Meaningful Differences

in the Everyday Experience of Young American Children

by

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The spontaneous speech data we recorded in our preschool research during the War on Poverty showed that the rate at which the Turner House children were adding words to the vocabulary in daily use was markedly slower than the rate at which the professors' children were adding words. Projecting the developmental trajectories of the vocabulary growth curves we could see an ever-widening gap between the vocabulary resources the children would bring to reading in school. When we saw that our interventions at age 4 could not close the gap we realized we needed to find out what was happening in children's early experience that could be influencing these developmental trajectories.

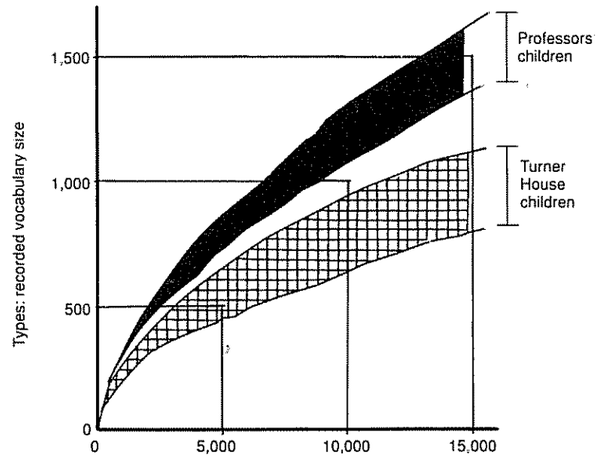

Figure 1 Range in the cumulative type/token curves constructed from a year of daily, identically recorded 15-minute samples of spontaneous speech during preschool free play for 12 professors' children (solid curve) and for 11 Turner House children (hatched curve) from a poverty neighborhood The type/token curves of the professors' children all fell within the black area The curves for the Turner House children all fell within the hatched area (Adapted from Hart & Risley, 1981.)

When we analyzed the data from 2½ years of observing for 1 hour each month the unstructured interactions at home between children and parents in 42 families of varying size, socioeconomic status, and ethnic background, we saw differences in rates of vocabulary growth among the children similar to those we had seen in our preschool research. By age 3 some children were as far above the average in vocabulary resources as other children were below; we saw a widening gap beginning as early as age 24 months. But now we could examine the observational data for differences in the children's early experience.

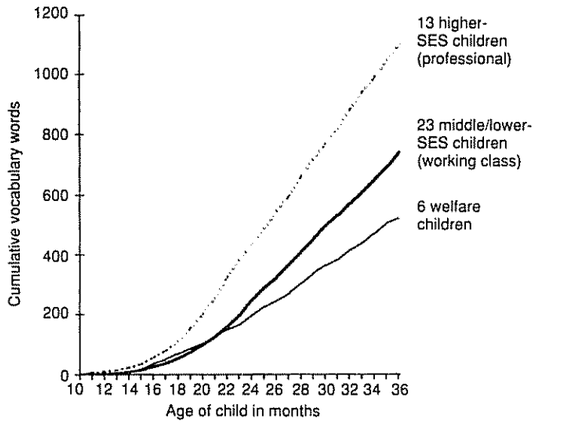

Figure 2 At each month the average number of vocabulary words recorded in that and all prior months for three groups of children from the time the children were 10 months old until they were 36 months old. The children were grouped by the socioeconomic index assigned to the occupation of their parents (see Chapter 4, endnote 3). The 13 higher-SES children (dotted line) were in professional families, 23 middle-lower SES children (heavy solid line) were in working-class families, and 6 welfare children (light solid line) were in families receiving welfare (Aid to Families with Dependent Children).

Over the 2 years of observation every family varied from month to month in the amount of talking and interacting the parents did with their children. We asked parents to just "do what you usually do" at home with the child, and we designed the study to collect an amount of data that would allow us to use averages to reveal the stable patterns within the continual variability that characterizes the everyday parenting of a developing child. The most stable difference between families was in the amount of talking that went on: Parents who differed in amount of talking stayed different even as they varied from month to month.

