doing is collecting observations from parents. We are very interested in what you have observed. I am going to record what you say but, as you know, the interview is anonymous.

How old are your children?

Questions:

1. Tell me about your children.
   (Add if necessary: How about the 6-9 age period?)

2. What have you noticed about other boys and girls of this age?

3. How do they spend their time?
   I mean their spare time.

   (a) What about other kids?

   (Follow-up questions here might refer to how time is spent-
   different times of day
   different seasons of year

4. What would you tell parents of younger children about this age period?

5. Are there special situations that involve this age child?

6. What are some of the things you have learned about 6-9 year old boys and girls?

7. We are interested in all the different kinds of things boys and girls of this age do. Are there any other things we haven't had a chance to cover that you can think of?

Background Information:

As you know, this is anonymous, but we do need some statistical information about the backgrounds of the people who have helped us out. For instance:

What is your husband's occupation?
Do you work? (If so, what do you do?)
How much education have you and your husband had? What are your ages?

Also, we'd like to have your opinion on what you think may have influenced you or given you ideas about raising children: For instance, I'll suggest some sources of information to you and you tell me whether you think they are:

(1) very important (to you)
(2) somewhat important
(3) not important.

Books and Magazines
TV and Radio
Friends
Parents
Other relatives
Other sources

1

A boy enjoys making own lunch.

2

A boy sends younger children to do bad things.

3

A boy does things without being told.

4

A boy makes fun of other children.

5

A boy is jealous of someone who has something he doesn't.

6

A boy bickers.

7

A boy shows parents school work.

8

A boy rough-houses.

9

A boy likes to do things with adults.

10

A boy criticizes food at dinner table.

11

A boy tattles.

12

A boy is friendly when strangers come to the house.

13

A boy is self-conscious in public.

14

A boy does not like to share belongings.

15

A boy likes to share belongings.

16

A boy won't change clothes when another person is present.

17

A boy likes to build things.

18

A boy shows affection to family and friends.

19

A boy likes to have company.

20

A boy likes to help around the house.

21

A boy offers to help mother.

22

A boy likes to tag along with older brother or sister even if not wanted.

11

A boy tattles.

12

A boy is friendly when strangers come to the house.

13

A boy is self-conscious in public.

14

A boy does not like to share belongings.

15

A boy likes to share belongings.

16

A boy won't change clothes when another person is present.

17

A boy likes to build things.

18

A boy shows affection to family and friends.

19

A boy likes to have company.

20

A boy likes to help around the house.

21

A boy offers to help mother.

22

A boy likes to tag along with older brother or sister even if not wanted.

23

A boy puts off doing things.

24

A boy is definitely a part of the conversation at dinner.

25

A boy goes along with the group.

26

A boy likes to have private things.

27

A boy has a private place to keep things.

28

A boy doesn't fall apart if loses a game.

29

A boy likes to see how much he can get away with.

30

A boy sometimes tells fibs.

31

A boy asks questions about sex and babies.

32

A boy daydreams.

33

A boy criticizes parents' behavior (smoking,arguing).

34

A boy plays Doctor.

35

A boy sometimes takes things that belong to others.

36

A boy throws self on floor.

37

A boy hassles other children.

38

A boy has to be busy all the time.

39

A boy likes to see his best friend win.

40

A boy argues with parents about going to bed.

41

A boys shows off.

42

A boy tries to please.

43

A boy sometimes acts up in class.

44

A boy sticks up for brothers and sisters.

45

A boy wants to be tucked in.

46

A boy worries a lot.

47

y peeks in a game to win.

48

A boy gets pushed around.

37

A boy hassles other children.

38

A boy has to be busy all the time.

39

A boy likes to see his best friend win.

40

A boy argues with parents about going to bed.

41

A boys shows off.

42

A boy tries to please.

43

A boy sometimes acts up in class.

44

A boy sticks up for brothers and sisters.

45

A boy wants to be tucked in.

46

A boy worries a lot.

47

A boy peeks in a game to win.

48

A boy gets pushed around.

49

A boy screams in play.

50

A boy likes to talk.

51

A boy is left out of others' games.

52

A boy quits the game if things don't go right at the beginning.

53

A boy hits parents.

54

A boy insists on own way.

55

A boy goes to room and cries.

56

A boy puts away toys after playing with them.

57

A boy tries to do things older people do.

58

A boy likes to play alone.

59

A boy tries to make a new child at school feel comfortable.

60

A boy sticks up for self.

61

A boy gets stomach aches before school.

62

A boy comes home on time.

63

A boy hogs TV.

64

A boy shares things.

65

A boy can listen to reason.

66

A boy talks back to parents.

67

A boy sticks up for friend.

68

A boy cries often.

69

A boy has definite opinions.

70

A boy makes friends laugh.

71

A boy does not join with other kids in being mean.

72

A boy hits brothers and sisters.

73

A boy uses 4-letter words.

74

A boy justs sits and watches television.

63

A boy hogs TV.

64

A boy shares things.

65

A boy can listen to reason.

66

A boy talks back to parents.

67

A boy sticks up for friend.

68

A boy cries often.

69

A boy has definite opinions.

70

A boy makes friends laugh.

71

A boy does not join with other kids in being mean.

72

A boy hits brothers and sisters.

73

A boy uses 4-letter words.

74

A boy justs sits and watches television.

75

A boy can talk self out of any situation.

76

A boy surprises parent with gift.

77

A boy messes up the house while playing.

78

A boy picks fights.

79

A boy makes friends easily.

80

A boy goes off and doesn't tell parent.

81

A boy complains about doing chores.

82

A boy has crushes on members of the opposite sex.

83

A boy likes to help.

84

A boy clowns around.

85

A boy likes to get somebody else to do the work for him.

86

A boy likes to tease smaller children.

87

A boy likes to act grown up.

88

A boy organizes parties, clubs, etc.

89

A boy torments a pet.

90

A boy hassles neighbors.

91

A boy is affectionate toward pets.

92

A boy says nice things to people.

93

A boy asks for affection.

94

A boy spits at other kids.

95

A boy obeys parental rules.

96

A boy bosses other children.

97

A boy wants to start making own decisions.

98

A boy knows the difference between right and wrong.

99

A boy has good manners in public.

89

A boy torments a pet.

90

A boy hassles neighbors.

91

A boy is affectionate toward pets.

92

A boy says nice things to people.

93

A boy asks for affection.

94

A boy spits at other kids.

95

A boy obeys parental rules.

96

A boy bosses other children.

97

A boy wants to start making own decisions.

98

A boy knows the difference between right and wrong.

99

A boy has good manners in public.

In front of you are a number of slips of paper. On each of them there is a sentence describing a particular kind of behavior often seen in 6 - 10 year-old children. Your task is to put these sentences into groups according to how you might think or feel about such behavior or what you might do as a parent if the sentence referred to a child of yours. In other words, you are to put those sentences together that describe behavior you might respond to in a similar way.

You may use as many groups or categories as you wish, but try not to use more than 10 categories. You may use one additional category, MISCELLANEOUS, for those sentences which do not seem to go together with any others. Please try to avoid using the miscellaneous category whenever possible.

You are not expected to put the same number of cards in each category. Some categories will probably have many more cards in them than others. When you are sorting the cards, will you put all those that are alike together in rows. You may make changes any time you like.

There is no time limit. On the other hand, you should not spend too much time deciding where to put the cards. Just go ahead and sort them in piles as quickly as you can.

There are not any right or wrong answers. All we want to know is how these behaviors might go together from the point of view of a parent. Since you might think of more than one way to organize or group the behaviors, you will be asked to sort them twice.