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**The Term “Continuous Distribution” –
Referenced in Research and Reports**

THIS DOCUMENT WILL CONTINUE TO BE UPDATED

Shaywitz, S. E., Escobar, M. D., Shaywitz, B. A., Fletcher, J. M., & Makuch, R. (1992). Evidence that dyslexia may represent the lower tail of a normal distribution of reading ability. *New England Journal of Medicine*, 326(3), 145-150.

“Reading difficulties, including dyslexia, occur as part of a continuum that also includes normal reading ability. Dyslexia is not an all-or-none phenomenon, but like hypertension, occurs in degrees.” (From Abstract)

Boada, R., Willcutt, E.G., & Tunick, R.A., Chhabildas, N. A., Olson, R.K., DeFries, J. C., & Pennington, B. F. (2002). A twin study of the etiology of high reading ability. *Reading and Writing* 15, 683–707.

“These results suggest that reading ability and its cognitive correlates are on a continuous distribution, with both extremes of the distribution being similarly heritable. They also support the hypothesis that the same cognitive processes that are associated with dyslexia are important for the development of high reading ability.” p. 683

Olson, R. K. (2004). SSSR, environment, and genes. *Scientific Studies of Reading*, 8(2), 111-124.

“Reading skill is normally distributed in the population” p. 118

Ferrer, E., Shaywitz, B. A., Holahan, J. M., Marchione, K., & Shaywitz, S. E. (2010). Uncoupling of reading and IQ over time: empirical evidence for a definition of dyslexia. *Psychological science*, 21(1), 93–101. <https://doi.org/10.1177/0956797609354084>

“The ability to read shows large variability across children and adolescents, who range from highly proficient, fluent readers to inaccurate and slow readers...a unimodal distribution in which reading disability is part of the lower tail.” (p. 93)

Papadopoulos, T. C., Spanoudis, G., Ktisti, C., & Fella, A. (2021). Precocious readers: a cognitive or a linguistic advantage? *European Journal of Psychology of Education*, 36, 63–90.

“...the results highlight the importance of studying the development of precocious readers apart from that of struggling readers. The study of both ends of the continuum of reading development is of particular significance because individual strengths and weaknesses in reading and reading-related areas can help to identify the linguistic and cognitive mechanisms underlying inter-individual-children variability in reading performance. To date, research has focused mostly on the “deficit” end of the reading continuum rather than on the “precocious” end. From a practical point of view, the findings highlight the importance of a reading program that places specific emphasis on both linguistic and cognitive skill development. The conclusion that these skills develop simultaneously and interactively implies that also instruction in cognitive processes is essential regardless of the students’ mastery of language skills.” p. 84/85

Van Norman, E. R., Klingbeil, D. A., Truman, K., Nelson, P. M., & Parker, D. C. (2023). A Comparison of Decision Rule Accuracy From Curriculum-Based Measurement of Reading and Nonsense Word Fluency. *Remedial and Special Education*, 07419325231190812.

“the progression from mastering early skills, such as sounding out individual letter sounds, to more complex skills, such as reading connected text aloud, does not occur at the same time or at the same rate for all students” p. 1

Catts, H. W., Terry, N. P., Lonigan, C. J., Compton, D. L., Wagner, R. K., Steacy, L. M., ... & Petscher, Y. (2024). Revisiting the definition of dyslexia. *Annals of Dyslexia*, 1-21.

“word-reading ability is distributed in a continuous fashion with the majority of students at or near the middle of the distribution and smaller numbers of students toward the lower and higher ends of the distribution...the continuous nature of word-reading ability highlights the fact that those with more severe and less severe word-reading problems are on the same continuum of word-reading ability and differ by degree...” p. 3

Sand, L. A., & Bolger, D. J. (2019). The neurobiological strands of developmental dyslexia: What we know and what we don't know. In *Reading development and difficulties: Bridging the gap between research and practice*, 233-270. Chapter 10

“reading ability occurs along a continuum” p. 256

Miciak, J., & Fletcher, J. M. (2020). The Critical Role of Instructional Response for Identifying Dyslexia and Other Learning Disabilities. *Journal of learning disabilities*, 53(5), 343–353.
<https://doi.org/10.1177/0022219420906801>

“There is no doubt that dyslexia exists as the lower part of a continuous distribution of basic reading skills.” (p. 6)

Protopapas, A., & Parrila, R. (2018). Is Dyslexia a Brain Disorder?. *Brain sciences*, 8(4), 61.
<https://doi.org/10.3390/brainsci8040061>

“[P]revalence estimates are often mentioned in the dyslexia literature, giving the false impression that there are absolute criteria on the basis of which dyslexia is defined, further giving rise to the expectation that such criteria might be linked to specific, potentially identifiable causal factors, whereas in fact there is nothing but a continuous distribution of reading skill, with an enormous range of individual differences.” p. 3

“[D]yslexia is not a qualitatively distinct entity but just the low end of the word reading skill distribution, in continuity with the rest of the distribution, and with an arbitrary cutoff that essentially defines its prevalence on this behaviorally defined continuum.” p. 13

Updated December 30, 2025.