

Reading Difficulties and Family History

By: Catherine Snow, Susan Burns, and Peg Griffin (1998)

Knowing children with a family history of difficulties are more likely to have trouble learning to read means that efforts can be made with these children to prevent difficulties from developing. Are children whose parents or older siblings have exhibited reading problems at greater risk for reading difficulties than are other children of otherwise similar backgrounds? Decades of research on the familial aggregation of reading problems suggest that this is so. Factors identified as family risk factors include family history of reading problems, home literacy environment, verbal interaction, language other than English, nonstandard dialect, and family-based socioeconomic status (SES). It is important to bear in mind, however, that family patterns of reading problems can be attributed either to shared genetic or to shared environmental factors.

If a child is diagnosed with a reading disability, there is a higher than normal probability that other family members will also have difficulties with reading (see Finucci et al., 1976; Hallgren, 1950; Gilger et al., 1991; Vogler et al., 1985). The exact probability seems to depend on a variety of factors, including the severity of the child's reading disability. Furthermore, when the parents' diagnosis for reading disability is based on self-report, the family incidence tends to be lower than when the diagnosis is based on the direct measurement of parents' reading skills (Gilger et al., 1991).

Most studies of familial incidence first diagnose a child with reading disability using a severity criterion that would identify 5 to 10 percent of children who have normal intelligence and have had what for the majority of children is effective education. The investigators then attempt to use a similar severity criterion to diagnose reading disability in the parents. Evidence for the family nature of reading disability is based on parental rates that are substantially above the 5 to 10 percent rate estimated for the population. Scarborough (1998) computed the average rate of reading disability among parents across eight family studies that included a total of 516 families. The rate across studies varied from 25 to 60 percent, with a median value of 37 percent.

Thus, all studies found rates for reading disability among parents of reading-disabled children that were considerably higher than expected in the normal population. The median proportion of reading disability among fathers (46 percent) was slightly higher than the median proportion among mothers (33 percent). A few studies have attempted to estimate the prospective risk to the child when parental disabilities are identified first (Finucci et al., 1985; Fowler and Cross, 1986; Scarborough, 1990). Those prospective studies clearly show that parents' reading disabilities predict a higher than normal rate of reading disabilities in their children (31 to 62 percent versus 5 to 10 percent).

Although parental reading disabilities are not completely predictive of their children's reading disabilities, the substantially greater risk at least warrants very close monitoring of their children's progress in early language and literacy development. Results from two predictive studies (Elbro et al., 1996; Scarborough, 1989, 1990, 1991) suggest that whether these children develop reading problems can be predicted from preschool measures of language and literacy skills.

If so, it would be potentially affordable to assess that small subset of the population a year or two before kindergarten and to provide intervention to those with the weakest skills. Of course, to do so would require an effective means of persuading parents with a history of reading problems to step forward so that this service could be provided for their offspring. This sort of recruitment program has never been attempted, so its feasibility is unknown.

References

- Alexander, K., and D. Entwisle. (1996). Schools and children at risk. pp. 67-88 in *Family-School Links: How Do They Affect Educational Outcomes?*, A. Booth and J. Dunn, eds. Hillsdale, NJ: Erlbaum.
- Alwin, D.F., and A. Thornton. (1984). Family origins and the schooling process: Early versus late influence of parental characteristics. *American Sociological Review* 49: 784-802.
- August, D., and K. Hakuta, eds. (1997). *Improving Schooling for Language-Minority Children: A Research Agenda*. National Research Council and Institute of Medicine. Washington, DC: National Academy Press.

