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ABSTRACT

Eighteen people (with ages ranging from 7 to 22 years) who had been diagnosed as aphasic 10 years previously were assessed in terms of current functioning to test the hypothesis that, since the subjects had a specific language disorder, other areas of adaptive development should be relatively spared, and communication scores should be significantly lower than self-help and socialization measures. A battery of cognitive, receptive and expressive language, and adaptive behavior measures was administered. Results did not support the hypothesis: daily living and socialization skills were impaired in adolescents with severe language disorder as much as their performance in formal language tests. Receptive ability appeared to better predict adaptive skill than IQ or expressive ability. Among conclusions drawn were that although the disorders of language acquisition might appear quite specific in early childhood, they actually have a pervasive effect on overall development; and, unlike retarded individuals, students with primary communication deficits fail to progress in social and daily living skills. (CL)

ADAPTIVE BEHAVIORAL OUTCOMES IN ADOLESCENTS WITH DEVELOPMENTAL LANGUAGE DISORDERS

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in Adolescents with Developmental
Language Disorders

ABSTRACT

Eighteen subjects (average age 14 years) who had been diagnosed as "aphasic" ten years earlier were assessed in terms of adaptive behavior. Adaptive skills were compared with nonverbal mental age, receptive and expressive language levels. Results indicate that when a severe disturbance in language acquisition occurs, all areas of adaptive development are also impaired. This suggests that while these disorders may appear to be specific to language in early childhood, their effect upon development is pervasive.

Adaptive Behavioral Outcomes in Adolescents

with Developmental Language Disorders

Children who fail to acquire language during the preschool period often appear to be bright, socially motivated and communicative, despite their linguistic handicap. These children, traditionally labeled childhood "aphasics," present difficulties in the acquisition of language that cannot be accounted for by mental retardation, hearing or motor handicap, emotional disturbance, or autism. Little is known about the outcome in late childhood and adolescence of these specific developmental language disorders. Most research in this area has focused on young or pre-adolescent children. These studies indicate that children who fail to acquire language at the expected rate generally use language forms that resemble those seen in normal children earlier in development (Morehead and Ingram, 1976), that performance IQ scores in school-aged aphasics tend to be lower than those of aphasic preschoolers (Eisenson, 1972), that specific cognitive deficits often accompany the language disorder (Johnston and Schery, 1976; Johnston and Ramsted, 1977) and that attentional and behavioral disorders are frequently part of the symptom picture (Cantwell et al., 1979; Caparulo and Cohen, 1977; Cohen et al., 1976).

The studies that do present outcome date (King, Jones, & Lasky, 1982; Aram & Nation, 1980; Garvey & Gordon, 1973; Griffits, 1969; Hall & Tomblin, 1978) are often confounded by the fact that subjects included those with both language disorders and milder delays in articulation development. These more mildly impaired children may skew the results of outcome studies.

De Ajuriaguerra et al. (1976) examined prognosis for communication in "dysphasic" youngsters and found that they progressed in communicative ability, while their linguistic behavior remained essentially unchanged. Degree of intellectual and linguistic ability at the early evaluation were the best predictors of language progress at the second assessment 2 years later. The subjects in their study were between 10 and 12 years of age at the second evaluation. These results suggest that older adolescents would show little progress in language.

During the past decade, we have followed a cohort of severely language-impaired individuals. The present study examines adaptive behavioral outcomes in these individuals with a history of serious language impairment. The hypothesis being tested states that since these subjects have a relatively specific disorder of language learning, other areas of adaptive development such as social and daily living skills should be realatively spared, and communication scores should be significantly lower than self-help and socialization measures.

METHOD

Subjects

The present subjects are a subgroup of children with serious language disorders reported earlier (Paul, Cohen, & Caparulo, 1983; Paul & Cohen, 1984). The original group comprised 28 subjects who had shown at least 9 months delay in receptive language abilities at the time of their initial evaluation, when their average age was 6.5 (SD = 3.9, range = 2-21). Most were not speaking at all at that time, while the remaining 43% produced only one- to two-word