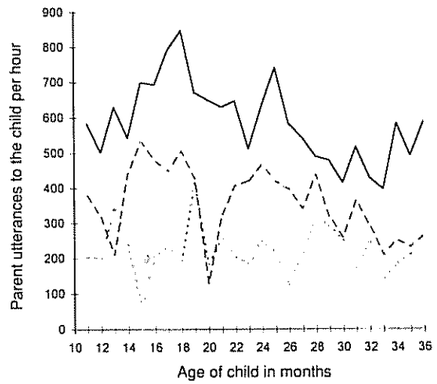

Figure 3 Average number of utterances addressed to the child per hour each month by the parent in three different families: a professional (solid line), a working-class (dashed line), and a welfare (dotted line) family by SES. The families were selected to illustrate in one figure the month-to-month variability seen in individual families representative of the SES groups in terms of both amount of talking and overall trends across time. The families are those with Rank 11, 22, and 41 in Appendix A.

The most striking difference between families was in how much interaction and talking typically went on in the home. Some families spent up to four times as much time interacting with their children as did others; some parents said much more than other parents to 1- and 2-year old children per hour of daily life. When we examined family factors, we saw that the time and amount of talking that went on in the family did not vary systematically with the gender of the child, the ethnic background of the family, the birth of a new baby, or if both parents were working. But time and talk *were* associated with the socioeconomic status of the family: Parents in professional families characteristically devoted over half again more time and said three times as much to their children as did parents in welfare families.

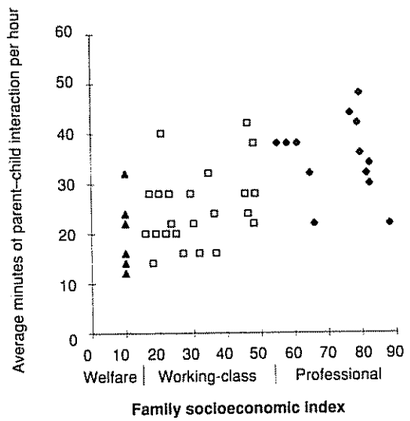

Figure 4. Average number of minutes per hour that each of the 42 parents spent in interactions with the child. Number of minutes was averaged for six observations: when the children were 16–17 months old, 24–25 months old, and 32–33 months old (see Chapter 3, endnote 6). The horizontal axis = SEI, or the socioeconomic index number assigned to parent occupation (see Chapter 3, endnote 4); the labels summarize into SES groups the occupations in the index. The vertical axis = average minutes per hour interacting. Minutes interacting includes all talk between child and parent, that is, time when either the child or the parent was actually speaking to the other.

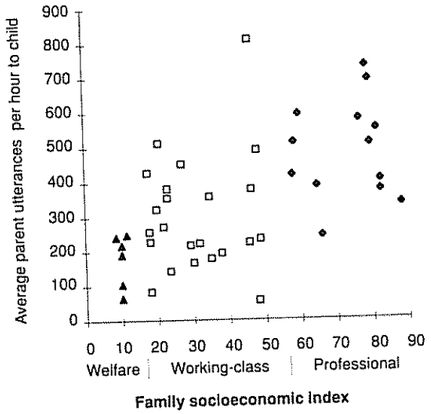

Figure 5. Average number of utterances per hour that each of the 42 parents addressed to the child. Utterances were averaged for all 24 observation hours when the children were 13–36 months old (see Appendix A and Chapter 6, endnote 3). The horizontal axis = SEI (see Chapter 3, endnote 4; and Appendix A); the labels summarize into SES groups the occupations in the index (within the working-class group, scores are below 31 for blue-collar occupations and above 31 for white-collar occupations). Note how different was the amount of talk at the extremes in advantage and the marked variety in amount of talk within the working-class families.

The differences we saw between families in the amount of talking and interaction were so substantial that we checked both how consistent individual families were over time and how characteristic the differences were of population groups with the relative advantages summarized in SES. Statistical tests, reliability assessments, and verification in split halves of the data (see Chapter 6, endnotes 3 and 5) showed us that the families were astonishingly consistent in relative sociability and that the SES groups were characteristically different in average amounts of talking and time spent interacting with 1- and 2-year-old children.

