Thirty-five disadvantaged Negro 4-year-olds were observed by one or the other of two white male child psychiatrists during a 30-minute play session. After the session, the observer dictated a descriptive summary of the session. He filled out a rating scale on aspects of the child's behavior, including speech and play behavior, nature of social interaction, interest in play materials, ability to focus attention, inferences about his previous experience with caretakers, and general developmental assessment rating. Eighteen months later typed copies of the dictated summaries were distributed to the two observers and to five independent judges, all of whom were psychoanalytically oriented. Analysis of the ratings suggests that pre-entrance ratings do provide information for readiness groupings and can be made on the basis of the child's response to a new adult and his interaction with preschool materials. The stability of the observers' two sets of ratings was high, as was agreement between observers, agreement among the five independent judges, and agreement between observers and judges. Finally, it is suggested that grouping children into competence groups, based on ratings by experienced observers, will facilitate preschool program planning and make children more accessible to growth through preschool experience. (MH)
INDIVIDUAL DIFFERENCES IN Ghetto FOUR-YEAR-OLDS*

Jay G. Hirsch, M.D.
Program Chief, Preventive Psychiatry
Research Program in Child Development
Institute for Juvenile Research
232 East Ohio Street
Chicago, Illinois  60611

Gene H. Borowitz, M.D.
Associate Professor of Psychiatry
University of Illinois College of Medicine
Psychiatric Consultant, Institute for Juvenile Research
Chicago, Illinois

Joan Costello, Ph.D.
Senior Research Associate
Institute for Juvenile Research
Research Director
Dr. Martin Luther King Family Center
Chicago, Illinois

*For presentation to the Annual Meeting of the American Orthopsychiatric Association, New York, New York, April 2, 1969
INDIVIDUAL DIFFERENCES IN Ghetto Four-Year-Olds\textsuperscript{1, 2, 3}

Jay G. Hirsch, M.D.
Gene H. Borowitz, M.D.
Joan Costello, Ph.D.

INTRODUCTION

For the past four years the authors and their co-workers at the Dr. Martin Luther King Family Center have been engaged in studying some problems of the people living in an inner city black neighborhood. A series of pilot investigations led us to focus upon precursors of academic achievement observable during the preschool years.

In 1965, we established a research preschool in a public housing project on Chicago's West side to provide a field setting for action research. In previous publications we described the school, the neighborhood, the population, and the various research approaches which we have undertaken. (1, 2, 3, 4, 5)

\begin{enumerate}
\item From the Division of Preventive Psychiatry
Research Program in Child Development
Institute for Juvenile Research
232 East Ohio Street
Chicago, Illinois 60611

\item Observations were carried out at the Dr. Martin L. King Family Center, which is supported by the Kenneth F. Montgomery Charitable Foundation in collaboration with the Illinois Department of Mental Health. The authors wish to express their gratitude to the children who participated in the study and their parents, and to the entire Staff of the Center.

\item The authors also wish to thank the following colleagues who served on the panel of judges: Marjorie Barnett, M.D., Marvin Freedman, M.D., Edward Futterman, M.D., Shirley Heinze, Ph.D., and Gustavo Lage, M.D.
\end{enumerate}
One major aspect of our work has been the careful observation of individual play sessions with four-year-olds. In this way we have attempted to delineate salient behavioral variables which would further our understanding of the children's strengths and weaknesses. Such knowledge would presumably suggest useful directions for preventive programs and/or interventive work with children and families.

Utilizing a developmental framework, we obtained ratings which allowed us to group the children into a number of competence sub-groups. We have shown that some of the elements of the developmental framework were significantly correlated with measures of the children's performance on such diverse instruments as teacher ratings of classroom behavior, social worker ratings in the home, and scores on some individual psychological tests. We suggested that this framework might be of value for the grouping of children in the classroom, and in the planning of other aspects of intervention programs (1).

In previous investigations involving play behavior we studied four-year-olds already attending our research preschool. In the present study we employed similar observational techniques with another sample of children, but we saw them during their first pre-enrollment visit to the preschool. We adopted this procedure on the hunch that during a time of high anxiety (which is presumably afforded young children by a visit to a strange situation) the play behavior might provide greater insight into the children's strengths and weaknesses.