sentences. All had normal hearing and were screened for the fragile X chromosome abnormality and found to be negative for the syndrome. At the time of their initial evaluation, the subjects received thorough psychological and biological assessments-which included IQ and standardized language testing and clinical observation of language and behavior-and they were rated on a series of behavioral rating scales. These methods have been reviewed in detail elsewhere (Caparulo & Cohen, 1983). Diagnoses were arrived at by having two clinicians, a child psychiatrist and a special educator-both experienced with developmental disabilities-evaluate the patients independently and reach a consensus on diagnosis. In addition, the clinician's reliability on the Rimland E-2 checklist (Rimland, n.d.) and the Behavior Rating Instrument for Autistic and Atypical Children (BRIACC; Ruttenberg, Dratman, Fraknoi, & Wenar, 1966) was assessed (see Cohen et al., 1978, for details). All subjects were enrolled in intensive special education programs. They have also been involved in a series of studies of the biological correlates of neuropsychiatric disorders of childhood (Cohen, Caparulo, Shaywitz & Bowers, 1977; Waldo et al., 1978; Caparulo et al., 1981; Young, Kavanaugh, Anderson, Shaywitz, & Cohen, 1982; Cohen, 1982). As part of their involvement in these research studies, subjects were evaluated periodically for language and cognitive performance.

For the present study, all families in the original cohort who could be located were contacted and invited to bring their children back to participate in a follow-up evaluation. Eighteen of the original 28 families could be reached and agreed to participate. There were 6 females and 14 males in this sample. Their average age at the time of the follow-up was 14.2 (SD = 4.6, range = 7.1-22.4). Their mean age at the time of their first evaluation was 7.4 (SD = 7.4, range = 2.3-19). The average time lapse between their initial and most recent

evaluation was 6.9 years (SD = 2.7, range = 1-12.3). T-tests showed no differences in either age (t = 1.35, p .2) or IQ (t = .2, p .3) at the time of the initial evaluation between those subjects who participated in the follow-up and those from the original subject pool who did not.

The subjects in the earlier study were classified as having either developmental language disorders (DLD) without social deficits or "atypical" DLD (ADLD). The latter evidenced social withdrawal, poor or fleeting social relations, and some of the sensory and motor symptoms of autism, including rocking, stereotypic behavior, and unusual responses to stimuli. None of the ADLD subjects satisfied full diagnositc criteria for infantile autism, on either the Behavior Rating Instrument for Autistic and Atypical Children (Ruttenberg et al., 1966) or the Rimland E-2 checklist. Of the original 28 subjects, 14 showed developmental language disorders only (DLD group), and 14 showed this atypical profile in addition to their language deficits (ADLD group). In the follow-up sample, 11 DLD subjects and 7 ADLD subjects participated.

Procedures

The following measures were used to assess the subject's current levels of functioning:

Cognitive: The Leiter International Performance Scale (Arthur, 1952) and Raven's Standard Progressive Matrices (Raven 1960).

Receptive Language: Peabody Picture Vocabulary Tests (Dunn & Dunn, 1981), Grammatical Understanding subtest of the Test of Language Development (Newcomer &Hammill, 1971), and the Auditory Reception subtest of the Illinois Test of Psycholinguistic Abilities (Kirk & Kirk, 1968). All of these measures yield age-equivalent scores which were averaged to obtain a Language Reception Age

(LRA) and then divided by the subject's chronological age to yield a Language Reception Quotient (LRQ).

Expressive Language: The Expressive One-Word Picture Vocabulary Test (Gardiner, 1979), the Grammatical Completion and Word Articulation subtests of the Test of Language Development. Language Production Ages (LPA) as well as Language Production Quotients (LPQ) were obtained, as indicated above.

The Vineland Adaptive Behavior Scale (Sparrow, Balla, & Ciccetti, 1984; VABS) was administered to the parents of these subjects. This scale is a newly revised version of the Vineland Social Maturity Scale (Doll, 1965). It is a norm-referenced parent interview instrument for assessing the following domains of adaptive behavior: communication, daily living, and socialization. It yields both standard and age-equivalent scores.

RESULTS

INSERT FIGURES 1-5 ABOUT HERE

Results of this study suggest that our hypothesis is not supported. Data show that daily living and socialization skills are impaired in adolescents with severe language disorder as much as their performance formal language tests. As Figure 1 shows, in 16 out of 18 subjects, communication scores were not significantly different (according to norms and significance levels given in the Vineland scoring data) from daily living and socialization scores.

As can be seen in Figure 2, both Language Production Age (LPA) and Performance Mental Age (MA) correlated moderately with overall Vineland age (.58 and .59 respectively). However, Language Reception Age (LRA) correlated more highly with over all Vineland age (.73). This indicates that receptive ability is a better predictor of adaptive skill than is IQ or expressive ability. These measures also indicate that Vineland communication domain

scores correlate highly with other standardized measures of receptive and expressive language (.93 and .84 respectively). Vineland communication scores obtained by parent interview are then, a reasonable estimate of scores derived from direct standardized testing of language skills in this population.

