



UvA-DARE (Digital Academic Repository)

How do children read words? A focus on reading processes

van den Boer, M.

Publication date
2014

[Link to publication](#)

Citation for published version (APA):

van den Boer, M. (2014). *How do children read words? A focus on reading processes*. [Thesis, fully internal, Universiteit van Amsterdam].

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

References

- Aaron, P. G., Joshi, R. M., Ayotollah, M., Ellsberry, A., Henderson, J., & Lindsey, K. (1999). Decoding and sight-word naming: Are they independent components of word recognition skill? *Reading and Writing: An Interdisciplinary Journal*, *11*, 89-127. Doi: 10.1023/A:1008088618970
- Acha, J., & Perea, M. (2008). The effects of length and transposed-letter similarity in lexical decision: Evidence with beginning, intermediate, and adult readers. *British Journal of Psychology*, *99*, 245-264. Doi: 10.1348/000712607X224478
- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: American Psychiatric Association.
- Andrews, S. (1997). The effect of orthographic similarity on lexical retrieval: Resolving neighborhood conflicts. *Psychonomic Bulletin & Review*, *4*, 439-461. Doi: 10.3758/BF03214334
- Ans, B., Carbonnel, S., & Valdois, S. (1998). A connectionist multiple-trace memory model for polysyllabic word reading. *Psychological Review*, *105*, 678-723. Doi: 10.1037/0033-295X.105.4.678-723
- Arthur, T. A. A., Hitch, G. J., & Halliday, M. (1994). Articulatory loop and children's reading. *British Journal of Psychology*, *85*, 283-300. Doi: 10.1111/j.2044-8295.1994.tb02524.x
- Baayen, R. H., Piepenbrock, R., & Van Rijn, H. (1993). *The celex lexical database (cd-rom)*. Philadelphia: Linguistic Data Consortium, University of Pennsylvania.
- Balota, D. A., & Chumbley, J. I. (1984). Are lexical decisions a good measure of lexical access? The role of word frequency in the neglected decision stage. *Journal of Experimental Psychology: Human Perception and Performance*, *10*, 340-357. Doi: 10.1037/0096-1523.10.3.340
- Balota, D. A., Cortese, M. J., Sergent-Marshall, S. D., Spieler, D. H., & Yap, M. J. (2004). Visual word recognition of single-syllable words. *Journal of Experimental Psychology: General*, *133*, 283-316. Doi: 10.1037/0096-3445.133.2.283
- Bar-Kochva, I. (2013). What are the underlying skills of silent reading acquisition? A developmental study from kindergarten to the 2nd grade. *Reading and Writing*. Advance online publication. Doi: 10.1007/s11145-012-9414-3
- Barker, T. A., Torgesen, J. K., & Wagner, R. K. (1992). The role of orthographic processing skills on five different reading tasks. *Reading Research Quarterly*, *27*, 334-345. Doi: 10.2307/747673
- Bates, E., Burani, C., d'Amico, S., & Barca, L. (2001). Word reading and picture naming in Italian. *Memory & Cognition*, *29*, 986-999. Doi: 10.3758/BF03195761
- Besner, D. (1987). Phonology, lexical access in reading, and articulatory suppression: A critical review. *The Quarterly Journal of Experimental Psychology*, *39*, 467-478. Doi: 10.1080/14640748708401799