In this paper we will report upon: (1) correlations among play session variables; (2) relationships of play session variables to teacher
ratings and IQ scores; (3) stability of play session ratings over time; (4) agreement between examiners; (5) agreement among independent judges; and (6) agreement between examiners and judges. We will conclude with a discussion of the utility of a developmental framework for preschool program planning.

Methods of Procedure

The sample is comprised of 35 four-year-olds who represent a majority of the children enrolled for the 1967-68 school year in the King Center research preschool. We have reported in detail the social and demographic characteristics of the children and families served (1,2,3,5). The children comprise a fairly representative group of black four-year-olds living in the housing project, and would meet most external criteria of "social disadvantage." There were 19 boys and 16 girls in the sample. The ages ranged from 43 to 54 months.

The observation consisted of a thirty minute play session with one of two white male child psychiatrists. (One of the psychiatrists saw 20 children - 9 boys, 11 girls, the other saw 15 children - 10 boys, 5 girls.) The room contained black family dolls and toy furniture, crayons, paper, a water basin and squirt bottle, building blocks, and a large toy truck. The psychiatrist met the child and his parent in the preschool office, and invited the child to the playroom. If the child was reluctant, the parent was asked to accompany him.

After approximately fifteen minutes of undirected play, the child was asked by the examiner to "make a person" with the building blocks and to tell a story about what he had constructed. He was then asked to draw a picture with the crayons and tell a story about that. When thirty minutes had elapsed the examiner terminated the observation.
Immediately following the session the psychiatrist dictated a descriptive summary of the play session. He then filled out a rating scale on aspects of the child's behavior during the session. The areas covered were: speech and play behavior, nature of social interaction -- the way child related to interviewer, and the way the child made the interviewer feel, i.e., negative, uncomfortable vs. positive, comfortable. Also included were ratings on the child's interest in play materials, his ability to focus attention, an inference about the nature of his previous experiences with caretakers, and a general developmental assessment rating. Psychosexual content of play was also rated. Forced choices were required on the rating scales despite variation in quantity and quality of the observational material available. Table 1 presents the variables and the criteria used in rating them. A copy of the rating scale is provided in the Appendix.

A year and a half after the completion of the initial observations and ratings, typed copies of the dictated summaries were distributed to the two examining psychiatrists and to five independent judges. Each read all of the case protocols and rated the behaviors of the children on the Rating Scale described above. The judges and the examining psychiatrists were all child clinicians representative of the academic community in Chicago. There were four child psychiatrists and one child psychologist; all are psychoanalytically oriented.

RESULTS AND DISCUSSION

1. Correlations Among Play Session Variables

A correlation matrix including all the Play Session variables is presented in Table 2.
Table 1

VARIABLES RATED FROM INDIVIDUAL PLAY SESSION WITH CHILD

I. SPEECH

Quantity: none to marked amount.
Quality: none or unintelligible to clear, distinct words.

II. PLAY BEHAVIOR

Interest in Toys: none to active interest.
Focus of Attention: diffuse or poorly "tuned-in", to focused, sustained attention.
Quantity of Fantasy: none to marked amount.
Quality of Fantasy: poorly organized to well structured with order and sequence apparent.

III. SOCIAL INTERACTION

Response of Child to Examiner: negative, uncomfortable to positive, comfortable.
Response Evoked in Examiner: negative, uncomfortable to positive, comfortable.
History of Social Relationships (inferred past experiences with adults): poor to excellent.

IV. OVERALL COMPETENCE

Overall level of present functioning: very poor to excellent.

V. PSYCHOSEXUAL CONTENT OF PLAY

None to marked evidence, judged from play behavior, reflecting the following psychosexual content:

Oral Receptive
Oral Aggressive
Anal Expulsive
Anal Retentive
Phallic Intrusive
In order to determine the relationships among rated behaviors, a linkage analysis (6) was applied to the correlation matrix (Table 2) for the fifteen variables of the Play Session Rating Scale. Linkage is considered the largest measure of association (Pearson Correlation) which a variable has with another variable. Each variable is assigned to a cluster in terms of its highest measure of correlation. Two variables of the fifteen offer salient information from which predictions can be made to ratings on a number of other variables. These two variables and their clusters are presented in Figures 1 and 2.