The subjects were divided into three subgroups: Those with Performance IQ's in normal range (High IQ DLD), those with subnormal PIQ's (Low IQ DLD) and no autistic features, and those with some autistic behavior (Atypical DLD) all of whom had subnormal PIQ's. The group with High IQ's showed the greatest consistency among measures (see Figure 3), suggesting that even with normal IQ's, these children have difficulties in social adaptive skills. Both Low IQ groups were very similar in their language and adaptive behavior profiles (see Figures 4 & 5), indicating that children with severe language disorders with both good and poor social/communicative skills in early childhood tend to show equally depressed functioning across the board in adolescence.

Several conclusions can be drawn from these data. First, these disorders of language acquisition, which might appear quite specific in early childhood actually have a very pervasive effect on many areas of development. Second, receptive language appears to be a better predictor of adaptive skills than is IQ or expressive language. Third, unlike retarded individuals who often show levels of adaptive behavior that exceed cognitive level, these subjects with primary communication deficits fail to advance in social and daily living skills. Finally, these results imply there is a need for remediation in the areas of adaptive development as well as the need for traditional language intervention.

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RELATIONS AMONG SUBDOMAIN SCORES ON VABS

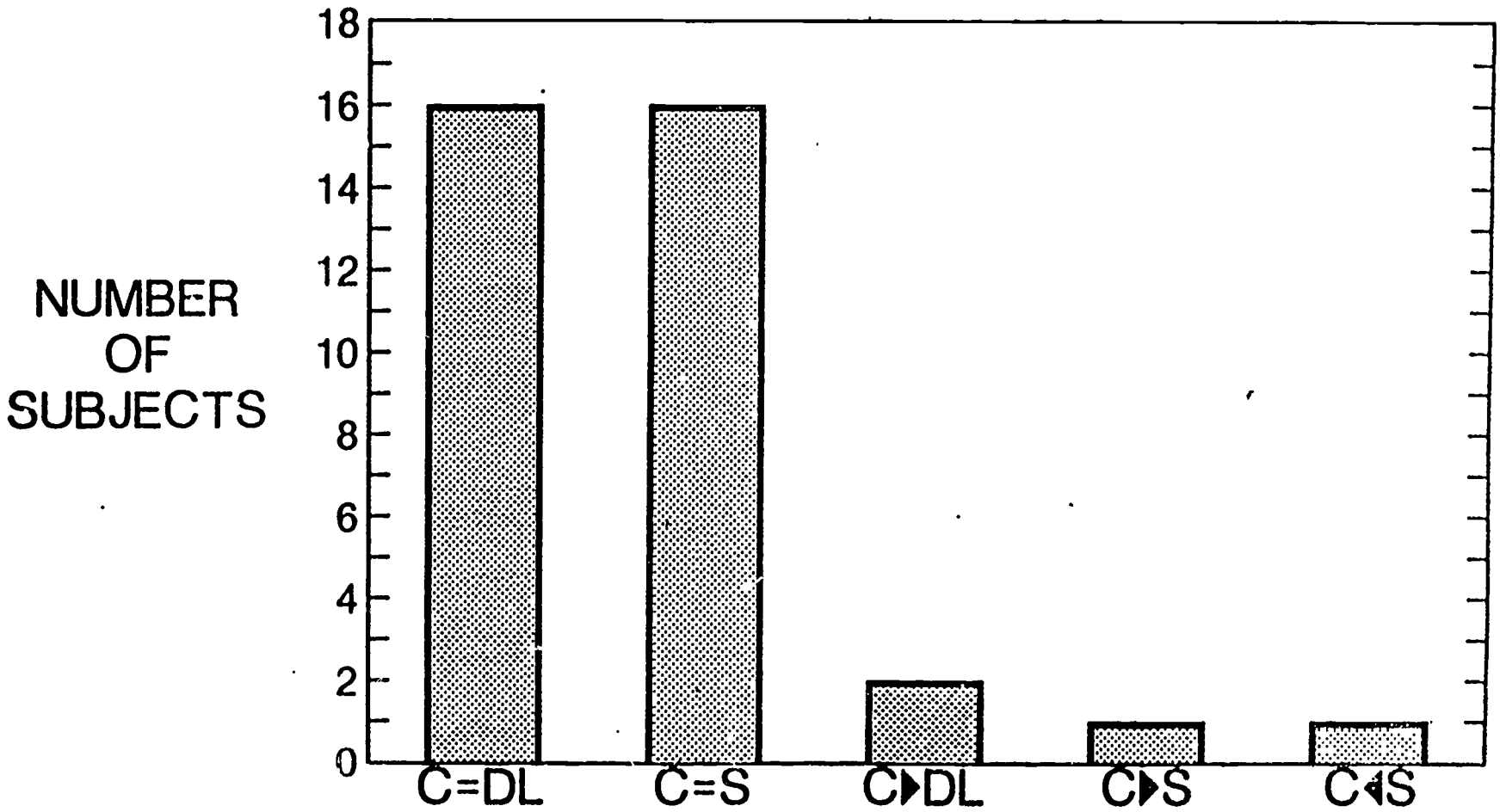

Figure 1

CORRELATIONS AMONG MEASURES

	PIQ	LRQ	LPQ	School	VLD Age	V-Com	V-DL	V-Soc
PIQ		.91*	.82*	-.68+	.59+	.86*	.77*	.79*
LRQ			.91*	-.66+	.73*	.93*	.76*	.84*
LPQ				-.55*	.58+	.84*	.54*	.67*
School					-.52°	-.62+	-.65+	-.76*
VLD Age						.74*	.83*	.80*
V-Com							.81*	.83*
V-DL								.86*
V-Soc								