REFERENCES

- Besner, D., Davies, J., & Daniels, S. (1981). Reading for meaning: The effects of concurrent articulation. *The Quarterly Journal of Experimental Psychology*, *33*, 415-437. Doi: 10.1080/14640748108400801
- Bleichrodt, N., Drenth, P. J. D., Zaal, J. N., & Resing, W. C. M. (1984). *Revisie Amsterdamse Kinder Intelligentie Test* [Revised Amsterdam Child Intelligence Test]. Lisse, The Netherlands: Swets & Zeitlinger.
- Blomert, L. (2006). *Protocol dyslexie diagnostiek en behandeling*. Diemen: College voor zorgverzekeringen.
- Bosse, M. L., Chaves, N., Largy, P., & Valdois, S. (2013). Orthographic learning during reading: The role of whole-word visual processing. *Journal of Research in Reading*. Doi: 10.1111/j.1467-9817.2012.01551.x
- Bosse, M. L., Tainturier, M. J., & Valdois, S. (2007). Developmental dyslexia: The visual attention span deficit hypothesis. *Cognition*, *104*, 198-230. Doi: 10.1016/j.cognition.2006.05.009
- Bosse, M. L., & Valdois, S. (2009). Influence of the visual attention span on child reading performance: A cross-sectional study. *Journal of Research in Reading*, *32*, 230-253. Doi: 10.1111/j.1467-9817.2008.01387.x
- Bouwmeester, S., & Verkoijen, P. P. J. L. (2010). Latent variable modeling of cognitive processes in true and false recognition of words: A developmental perspective. *Journal of Experimental Psychology: General*, *139*, 365-381. Doi: 10.1037/a0019301
- Bowers, P. G. (1995). Tracing symbol naming speed's unique contributions to reading disabilities over time. *Reading and Writing: An Interdisciplinary Journal*, *7*, 189-216. Doi: 10.1007/BF01027185
- Bowey, J. A., & Muller, D. (2005). Phonological recoding and rapid orthographic learning in third-graders' silent reading: A critical test of the self-teaching hypothesis. *Journal of Experimental Child Psychology*, *92*, 203-219. Doi: 10.1016/j.jecp.2005.06.005
- British Dyslexia Association (1998). *The dyslexia handbook*. Reading: British Dyslexia Association.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136- 162). Newbury Park, CA: Sage.
- Brus, B., & Voeten, B. (1995). Eén minuut test vorm A en B. Verantwoording en handleiding [one-minute-test manual]. Lisse, The Netherlands: Swets & Zeitlinger.
- Caravolas, M., Volin, J., & Hulme, C. (2005). Phoneme awareness is a key component of alphabetic literacy skills in consistent and inconsistent orthographies: Evidence from Czech and English children. *Journal of Experimental Child Psychology*, *92*, 107-139. Doi: 10.1016/j.jecp.2005.04.003
- Carreiras, M., Perea, M., & Grainger, J. (1997). Effects of orthographic neighbourhood in visual word recognition: Cross-task comparisons. *Journal of Experimental Psychology: Learning, Memory and Cognition*, *23*, 857-871. Doi: 10.1037/0278-7393.23.4.857