Cluster 1 - Child's Response to Examiner: This variable, based on the degree of comfort the child manifests in the play sessions, is probably the basis for inferences about the other two social interaction variables, i.e., Response Evoked in Examiner and Inferences about the Child's History of Social Relationships. It also is related to ratings of Interest in Toys, Focus of Attention and Overall Competence.

Cluster 2 - Interest in Toys: Ratings on this variable are often predictable from the child's Focus of Attention during the play session. High ratings on Interest and Focus give rise to high ratings on Quantity and Quality of Fantasy, and the degree to which Phallic content is present in play.

It would appear from these two clusters, and the variables which are central to them, that ratings made from play sessions tend to draw on
<table>
<thead>
<tr>
<th>Variables</th>
<th>Quantity of speech</th>
<th>Quality of speech</th>
<th>Interest in toys</th>
<th>Focus of attention</th>
<th>Quantity of fantasy</th>
<th>Quality of fantasy</th>
<th>Response to E</th>
<th>Rez evoked in E</th>
<th>History of soc rel</th>
<th>Overall Competence</th>
<th>Composite Sum of (#)</th>
<th>Oral Receptive</th>
<th>Oral Aggressive</th>
<th>Oral Expulsive</th>
<th>Anal Retentive</th>
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</table>
Figure 1

CHILD'S RESPONSE TO EXAMINER

Linkages (Pearson r's) with Other Play Session Variables

CHILD'S RESPONSE TO EXAMINER ← .76 → Response Evoked in Examiner

.76*

.73

Interest in Toys

.70

Focus of Attention

.58

Overall Competence

History of Social Rel.
Figure 2

INTEREST IN TOYS

Linkages (Pearson r's) with Other Play Session Variables

INTEREST IN TOYS ← .73 → Quantity of Fantasy

.70*

Focus of Attention

.74

.68

Quality of Fantasy

Phallic Intrusiveness

*Pearson r
two kinds of examiner observations, namely the child's ability to respond in a positive, comfortable manner, and the child's ability to use the materials available in the play room. In simplest terms, we seemed to be rating the child's capacity for interaction with people and things in a new environment. Our previous study suggested that organization and content of play were more important to examiner ratings than is the case here. Our tentative explanation is that children observed during a time of high anxiety produce a narrower range and intensity of play activity, leaving observers with fewer behavioral cues on which to rate their functioning. In the case of the previous study, where children were seen after attending preschool for a few months, there was a greater range of play content from which to make more refined judgments. The findings of the present study suggest that pre-entrance ratings do provide information for readiness groupings and can be made on the basis of the child's response to a new adult (teacher) and his interaction with preschool materials.

2. Relationship of Play Session Variables to Teacher Ratings and IQ:

Table 3 presents the correlations of the major play session variables with teacher ratings and Stanford Binet I.Q. The psychiatrist's ratings of Response to Examiner, Interest in Toys, and Overall Competence correlate moderately, and significantly, with teacher ratings of Response to Teacher, and Overall Competence several months later. This finding suggests that pre-entrance ratings provide a basis for classifying children in a valid manner, using as criteria teacher judgments based on several months experience with the children. Our previous study reported somewhat higher correlations between play session and teacher ratings, which suggests that additional information is probably included in rating play session behavior of children who have already become acclimated to preschool.
Correlations between psychiatric ratings of Overall Competence and Kohn Competence Scores or Binet I.Q.'s are not significant here, unlike the findings of our previous studies. We believe the most likely explanation for this difference is the timing of observation, i.e. observing the children prior to school entrance precludes the rating of some aspects of behavior in greater evidence when the children have been attending preschool for some months.