* p = .001
\+ p = .01
° p = .05

Figure 2

RELATIONS AMONG MEASURES
HIGH IQ DLD GROUP

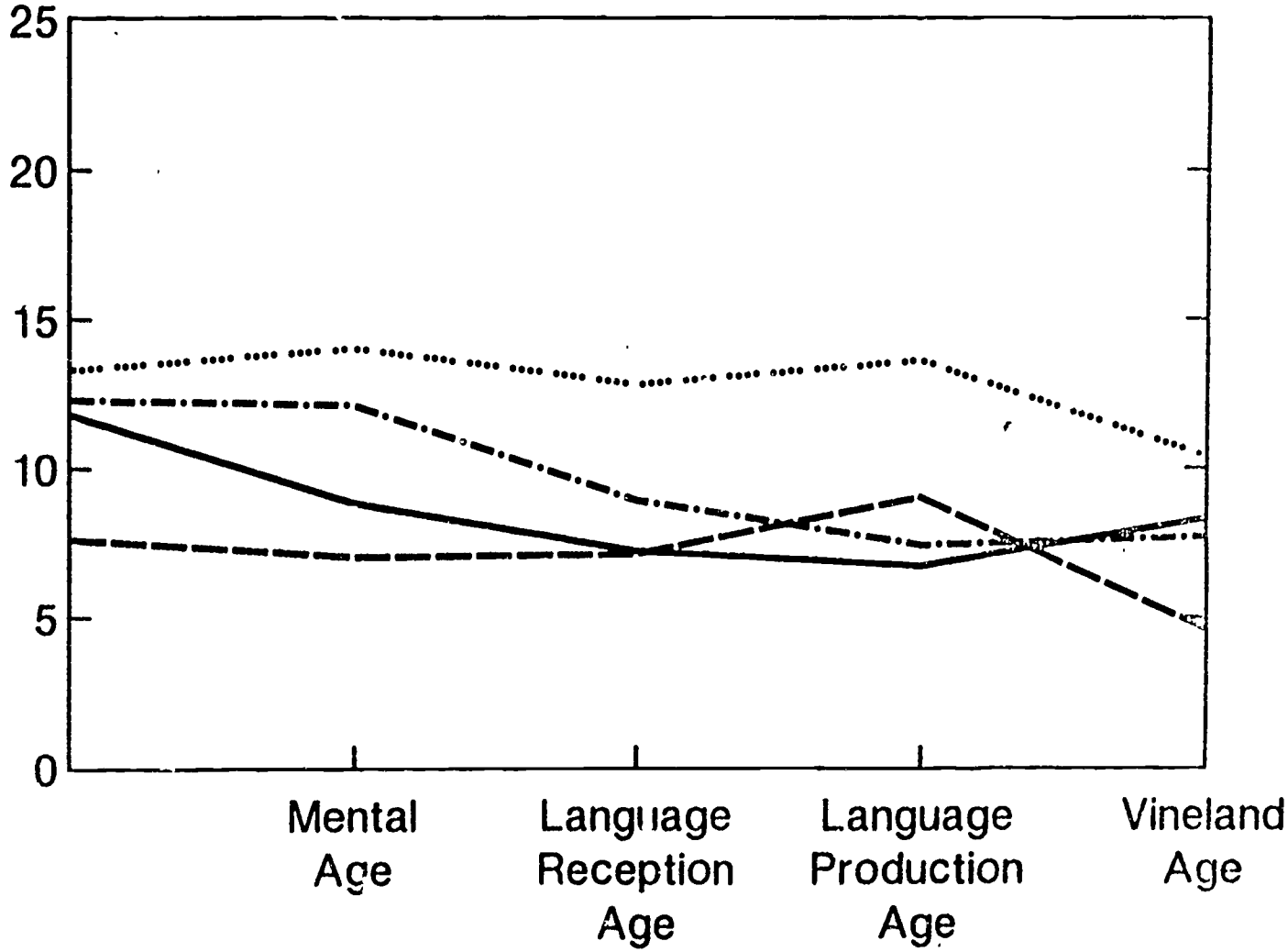