- Castles, A., & Coltheart, M. (2004). Is there a causal link from phonological awareness to success in learning to read? *Cognition*, *91*, 77-111. Doi: 10.1016/S0010-0277(03)00164-1
- Celeux, G., & Soromenho, G. (1996). An entropy criterion for assessing the number of clusters in a mixture model. *Journal of Classification*, *13*, 195-212. Doi: 10.1007/BF01246098
- Coltheart, M., Davelaar, E., Jonasson, J. T., & Besner, D. (1977). Access to the internal lexicon. In S. Dornic (Ed.), *Attention and Performance VI* (pp. 535-555). Hillsdale, NJ: Erlbaum.
- Coltheart, M., Rastle, K., Perry, C., Langdon, R., & Ziegler, J. (2001). DRC: A dual route cascaded model of visual word recognition and reading aloud. *Psychological Review*, *108*, 204-256. Doi: 10.1037/0033-295X.108.1.204
- Compton, D. L., DeFries, J. C., & Olson, R. K. (2001). Are RAN- and phonological awareness-deficits additive in children with reading disabilities? *Dyslexia*, *7*, 125-149. Doi: 10.1002/dys.198
- Cornwall, A. (1992). The relationship of phonological awareness, rapid naming, and verbal memory to severe reading and spelling disability. *Journal of Learning Disabilities*, *25*, 532-538. Doi: 10.1177/002221949202500808
- de Jong, P. F. (1999). Hierarchical regression analysis in structural equation modeling. *Structural Equation Modeling*, *6*, 198-211. Doi: 10.1080/10705519909540128
- de Jong, P. F. (2011). What discrete and serial rapid automatized naming can reveal about reading. *Scientific Studies of Reading*, *15*, 314-337. Doi: 10.1080/10888438.2010.485624
- de Jong, P. F., Bitter, D. J. L., van Setten, M., & Marinus, E. (2009). Does phonological recoding occur during silent reading, and is it necessary for orthographic learning? *Journal of Experimental Child Psychology*, *104*, 267-282. Doi: 10.1016/j.jecp.2009.06.002
- de Jong, P. F., & Share, D. L. (2007). Orthographic learning during oral and silent reading. *Scientific Studies of Reading*, *11*, 55-71. Doi: 10.1080/10888430709336634
- de Jong, P. F., & van der Leij, A. (1999). Specific contributions of phonological abilities to early reading acquisition: Results from a Dutch latent variable longitudinal study. *Journal of Educational Psychology*, *91*, 450-476. Doi: 10.1037/0022-0663.91.3.450
- de Jong, P. F., & van der Leij, A. (2002). Effects of phonological abilities and linguistic comprehension on the development of reading. *Scientific Studies of Reading*, *6*, 51-77. Doi: 10.1207/S1532799XSSR0601_03
- de Jong, P. F., & van der Leij, A. (2003). Developmental changes in the manifestation of a phonological deficit in dyslexic children learning to read a regular orthography. *Journal of Educational Psychology*, *95*, 22-40. Doi: 10.1037/0022-0663.95.1.22
- de Luca, M., Barca, L., Burani, C., & Zoccolotti, P. (2008). The effect of word length and other sublexical, lexical, and semantic variables on developmental reading deficits. *Cognitive and Behavioral Neurology*, *21*, 227-235. Doi: 10.1097/WNN.0b013e318190d162

REFERENCES

- de Luca, M., Pontillo, M., Primativo, S., Spinelli, D., & Zoccolotti, P. (2013). The eye-voice lead during oral reading in developmental dyslexia. *Frontiers in Human Neuroscience*, *7*, 696. Doi: 10.3389/fnhum.2013.00696
- Denckla, M., & Rudel, R. (1976). Naming of object-drawings by dyslexic and other learning disabled children. *Brain and Language*, *3*, 1–15. Doi: 10.1016/0093-934X(76)90001-8
- Ehri, L. C. (2000). Learning to read and learning to spell: Two sides of a coin. *Topics in Language Disorders*, *20*, 19-36. Doi: 10.1097/00011363-200020030-00005.
- Ehri, L. C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, *9*, 167-188. Doi: 10.1207/s1532799xssr0902_4
- Ehri, L. C., & Wilce, L. S. (1983). Development of word identification speed in skilled and less skilled beginning readers. *Journal of Educational Psychology*, *75*, 3-18. Doi: 10.1037/0022-0663.75.1.3
- Elbro, C. (1996). Early linguistic abilities and reading development: A review and a hypothesis. *Reading and Writing: An Interdisciplinary Journal*, *8*, 453-485. Doi: 10.1007/BF00577023
- Elgart, D. B. (1978). Oral reading, silent reading, and listening comprehension: A comparative study. *Journal of Literacy Research*, *10*, 203-207. Doi: 10.1080/10862967809547270
- Faust, M. E., Balota, D. A., Spieler, D. H., & Ferraro, F. R. (1999). Individual differences in information-processing rate and amount: Implications for group differences in response latency. *Psychological Bulletin*, *125*, 777–799. Doi: 10.1037/0033-2909.125.6.777
- Fiebach, C. J., Ricker, B., Friederici, A. D., & Jacobs, A. M. (2007). Inhibition and facilitation in visual word recognition: Prefrontal contribution to the orthographic neighbourhood size effect. *Neuroimage*, *36*, 901-911. Doi: 10.1016/j.neuroimage.2007.04.004
- Filippo, G. D., de Luca, M., Judica, A., Spinelli, D., & Zoccolotti, P. (2006). Lexicality and stimulus length effects in Italian dyslexics: Role of the overadditivity effect. *Child Neuropsychology*, *12*, 141-149. Doi: 10.1080/09297040500346571
- Fiset, D., Arguin, M., Bub, D., Humphreys, G. W., & Riddoch, M. J. (2005). How to make the word-length effect disappear in letter-by-letter dyslexia: Implications for an account of the disorder. *Psychological Science*, *16*, 535-541. Doi: 10.1111/j.0956-7976.2005.01571.x
- Fiset, D., Arguin, M., & McCabe, E. (2006). The breakdown of parallel letter processing in letter-by-letter dyslexia. *Cognitive neuropsychology*, *23*, 240-260. Doi: 10.1080/02643290442000437
- Fiset, D., Gosselin, F., Blais, C., & Arguin, M. (2006). Inducing letter-by-letter dyslexia in normal readers. *Journal of Cognitive Neuroscience*, *18*, 1466-1476. Doi: 10.1162/jocn.2006.18.9.1466
- Frauenfelder, U., Baayen, R., & Hellwig, F. (1993). Neighbourhood density and frequency across languages and modalities. *Journal of Memory and Language*, *32*, 781-804. Doi: 10.1006/jmla.1993.1039

