Hyperlexia in Infantile Autism

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Twenty boys meeting the current DSM III criteria for infantile autism at the time of diagnosis were found to be hyperlexic in childhood and have been followed up for 7-17 years. The most striking feature of the group was the compulsion to decode written material without comprehension of its meaning, and this constituted a behavioral phenotype for this population. On word recognition tests such as the WRAT, they scored significantly higher than would be predicted on the basis of intelligence but demonstrated severe reading retardation on tests of reading comprehension such as the Gates-McGinitie. Major differences in intelligence were detected, ranging from severe mental retardation to very superior intelligence. Major differences in verbal and nonverbal abilities were also noted. Many were found to have unusually good memory, both visual and auditory, and the majority possessed an excellent stored vocabulary that could be used with written words despite the poverty of their expressive language. It is suggested that the presence of hyperlexia may identify a subgroup of autistic children.

INTRODUCTION

Precocious ability in word recognition has been reported periodically in developmentally disabled populations for many years (Parker, 1919; Phillips, 1930). In his initial report describing infantile autism, Kanner (1943) identified reading ability and good memory for words. However, it
was not until Silberberg and Silberberg (1967) labeled exceptional word decoding ability "hyperlexia" that systematic investigations of children with this special ability were undertaken. Healy (1982) recently emphasized the developmental aspects of this disorder and its syndromic nature, distinguishing it from advanced word-calling abilities in school-aged children who lack the characteristic early history. (Needleman (1982) has summarized findings of other investigators (Silberberg & Silberberg, 1967, 1968, 1971; Huttenlocher & Huttenlocher, 1973; Mehegan & Dreifuss, 1972) and her own earlier work (Elliott & Needleman, 1976) and specified the following characteristics of the syndrome of hyperlexia: (1) occurrence in a developmentally disabled population (cognitive and/or language delays); (2) early manifestation, as early as age 2 but usually by age 5; (3) self-generated onset in the absence of specific reading instruction; (4) a driven, compulsive, and indiscriminate quality, and (5) word recognition ability that is higher than expected or predicted on the basis of intelligence (Silberberg & Silberberg, 1967). Healy (1982) would add interpersonal difficulty to this list.

All of the case reports of hyperlexia include some children with pervasive developmental disorders, diagnosed either as autistic or as autisticlike. Silberberg and Silberberg (1971) indicate that the majority of children in their original group of 28 had cerebral dysfunction and report that 50% had behavioral problems. Three were specifically diagnosed as autistic. Needleman (in press) reports that 8 of her 9 cases meet DSM III criteria (APA, 1980) for pervasive developmental disorder. Cobrinik (1974) reports 6 boys who were noted to have characteristics of an "autistic nature," and Goodman (1972) presents a case report of an "autistic savant." Despite the frequent mention of autistic features in children with hyperlexia in the literature, a group of children diagnosed with pervasive developmental disorder or infantile autism have not been specifically investigated for hyperlexia, nor do recent reviews of infantile autism refer to it (DeMyer, Hingtgen, & Jackson, 1981; Rutter & Schopler, 1978).

Between 1966 and 1969, 4 children were identified at Johns Hopkins with hyperlexia in the NIH collaborative study. All 4 were found to be hyperlexic and autistic and were, in fact, the only autistic children identified in the random sample of 3,000 children. Subsequently, a specific focus on hyperlexia was included in the evaluation of children referred to the Johns Hopkins University and the John F. Kennedy Institute Diagnostic and Evaluation Center. In reviewing records of 155 children diagnosed as having infantile autism since 1968 in that clinic, 52 cases have been identified as hyperlexic, with varying degrees of chart documentation. A subsample of the 20 earliest cases in this group have been pursued to study the condition and to identify the clinical history of this syndrome in autistic children.