Figure 3

RELATIONS AMONG MEASURES
LOW IQ DLD GROUP

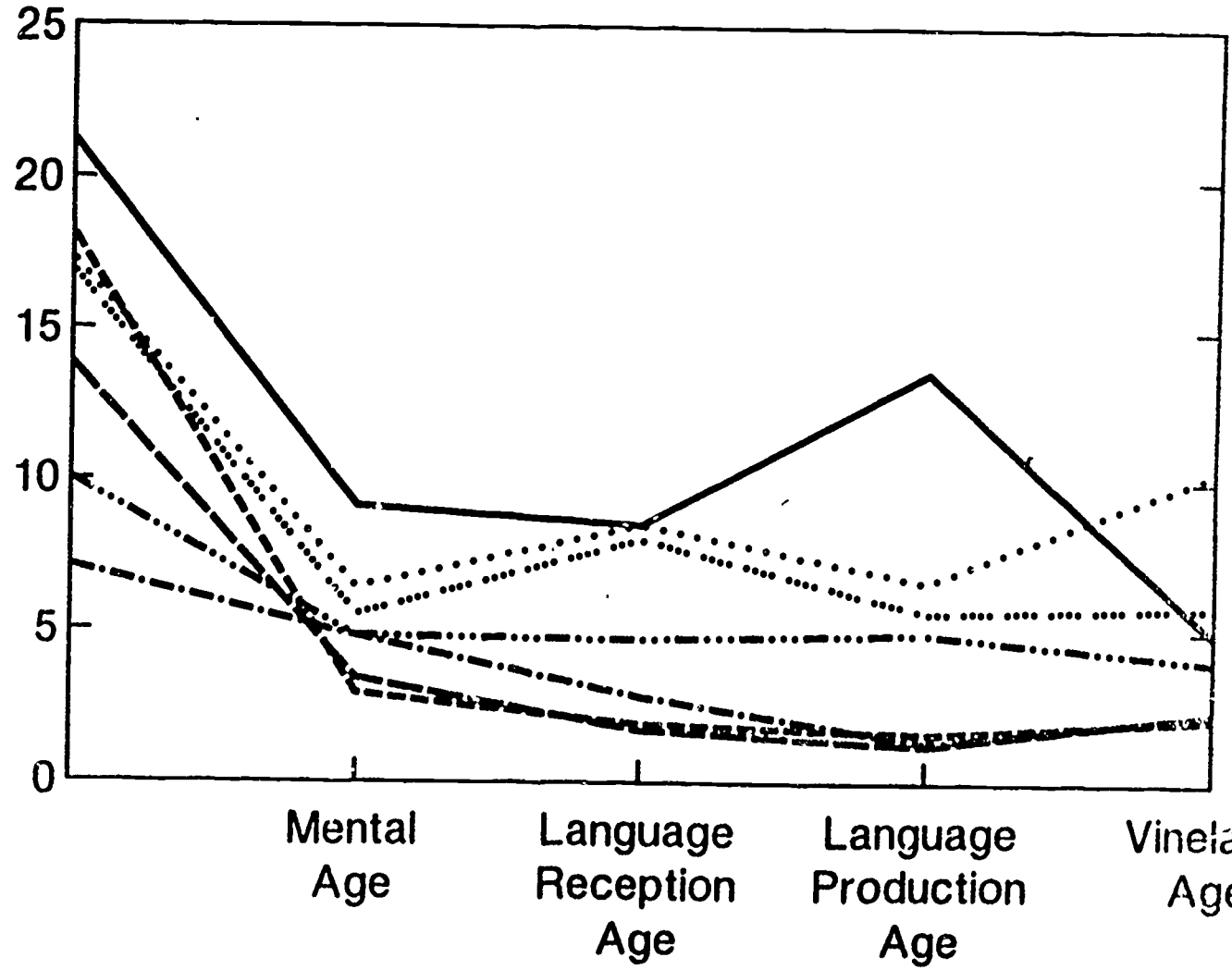