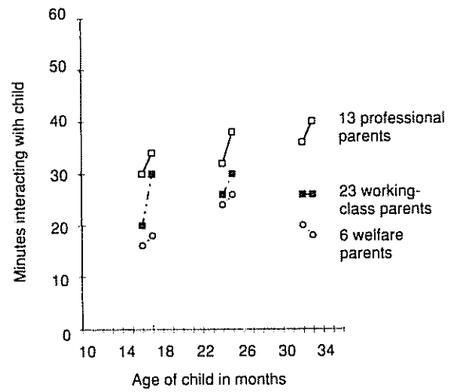

Figure 6 Average number of minutes per hour parents in three SES groups spent interacting with their children in six sample observations. The data are the same as those shown in Figure 4, but in Figure 4 the data from the six samples were averaged by individual parent; here the same data are averaged for each month by SES group. The vertical axis = average minutes per hour interacting. Minutes interacting includes all time when either the child or the parent was actually speaking to the other. Shown are data averaged for 13 professional parents (open squares), 23 working-class parents (solid squares), and 6 welfare parents (open circles).

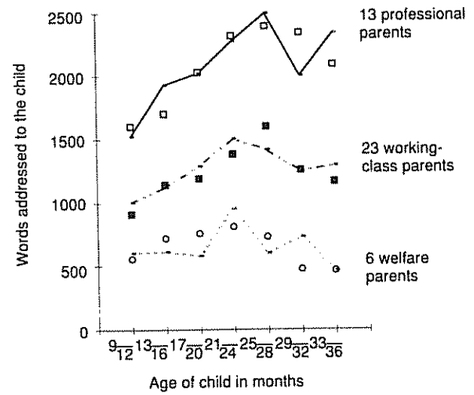

Figure 7. Average number of words addressed to the child by parents in three SES groups with the database split into halves. The horizontal axis = age of the child in months; the vertical axis = words to the child per hour. Lines connect even-numbered months; squares and circles mark odd-numbered months. Each point shows the average of 2 months; for example, the first dot on the line is the average of the two observations recorded for the even-numbered data months when the children were 10 and 12 months old. The squares and circle at the same point are the average of the two observations recorded for the odd-numbered data months when the children were 9 and 11 months old. Data are averaged for 13 professional parents (solid line, open squares), 23 working-class parents (dashed line, solid squares), and 6 welfare parents (dotted line, open circles).

After we defined and quantified the quality features of parent language and interaction, analyses showed that by the time children were 3 years old, families differing in SES had provided their children vastly different amounts of experience with language used to convey information and affect. Lots of talking did not dilute the richness of quality features in the utterances the children heard but served to increase the amount of experience children had with nearly all the quality features of language and interaction.

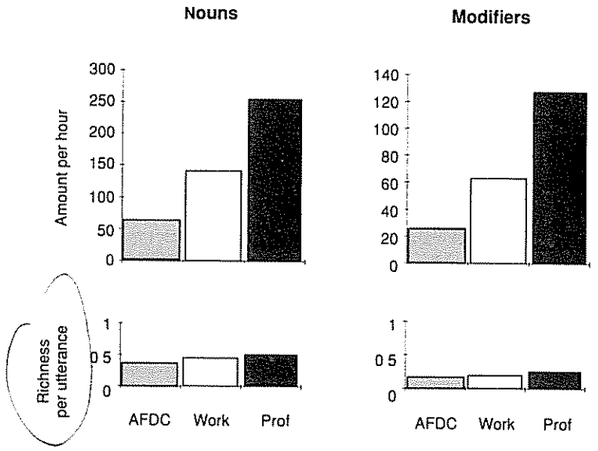

Figure 8 Average number per hour (amount, top graphs) and per utterance (richness, bottom graphs) of nouns (left graphs) and modifiers (adjectives and adverbs, right graphs) the parents in three SES groups addressed to children 13–36 months of age. (Note the different scales on the graphs.) Six parents (AFDC, shaded bars) were on welfare, 23 parents (Work, open bars) were working class, and 13 parents (Prof, solid bars) were professionals. (The data are averaged from Appendix A.) Across SES families were somewhat different in the richness of vocabulary in the utterances they addressed to their children, but the large differences in the amount of that speech resulted in even larger differences in the amount of experience with these quality features they provided their children in the 2 years the children were learning to talk.