3. Stability of Play Session Ratings over time:

The two psychiatric examiners rated the children on the Play Session Rating Scale immediately after the sessions, and again eighteen months later, from typescripts. Examiner 1 (Borowitz) had no contact with the children between the two ratings. Examiner 2 (Hirsch) had minimal contact with the children, but greater contact with the preschool staff who worked with the children and their families, which permitted him access to many anecdotes and other information. Table 4 presents the reliability coefficients (computed by Analysis of Variance, after Winer (9)) for each examiner's agreement with his own ratings after eighteen months. Examiner 1 had highly stable ratings, while Examiner 2 had somewhat less stable ratings. Those variables remaining most stable over time, for both examiners were: quantitative aspects of play behavior, child's response to examiner, overall competence and presence of phallic content in play. There is no satisfactory explanation for the greater stability of ratings for one examiner than the other. It is plausible that the second examiner's greater contact with school personnel, by reason of his administrative responsibilities, introduced confounding conditions.
Table 3

PEARSON CORRELATIONS OF PLAY SESSION RATINGS, TEACHER RATINGS, AND INTELLIGENCE MEASURE

<table>
<thead>
<tr>
<th>Variables</th>
<th>PLAY SESSION Response to examiner</th>
<th>Interest in toys</th>
<th>Overall competence</th>
<th>CLASSROOM Response to teacher</th>
<th>Kohn Comp. Score</th>
<th>Overall competence</th>
<th>PRE-TEST S-B IQ</th>
<th>POST-TEST S-B IQ</th>
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<td>Overall competence</td>
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*signif. at alpha = .01
'signif. at alpha = .05
n = 30
4. **Agreement between Examiners:**

Ratings from typescripts were used as the basis for computing agreement between examiners, as well as agreement among independent judges. Table 5 presents reliability coefficients reflecting the agreement of the two examining psychiatrists. Acceptable agreement was obtained for the variables in the categories Speech and Play Behavior, Social Interaction, and Overall Competence. Agreement was poor for variables in the category Psychosexual Content of Play, with the exception of ratings for Phallic Intrusiveness.

5. **Agreement among Independent Judges:**

Five judges, experienced clinicians who had no prior contact with the research project, rated the typescripts. They did not discuss their ratings with other judges, nor with the examiners. Their agreement tends to be as high or higher than the agreement between the examining psychiatrists, for the same variables. (See Table 5)

6. **Agreement between Examiners and Independent Judges:**

Taking the mean ratings for the two examiners and the mean ratings of the five independent judges, agreement between the two mean ratings is also acceptably high, if we exclude the oral and anal content variables. (See Table 5)

The implications of the reliability coefficients for further use of the Play Session Rating Scale are encouraging.* Variables in the

---

*If various judges were to rate children, it would be necessary to introduce some correction (e.g., standard score) for their idiosyncratic use of scale points, so that means for various judges would be comparable. It is of interest that the variable needing least adjustment is the rating of Overall Competence.
Table 4

STABILITY OF EXAMINER RATINGS OVER TIME

RELIABILITY COEFFICIENTS*

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*Computed by analysis of variance (Winer)
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<th>Variables</th>
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*Coefficients computed by analysis of variance (Winer)
categories: Speech and Play Behavior, Social Interaction and Overall Competence may be rated by direct observation or from typescripts, with sufficiently high agreement to conclude that ratings are a function of variation in subjects rather than idiosyncrasies in raters. The variables in the category Psychosexual Content of Play do not meet the same criteria for further use without some additional work. At this time, there are two explanations which might be offered for the low rater agreement on these content variables: (1) It appears that judges do not share common definitions for these variables; and (2) Children coming to a new school and remaining in a room with an unfamiliar man are anxious, play less freely, and provide less information on which to make judgments about their play, thus leading to highly inferential ratings.

THE UTILITY OF A DEVELOPMENTAL FRAMEWORK FOR PRESCHOOL PROGRAM PLANNING

During the first two years of our preschool, we randomly assigned children to teaching groups. We found that in these heterogeneous groups, despite the good intentions of a well-trained and highly motivated staff, the "rich children got richer and the poor got poorer." The better functioning children were able to command more teacher time and attention. They increased their feelings of self-esteem through their accomplishments as well as by favorably comparing themselves to the lower-functioning children. On the other hand, the children at the lower end of the functioning continuum did not sustain the teacher’s attention, except through disruptive behavior. These children did not profit from the examples set by their better-functioning classmates. They tended to withdraw into nonconstructive activity. This neither enhanced their already fragile self-esteem, nor led to their greater accessibility for learning.

We thought that if we could divide the children according to levels
of functioning we might make them more accessible to the growth experiences which preschool programs can provide.

