1964-1965 study by Flower + HFG

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The research study to which you referred was done in 1964-1965! It was presented to the Western Society for Pediatric Research in Portland, Oregon in November 1965. It was never published.

The study was conducted by Richard Flower, Ph.D. - Speech and Audiology Clinic and Helen Gofman, M.D. - Child Study Unit and their staff members at University of California, San Francisco.

The group studied 150 children admitted in 1958 on the complaint of delayed speech development - ages 4 to 8.

51 had indications of mental retardation
18 had significant hearing impairments
7 had evidence of C.N.S. pathology
24 had combinations of these problems

Of the remainder, 12 came from grossly disturbed family situations and 14 had less signs of possible physical and neurological deficits.

The study group consisted of as many of the 55 remaining children who could be returned for testing -- five or more years later. 29 were contacted.

The aims of the study were to examine the following hypothesis in light of results of measurement with a group of tests of speech and language, intellectual abilities, visual and auditory behavior, academic achievement, and reading ability.

1. Children with histories of delayed speech development in the absence of significant auditory, intellectual, and neurologic deficits eventually develop speech in an approximately normal pattern and sequence, albeit at a slower rate. Most have achieved socially acceptable speech by the time they reach 8 years of age although some minimal misarticulations of the latest sound in the developmental sequence are often present, mutilation of consonant blends is common, and mispronunciations are frequent. Virtually all of the group have substandard speech as compared with children of similar chronolgical age.

2. Children with histories of delayed speech development maintain significant differences in all aspects of language development through the pre-adolescent years. Although casual observation may suggest normal language use, careful evaluation reveals these children to be significantly below norms in all language functions.

3. Children with histories of delayed speech development have poor auditory discrimi-

nation and poor auditory memory.

4. Children with histories of delayed speech development have poor visual discrimination and visual memory, and demonstrate problems in visuomotor tasks.

5. Children with histories of delayed speech development have distinct problems in beginning reading. When they reach the middle grades they are not uncommonly reading at a primary level or less.

6. Children with histories of delayed speech development present difficulties in many areas of academic achievement. In those areas which require less language facility (e.g. arithmetic), these children approach achievement at chronological age level but moderate to severe academic retardation is apparent in other aspects of achievement.

7. Children with histories of delayed speech development present social problems throughout childhood. They are inclined to be withdrawn and have few friends. They avoid competitive play activities and prefer passive activities such as watching television.

Psychologists' report: (see slides)

Only 2 of the 29 children followed were able to perform all achievement tests at their age level.

Language deficits originally seen were still in evidence.

Tests of cognitive skills showed evidence of specific learning problems - both in verbal and non-verbal aspects.

These children failed to function consistently. They attained normal I.Q. scores on the basis of a combination of high and low scores.

Social Workers' report:

Most of the children when interviewed:

1. felt that something was wrong with them because they didn't "talk right". (27)
2. felt frightened and nervous when talking to people. (16)
3. felt the effect on school performance was as follows:
   a. Difficulty with oral expression -- reports/ answering in class (25)
   b. Difficulty in written language --
      - couldn't formulate ideas (20)
      - couldn't always understand instructions (19)
      - couldn't spell correctly (17)
      - couldn't write easily (6)
   c. Difficulty reading --
      - fearful of reading aloud (21)
      - couldn't remember the story (19)

She also found the children felt that along with speech classes, their parents were the most important sources of help. Therefore counseling parents is an essential part of the treatment.

Conclusion: The original opinion that these children were "normal" except in speech and language, did not hold true. They are likely to develop problems in learning -- will need special help in school and that their parents need special counseling. Comprehensive testing should be done at time of referral and follow-up and treatment planned.