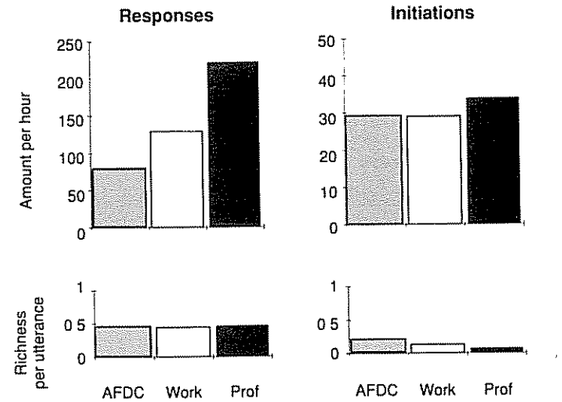

Figure 9 Average number per hour (amount, top graphs) and per utterance (richness, bottom graphs) of responses (left graphs) and initiations (right graphs) the parents in three SES groups addressed to children 13–36 months of age. (Note the different scales on the graphs.) Responses were utterances immediately contingent on a child's vocal, verbal, or nonverbal behavior; initiations were utterances addressed to the child after 5 seconds or more of no interaction. Six parents (AFDC, shaded bars) were on welfare, 23 parents (Work, open bars) were working class, and 13 parents (Prof, solid bars) were professionals. (The data are averaged from Appendix A.) Across SES children's experience differed greatly in the amount of responses per hour they received from their parents, which remained proportional to the amount of parent talk. However, differences in amount of parent talk were not related to how often parents initiated interaction with their children, which remained constant across SES groups.

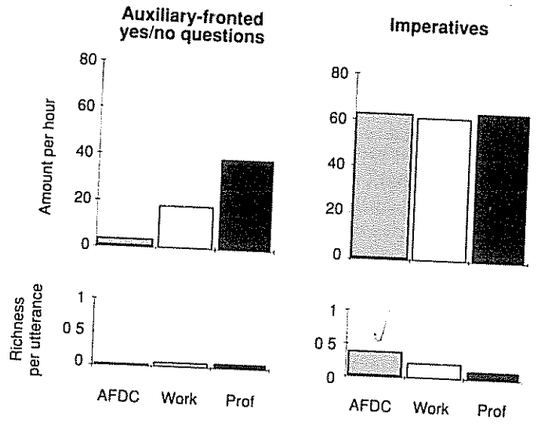

Figure 10 Average number per hour (amount, top graphs) and per utterance (richness, bottom graphs) of auxiliary-fronted yes/no questions (left graphs) and imperatives (right graphs) the parents in three SES groups addressed to children 13–36 months old. Imperatives directed children to comply ("Do as I say"); auxiliary-fronted yes/no questions asked for compliance ("Can you do that?"). Six parents (AFDC, shaded bars) were on welfare, 23 parents (Work, open bars) were working class, and 13 parents (Prof, solid bars) were professionals. (The data are averaged from Appendix A.) Across SES children's experience differed in both the amount and richness of auxiliary-fronted yes/no questions they heard but not in the number of directives they were given. Lesser amounts of welfare parents' talk, however, served to make imperatives a more prominent part of their children's experience.

Differences in the amount of parent talk contributed more to the amount of children's experience with the quality features of language and interaction than did differences in the richness of these features in parent utterances. Because the relative richness of the quality features in parent utterances varied so little, all the children had more experience with the quality features of language and interaction when their parents talked more.

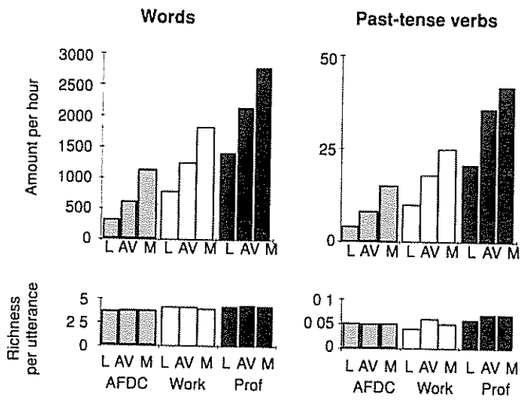

Figure 11 Average number per hour (amount, top graphs) and per utterance (richness, bottom graphs) of the words (left graphs) and past-tense verbs (right graphs) parents in three SES groups addressed to their children in an average hour (AV), in the 3 hours they talked least (L), and in the 3 hours they talked most (M), to their children. (Note the different scales on the graphs.) The number of words and past-tense verbs in an average hour (AV) was averaged over the months the children were 13–36 months old (see Appendix A). The averages in the 3 hours the parents talked least (L) and most (M) are from observations when the children were at the beginning (11–19 months old), middle (20–28 months old), and end (29–36 months old) of the process of learning to talk (see Chapter 6, endnote 7). Of the parents, 13 (Prof, solid bars) were professionals, 23 (Work, open bars) were working class, and 6 (AFDC, shaded bars) were on welfare.