In attempting to devise instruments for assessing the children's level of functioning we found Robert White's concept of competence particularly useful (8). In an earlier study, we demonstrated that judgments of competence based on close observations of individual play sessions were in significant agreement with such diverse indices of the children's functioning as teacher ratings of overall competence at the end of the school year, Kohn Competence Scale (Factor I), and Stanford-Binet IQ Scores (1, 5). Accordingly, we carried out the present study, utilizing individual play sessions to permit the grouping of the children at the beginning of the school year according to our ratings of competence. The children were placed into one of three groupings which corresponded to high, middle, and low competence.

It then became possible to plan the preschool program to correspond more adequately to the current level of functioning of each of the three groups. We found that with a more specified program, tailored to developmental needs, the lower functioning children showed greater accessibility to the learning situation; the middle functioning children emerged more frequently in leadership roles than had been the case when they had been grouped with the most competent children; and the highest functioning children continued their performance as in previous years. Also, within each of these competence groups we were better able to observe and provide for the individual characteristics of each child.

Our analysis suggests that ratings of overall competence were primarily determined by the judgments on two major variables: 1) Response to Examiner and (2) Interest in Toys. We have demonstrated a high degree of
agreement among judges on ratings of these variables, and a high correlation of these judgments with teacher ratings at the end of the school year.* In addition, two research observers, who were not involved with the children on a regular basis agreed very highly with the teachers' ratings.

We, therefore, suggest that experienced observers of young children, regardless of their professional background, could be easily trained to make competence ratings. Our study has shown that the nature of the children's approach to people and things are crucial aspects of such judgments. We further suggest that grouping children on such competence judgments facilitates preschool program planning, and makes children more accessible to growth through the preschool experience.

*It is possible that the teachers' ratings of competence were influenced by the original classroom groupings. Rosenthal has shown that teacher perceptions and expectations can influence children's performance (7).
References


Institute for Juvenile Research - Preschool Project

PLAY SESSION RATING SCALE

<table>
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<th>CODE #:</th>
<th>CODE #:</th>
<th>DATE:</th>
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Rater: | DATE: | RATER CODE: |
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</tbody>
</table>

I. SPEECH

Quantity of Speech

1 = none
2 = minimal amount
3 = moderate amount
4 = marked amount

<table>
<thead>
<tr>
<th>(mark)</th>
<th>(1)</th>
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</table>

Quality of Speech

1 = none
2 = unintelligible mumbles
3 = unintelligible words
4 = words, intelligible with difficulty
5 = words, easily intelligible
6 = words, clear and distinct

<table>
<thead>
<tr>
<th>(mark)</th>
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II. PLAY BEHAVIOR

Interest in Toys

1 = no interest
2 = little interest
3 = moderate interest
4 = active interest

<table>
<thead>
<tr>
<th>(mark)</th>
<th>(3)</th>
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</table>

Focus of Attention

1 = diffuse, poorly "tuned-in"
2 = focuses briefly
3 = moderate focus
4 = focused & sustained attention

<table>
<thead>
<tr>
<th>(mark)</th>
<th>(4)</th>
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</thead>
</table>
Quantity of Fantasy

1 = none
2 = minimal amount
3 = moderate amount
4 = marked amount

Quality of Fantasy

1 = poorly organized in time and space
2 = minimally organized
3 = organized with some order but without apparent sequence
4 = extremely well structured, with order and sequence

III. SOCIAL INTERACTION

Quality of Child's Response to Examiner

1 = negative, uncomfortable
2 = minimally uncomfortable
3 = moderately comfortable
4 = positive, comfortable

Response Child Evokes in Examiner

1 = negative, uncomfortable
2 = minimally uncomfortable
3 = moderately comfortable
4 = positively comfortable

History of Social Relationships (inference about child's past experiences with adults)

1 = poor
2 = fair
3 = good
4 = excellent

IV. OVERALL COMPETENCE

1 = very poor
2 = poor
3 = fair
4 = good
5 = excellent
V. PSYCHOSEXUAL CONTENT OF PLAY

1 = none
2 = minimal
3 = moderate
4 = marked

Oral Receptive (mark)_______ (11)
Oral Aggressive (mark)_______ (12)
Anal Expulsive (mark)_______ (13)
Anal Retentive (mark)_______ (14)
Phallic Intrusive (mark)_______ (15)