- Forster, K. I., & Chambers, S.M. (1973). Lexical access and naming time. *Journal of Verbal Learning and Verbal Behavior*, *12*, 627-635. Doi: 10.1016/S0022-5371(73)80042-8
- Frederiksen, J. R., & Kroll, J. E. (1976). Spelling and sound: Approaches to the internal lexicon. *Journal of Experimental Psychology: Human Perception and Performance*, *2*, 361-379. Doi: 10.1037/0096-1523.2.3.361
- Frost, R. (1998). Toward a strong phonological theory of visual word recognition: True issues and false trails. *Psychological Bulletin*, *123*, 71-99. Doi: 10.1037/0033-2909.123.1.71
- Geelhoed, J., & Reitsma, P. (1999). *PI-dictee*. Lisse: Swets & Zeitlinger.
- Georgiou, G. K., Papadopoulos, T. C., Fella, A., & Parrila, R. (2012). Rapid naming speed components and reading development in a consistent orthography. *Journal of Experimental Child Psychology*, *112*, 1-17. Doi: 10.1016/j.jecp.2011.11.006
- Georgiou, G. K., Parrila, R., Cui, Y., & Papadopoulos, T. C. (2013). Why is rapid automatized naming related to reading? *Journal of Experimental Child Psychology*, *115*, 218-225. Doi: 10.1016/j.jecp.2012.10.015
- Georgiou, G. K., Parrila, R., & Papadopoulos, T. C. (2008). Predictors of word decoding and reading fluency across languages varying in orthographic consistency. *Journal of Educational Psychology*, *100*, 566-580. Doi: 10.1037/0022-0663.100.3.566
- Goswami, U. (2000). Phonological representations, reading development and dyslexia: Towards a cross-linguistic theoretical framework. *Dyslexia*, *6*, 133-151. Doi: 10.1002/(SICI)1099-0909(200004/06)6:2<133::AID-DYS160>3.0.CO;2-A
- Hale, A. D., Skinner, C. H., Williams, J., Hawkins, R., Neddenriep, C. E., & Dizer, J. (2007). Comparing comprehension following silent and aloud reading across elementary and secondary students: Implication for curriculum-based measurement. *The Behavior Analyst Today*, *8*, 9-22.
- Hawelka, S., Gagl, B., & Wimmer, H. (2010). A dual-route perspective on eye movements of dyslexic readers. *Cognition*, *115*, 367-379. Doi: 10.1016/j.cognition.2009.11.004
- Hawelka, S., & Wimmer, H. (2005). Impaired visual processing of multi-element arrays is associated with increased number of eye movements in dyslexic reading. *Vision Research*, *45*, 855-863. Doi: 10.1016/j.visres.2004.10.007
- Hawelka, S., & Wimmer, H. (2008). Visual target detection is not impaired in dyslexic readers. *Vision Research*, *48*, 850-852. Doi: 10.1016/j.visres.2007.11.003
- Hayduk, L. A. (1996). *LISREL issues, debates and strategies*. Baltimore, MD: Johns Hopkins University Press.
- Holmes, B. C. (1985). The effect of four different models of reading on comprehension. *Reading Research Quarterly*, *20*, 575-585. Doi: 10.2307/747944
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1-55. Doi: 10.1080/10705519909540118
- Iwema, R. (2013). *Seriële en parallelle leesprocessen bij het lezen van mono- en polysyllabische woorden*. (Unpublished Master Thesis). University of Amsterdam, the Netherlands