For each SES group there was a similar spread between the periods of least and most talk; the absolute differences between the groups remained unchanged. The richness of words in parent utterances and of past-tense verb forms varied little; all the children had proportionately more experience hearing words of all kinds and talking about past events when their parents talked more to them.

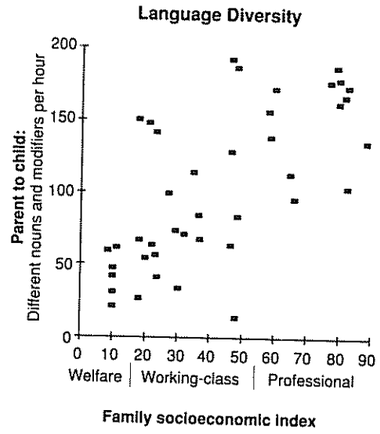

Figure 13 Parent Language Diversity averaged for each of the 42 parents over all 24 observation hours when the children were 13–36 months old (see Chapter 7, Table 3) Language Diversity denotes the amount of a child's experience with language, as exemplified by the sum of different nouns, adjectives, and adverbs addressed to the child per hour Family socioeconomic index is the SEI number assigned to parent occupation (see Chapter 3, endnote 4, and Appendix A) The labels are those used to group occupations in the index By age 3 some children had had much more experience than others in hearing different objects, actions, attributes, relations, and conceptual categories named and described. The amount of children's experience with Language Diversity was strongly associated with the magnitude of their accomplishments at age 3 and at age 9–10 (see Table 3) Note how different was the amount of children's experience at the extremes in advantage and the marked variety of children's experience within the working-class families

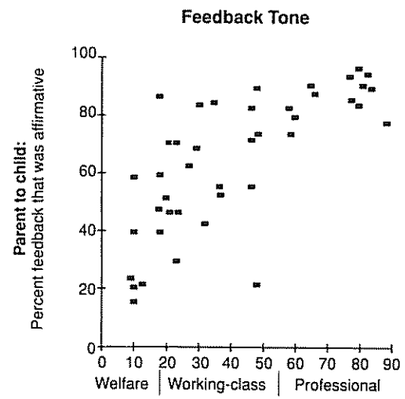

Figure 14 Parent Feedback Tone averaged for each of the 42 parents over all 24 observation hours when the children were 13–36 months old (see Table 3) Feedback Tone denotes the prevailing affect of parent–child interactions, as exemplified by the ratio of affirmative feedback (parent repetitions, expansions, extensions of child utterances, plus explicit approval of children's words and actions with words such as "good" and "right") to total feedback (affirmatives plus prohibitions directing "Don't," "Stop," "Quit," "Shut up" and explicit disapproval with words such as "bad" and "wrong"). Family socioeconomic index is the SEI number assigned to parent occupation (see Chapter 3, endnote 4, and Appendix A) Some children had much more experience than others with the parent encouragement that contributes to self-esteem, confidence, and motivation. The amount of children's experience with encouraging feedback was strongly associated with the magnitude of their accomplishments at age 3 and at age 9–10 (see Table 3) Note how different was the amount of children's experience with affirmative feedback at the extremes in advantage and the marked variety of children's experience within the working-class families

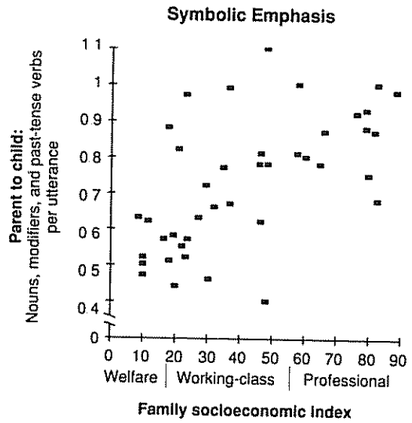

Figure 15. Parent Symbolic Emphasis averaged for each of the 42 parents over all 24 observation hours when the children were 13–36 months old (see Table 3). Symbolic Emphasis denotes the symbolic richness of a child's social experience as exemplified in the number of nouns, adjectives, adverbs, and past-tense verbs a child heard per parent utterance. Family socioeconomic index is the SEI number assigned to parent occupation (see Chapter 3, endnote 4). Hearing words as symbols used for naming, recalling, and relating information was a consistent attribute of some children's interactions with their parents. Symbolic Emphasis was strongly associated with the magnitude of their accomplishments at age 3 and age 9–10 (see Table 3). Again, note how different was the children's experience with Symbolic Emphasis at the extremes in advantage and the marked variety of children's experience within the working-class families.