Figure 4

RELATIONS AMONG MEASURES ATYPICAL DLD GROUP

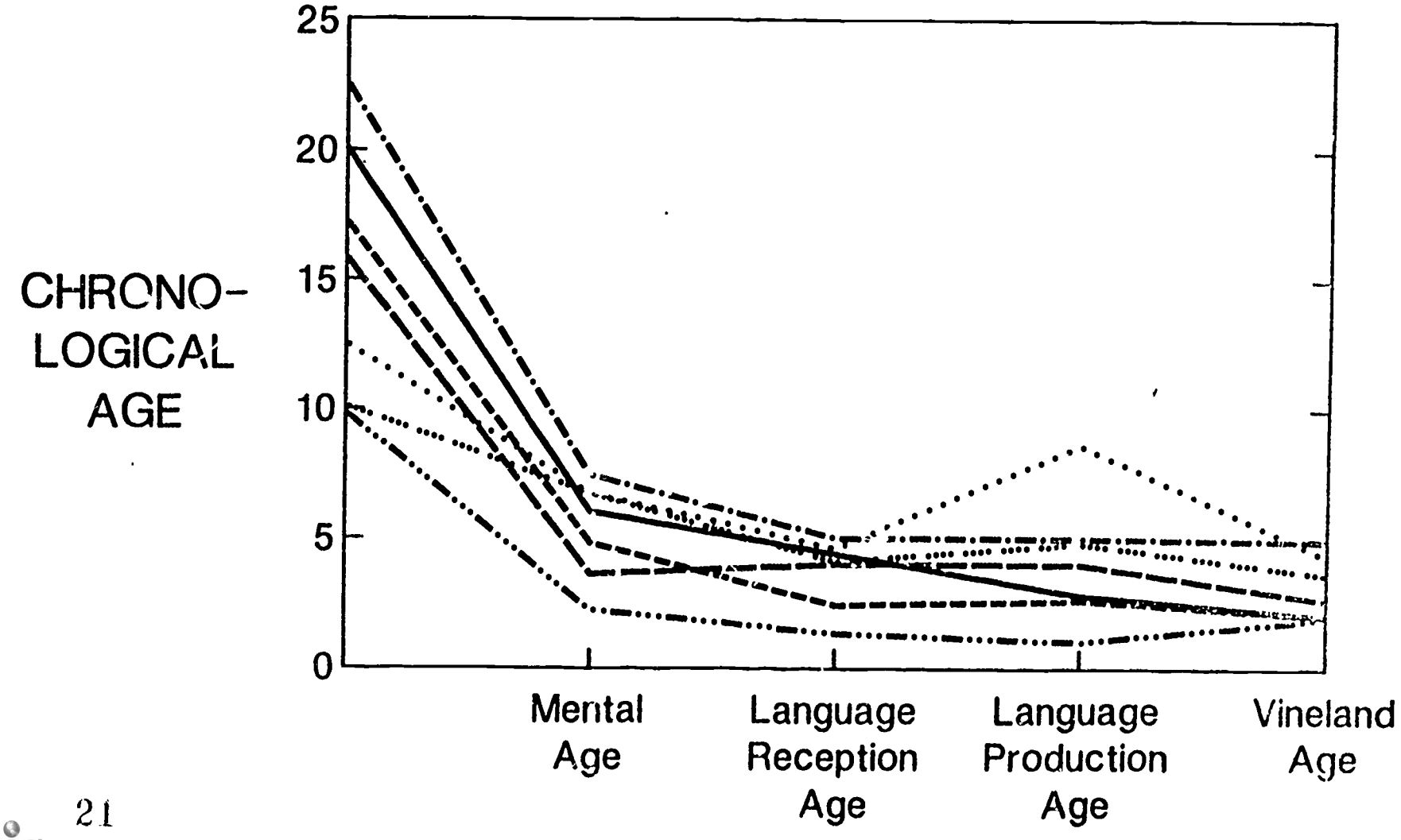

Figure 5