REFERENCES

- Jackson, N. E., & Coltheart, M. (2001). *Routes to reading success and failure: Toward an integrated cognitive psychology of atypical reading*. New York: Taylor & Francis.
- Johnston, R. S., Rugg, M. D., & Scott, T. (1987). Phonological similarity effects, memory span and developmental reading disorders: The nature of the relationship. *British Journal of Psychology*, *78*, 205-211. Doi: 10.1111/j.2044-8295.1987.tb02240.x
- Jones, M. W., Branigan, H. P., & Kelly, M. L. (2009). Dyslexic and nondyslexic reading fluency: Rapid automatized naming and the importance of continuous lists. *Psychonomic Bulletin & Review*, *16*, 567-572. Doi: 10.3758/PBR.16.3.567
- Juel, C., & Holmes, B. (1981). Oral and silent reading of sentences. *Reading Research Quarterly*, *16*, 545-568. Doi: 10.2307/747315
- Juphard, A., Carbonnel, S., & Valdois, S. (2004). Length effect in reading and lexical decision: Evidence from skilled readers and a developmental dyslexic participant. *Brain and Cognition*, *55*, 332-340. Doi: 10.1016/j.bandc.2004.02.035
- Kail, R., Hall, L. K., & Caskey, B. J. (1999). Processing speed, exposure to print, and naming speed. *Applied Psycholinguistics*, *20*, 303-314. Doi: 10.1017/S0142716499002076
- Kaplan, D. (2009). *Structural equation modeling: Foundations and extensions* (2nd ed.) Thousand Oaks, CA: Sage.
- Keene, O. N. (1995). The log transformation is special. *Statistics in Medicine*, *14*, 811-819. Doi: 10.1002/sim.4780140810
- Kema, G. N., & Kema-van Leggelo, M. K. G. (1987). *Groninger School Onderzoek, Groepen 7-8*. Lisse: Swets & Zeitlinger.
- Kim, Y.-S., Wagner, R. K., & Foster, E. (2011). Relations among oral reading fluency, silent reading fluency, and reading comprehension: A latent variable study of first-grade readers. *Scientific Studies of Reading*, *15*, 338-362. Doi: 10.1080/10888438.2010.493964
- Kirby, J. R., Georgiou, G. K., Martinussen, R., & Parrila, R. (2010). Naming speed and reading: from prediction to instruction. *Reading Research Quarterly*, *45*, 341-362. Doi: 10.1598/RRQ.45.3.4
- Kirby, J. R., Parrila, R., & Pfeiffer, S. (2003). Naming speed and phonological awareness as predictors of reading development. *Journal of Educational Psychology*, *95*, 453-464. Doi: 10.1037/0022-0663.95.3.453
- Kleijnen, R., Bosman, A., de Jong, P., Henneman, J., Pasman, A., Paternotte, A., ... Wijnen, F. (2008). *Dyslexie: Diagnose en behandeling van dyslexie*. Bilthoven: Stichting Dyslexie Nederland (SDN).
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: The Guilford Press.
- Kort, W., Schittekatte, M., Dekker, P.H., Verhaeghe, P., Compaan, E.L., Bosmans, M. & Vermeir, G. (2005). WISC-III^{NL} Wechsler Intelligence Scale for Children. David Wechsler. Derde Editie NL. Handleiding en Verantwoording. Amsterdam: Harcourt Test Publishers. Amsterdam: NIP Dienstencentrum.
- Krom, R. (2001). *Leestechniek en Leestempo: handleiding en opgavenboekjes*. Arnhem: Cito.