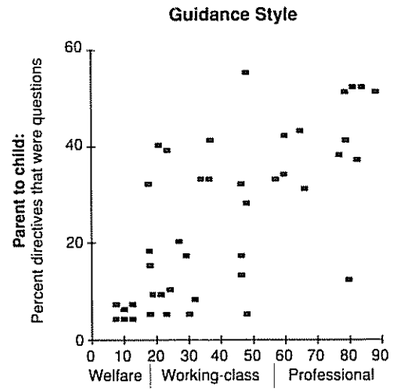

Figure 16. Parent Guidance Style averaged for each of the 42 parents over all 24 observation hours when the children were 13–36 months old (see Table 3). Guidance Style denotes the amount of children's experience with opportunities to choose as exemplified by the ratio of auxiliary-fronted yes/no questions ("Can you . . ." "Do you . . .") to all directives (auxiliary-fronted yes/no questions plus imperatives). Family socioeconomic index is the SEI number assigned to parent occupation (see Chapter 3, endnote 4, and Appendix A). Some children had much more experience than others with being asked rather than told to behave in more mature ways. The amount of children's experience with polite guidance that offered choices was strongly associated with the magnitude of their accomplishments at age 3 and age 9–10 (see Table 3). Note how different was the children's experience with polite guidance at the extremes in advantage and the marked variety of children's experience within the working-class families

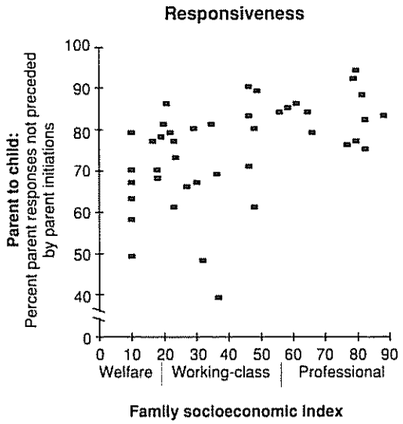

Figure 17 Parent Responsiveness averaged for each of the 42 parents across all 24 observation hours when the children were 13–36 months old (see Table 3). Responsiveness denotes the relative importance of the child's behavior during family interactions as exemplified by the ratio of noninitiating parent responses (parent responses minus parent initiations) to all parent responses. Family socioeconomic index is the SEI number assigned to parent occupation (see Chapter 3, endnote 4, and Appendix A). Some children had more experience than others with parent responsiveness that focused on appreciating the words and topics the children contributed to interactions. The children's experience with responsiveness was strongly associated with the magnitude of their accomplishments at age 3 (see Table 3).

We had undertaken the longitudinal study to find out what was happening in children's early experience. We disassembled the interactions we observed into molecular components we could reliably code and count. We examined the correlations between the quantities of each of those components and measures of the children's language competence. Based on those correlations, our understanding of the literature, and the impressions of patterns of parenting we had absorbed during thousands of hours of observing, we reassembled the quantities into five derived variables (see Chapter 7, Table 3, and Figures 13–17). We entered all five derived variables into multiple regression analyses with the measures of the children's accomplishments.

We found that the five derived variables together not only uniformly marked the SES extremes of the families we observed but also robustly predicted the accomplishments of the working-class children. Together they accounted for 60% of the variance in the children's accomplishments at age 3 (see Chapter 7, Table 4). We conclude that these variables are not simply marker variables denoting social class or subculture but powerful aspects of parenting that cause important outcomes in children.

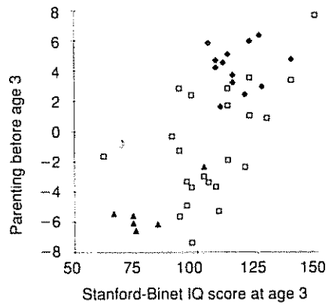

Figure 18 For each of the 42 children, the parenting provided the child before age 3 plotted against the child's Stanford-Binet IQ score at age 3. Parenting is the sum of the z-scores for the five derived variables (Language Diversity, Feedback Tone, Symbolic Emphasis, Guidance Style, Responsiveness; see Table 3). Shown are individual data for 13 professional families (diamonds), 23 working-class families (open squares), and 6 welfare families (triangles). Parenting not only strongly predicted IQ scores at the extremes in advantage but predicted equally strongly the IQ scores of the 23 working-class children (see Table 4).