- Bryk, A.S., and S.W. Raudenbush. (1987). Application of hierarchical linear models to assessing change. *Psychological Bulletin* 101(1):147-158.
- Bus, A.G., M.H. van IJzendoorn, and A.D. Pellegrini. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research* 65(1):1-21.
- DeBaryshe, B.D. (1993). Joint picture-book reading correlates of early oral language skill. *Journal of Child Language* 20(2):455-461.
- DeBaryshe, B.D., M.B. Caulfield, J.P. Witty, J. Sidden, H.E. Holt, and C.E. Reich. (1991). The Ecology of Young Children's Home Reading Environments. Paper presented at the biennial meeting of the Society for Research in Child Development, April 18-21, 1991, Seattle.
- Elbro, C., I. Borstrom, and D.K. Petersen. (1996). Predicting Dyslexia from Kindergarten: The Importance of Distinctness of Phonological Representations of Lexical Items. Unpublished paper.
- Entwisle, D.R., and N.M. Astone. (1994). Some practical guidelines for measuring youth's race/ethnicity and socioeconomic status. *Child Development* 65(6):1521-1540.
- Estrada, P., W.F. Arsenio, R.D. Hess, and S.D. Holloway. (1987). Affective quality of the mother-child relationship: Longitudinal consequences for children's school-relevant cognitive functioning. *Developmental Psychology* 23(2): 210-215.
- Finucci, J.M., L. Gottfredson, and B. Childs. (1985). A follow-up study of dyslexic boys. *Annals of Dyslexia* 35:117-136.
- Finucci, J.M., J.T. Guthrie, A.L. Childs, H. Abbey, and B. Childs. (1976). The genetics of specific reading disability. *Annals of Human Genetics* 40:1-23.
- Fowler, M.G., and A.W. Cross. (1986). Preschool risk factors as predictors of early school performance. *Journal of Developmental and Behavioral Pediatrics* 7(4):237-241.
- Galton, F. (1874). *English Men of Science: Their Nature and Nurture*. London: MacMillan.
- Gilger, J.W., B.F. Pennington, and J.C. DeFries. (1991). Risk for reading disability as a function of family history in three family studies. *Reading and Writing: An Interdisciplinary Journal* 3:205-217.
- Hallgren, B. (1950). Specific dyslexia: A clinical and genetic study. *Acta Psychiatr Neuro Scan* 65(Suppl): 179-189.
- Hart, B., and T.R. Risley. (1995). *Meaningful Differences in the Everyday Experience of Young American Children*. Baltimore: Paul H. Brookes Publishing Co.
- Hess, R.D., and S. Holloway. (1984). Family and school as educational institutions. Pp. 179-222 in *Review of Child Development Research, 7: The Family*, R.D. Parke, ed. Chicago: University of Chicago Press.
- Horn, W.F., and J.P. O'Donnell. (1984). Early identification of learning disabilities: A comparison of two methods. *Journal of Educational Psychology* 76(6):1106-1118.
- Labov, W. (1966). Some sources of reading problems. Pp. 140-167 in *New Directions in Elementary English*, A. Frazier, ed. Champaign, IL: National Council of Teachers of English.
- Mason, J. (1980). When do children begin to read: An exploration of four year old children's letter and word reading competencies. *Reading Research Quarterly* 15:203-227.
- Mason, J., and D. Dunning. (1980). Toward a Model Relating Home Literacy with Beginning Reading. Paper presented to the American Educational Research Association, San Francisco.
- Pungello, E.P., J.B. Kupersmidt, and M.R. Burchinal. (1996). Environmental risk factors and children's achievement from middle childhood to early adolescence. *Developmental Psychology* 32(4): 755-767.
- Richman, N., J. Stevenson, and P.J. Graham. (1982). *Pre-school to school: A behavioural study*. Behavioural Development: A Series of Monographs. London: Hospital for Sick Children.

Rowe, K.J. (1991). The influence of reading activity at home on students' attitudes towards reading, classroom attentiveness and reading achievement: An application of structural equation modelling. *British Journal of Educational Psychology* 61(1):.

Scarborough, H.S. (1989). Prediction of reading disability from familial and individual differences. *Journal of Educational Psychology* 81(1):101-108.

Scarborough, H.S. (1990). Very early language deficits in dyslexic children. *Child Development* 61:1728-1743.

Scarborough, H.S. (1991). Early syntactic development of dyslexic children. *Annals of Dyslexia* 41:207-220.

Scarborough, H.S. (1998). Early identification of children at risk for reading disabilities: Phonological awareness and some other promising predictors. Pp. 77-121 in *Specific Reading Disability: A View of the Spectrum*, B.K. Shapiro, P.J. Accardo, and A.J. Capute, eds. Timonium, MD: York Press.

Scarborough, H.S., and W. Dobrich. (1994). On the efficacy of reading to preschoolers. *Developmental Review* 14:245-302.

Scarborough, H.S., W. Dobrich, and M. Hager. (1991). Preschool literacy experience and later reading achievement. *Journal of Learning Disabilities* 24(8):508-511.

Share, D.L., A.F. Jorm, R. Maclean, and R. Matthews. (1984). Sources of individual differences in reading acquisition. *Journal of Educational Psychology* 76(6):1309-1324.

Smitherman, G. (1977). *Black English and the Education of Black Children and Youth*. Proceedings of the National Invitational Symposium on the KING Decision. Detroit: Center for Black Studies, Wayne State University.

Thomas, B. (1984). Early toy preferences of four-year-old readers and nonreaders. *Child Development* 55:424-430.

Vogler, G.P., J.C. DeFries, and S.N. Decker. (1985). Family history as an indicator of risk for reading disability. *Journal of Learning Disabilities* 18:419-421.

Walberg, H.J., and S. Tsai. (1984). Reading achievement and diminishing returns to time. *Journal of Educational Psychology* 76(3):442-451.

Walberg, H.J., and S. Tsai. (1985). Correlates of reading achievement and attitude: A national assessment study. *Journal of Educational Research* 78(3):159-167.

Wells, C.G. (1985). Preschool literacy-related activities and success in school. In *Literacy, Language, and Learning*, D. Olson, M. Torrance, and A. Hildyard, eds. London: Cambridge University Press.

White, K.R. (1982). The relation between socioeconomic status and academic achievement. *Psychological Bulletin* 91:461-481.

Wolfram, W. (1991). *Bidialect Literacy in the United States*. ERIC Clearinghouse No. FL800344. Excerpted from: Snow, C. E., Burns, S. M., & Griffin, P. Editors. (1998). *Preventing Reading Difficulties in Young Children, Chapter 4: Predictors of Success and Failure in Reading*. National Research Council, National Academy of Sciences. Courtesy of National Academy Press. Reprinted with permission.