Our more than 2 years of regular observations in family homes, carefully checked and analyzed, showed the consistency of the amount of the categories of significant family experience parents were providing their children. We extrapolated the relative differences we saw in the longitudinal data in order to estimate children's cumulative experience in the first 4 years of life and so glimpse the magnitude of the problem facing an intervention planned to equalize the early experience of welfare and working-class children. Even if we have overestimated by half the differences between children in amounts of cumulative experience the gap is so great by age 4 that the best that can be expected from education or intervention is to keep children from falling still farther behind. For an intervention to keep an average welfare child's experience equal in amount to that of an average working-class child would require that the child be in substitute care comparable to the average in a professional home for 40 hours per week from birth onward.

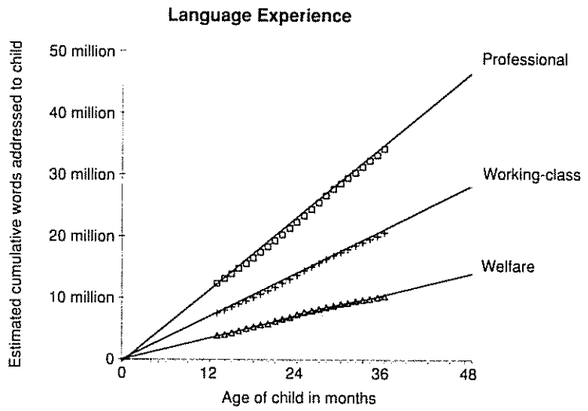

Figure 19. Cumulative number of words addressed to the child in 13 professional (squares), 23 working-class (plus signs), and 6 welfare families (triangles) extrapolated from birth to 12 months of age and from 37 to 48 months of child age. The linear regression line was fit to the actual average cumulative number of words addressed to the children per hour when they were 12–36 months old.

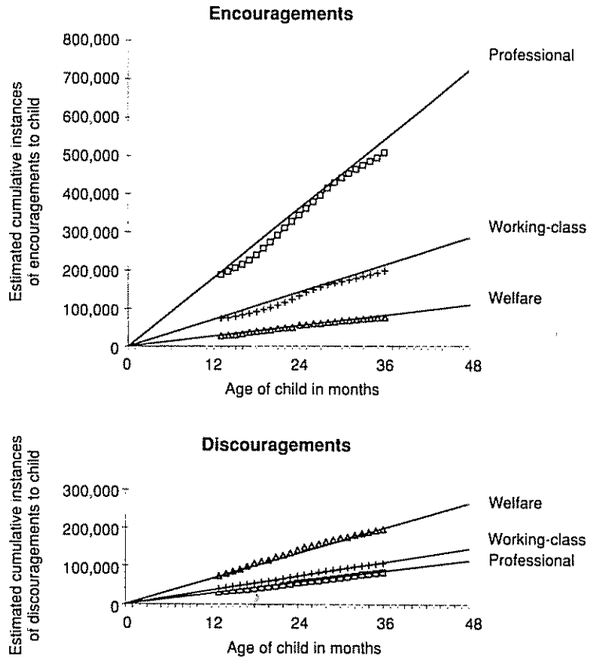

Figure 20. Cumulative instances of feedback containing encouragements (top graph) and discouragements (bottom graph) addressed to the child in 13 professional (squares), 23 working-class (plus signs), and 6 welfare (triangles) families extrapolated from birth to 12 months of age and from 37 to 48 months of child age. Encouragements were affirmations that repeated, extended, or expanded the child's utterances and expressions of approval of the child's behavior as "right" or "good." Discouragements were prohibitions directing the child "Don't," "Stop," "Quit," or "Shut up" and expressions of disapproval of the child's behavior as "bad" or "wrong." Note the reversal of the lines in the bottom graph, reflecting the prevailing negative Feedback Tone in the welfare homes. The linear regression lines were fit to the actual average cumulative numbers of affirmations and prohibitions addressed to the children per hour when they were 12–36 months old.