- Kuperman, V., Drieghe, D., Keuleers, E., & Brysbaert, M. (2013). How strongly do word reading times and lexical decision times correlate? Combining data from eye movement corpora and megastudies. *The Quarterly Journal of Experimental Psychology*, *66*, 563-580. Doi: 10.1080/17470218.2012.658820
- Kyte, C. S., & Johnson, C. J. (2006). The role of phonological recoding in orthographic learning. *Journal of Experimental Child Psychology*, *93*, 166-185. Doi: 10.1016/j.jecp.2005.09.003
- Landerl, K., & Wimmer, H. (2008). Development of word reading fluency and spelling in a consistent orthography: An 8-year follow-up. *Journal of Educational Psychology*, *100*, 150-161. Doi: 10.1037/0022-0663.100.1.150
- Lervåg, A., Bråten, I., & Hulme, C. (2009). The cognitive and linguistic foundations of early reading development: A Norwegian latent variable longitudinal study. *Developmental Psychology*, *45*, 764-781. Doi: 10.1037/a0014132
- Levelt, W. J. M. (1992). Accessing words in speech production: Stages, processes and representations. *Cognition*, *42*, 1-22. Doi: 10.1016/0010-0277(92)90038-J
- Lobier, M., Dubois, M., & Valdois, S. (2013). The role of visual processing speed in reading speed development. *PLoS ONE*, *8*, e58097. Doi: 10.1371/journal.pone.0058097
- Lobier, M., Zoubrinetzky, R., & Valdois, S. (2012). The visual attention span deficit in dyslexia is visual and not verbal. *Cortex*, *48*, 768-773. Doi: 10.1016/j.cortex.2011.09.003
- Logan J. A. R., & Schatschneider, C. (in press). Component processes in reading: Shared and unique variance in serial and isolated naming speed. *Reading and Writing: An Interdisciplinary Journal*. Doi: 10.1007/s11145-013-9475-y
- Lovett, M. W., Steinbach, K. A., & Frijters, J. C. (2000). Remediating the core deficits of developmental reading disability: A double-deficit perspective. *Journal of Learning Disabilities*, *33*, 334-358. Doi: 10.1177/002221940003300406
- Lubke, G. H., & Muthén, B. O. (2005). Investigating population heterogeneity with factor mixture models. *Psychological Methods*, *10*, 21-39. Doi: 10.1037/1082-989X.10.1.21
- Lyon, G. R., Shaywitz, S. E., & Shaywitz, B. A. (2003). A definition of dyslexia. *Annals of Dyslexia*, *53*, 1-14. Doi: 10.1007/s11881-003-0001-9
- Macho, S., & Ledermann, T. (2011). Estimating, testing and comparing specific effects in structural equation models: The phantom model approach. *Psychological Methods*, *16*, 34-43. Doi: 10.1037/a0021763
- Manis, F. R., Seidenberg, M. S., & Doi, L. M. (1999). See dick RAN: Rapid naming and the longitudinal prediction of reading subskills in first and second graders. *Scientific Studies of Reading*, *3*, 129-157. Doi: 10.1207/s1532799xssr0302_3
- Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis on the study of self-concept: First- and higher order factor models and their invariance across groups. *Psychological Bulletin*, *97*, 562-582. Doi: 10.1037/0033-2909.97.3.562

REFERENCES

- Marinus, E., & de Jong, P. F. (2010a). Size does not matter, frequency does: Sensitivity to orthographic neighbours in normal and dyslexic readers. *Journal of Experimental Child Psychology*, *106*, 129-144. Doi: 10.1016/j.jecp.2010.01.004
- Marinus, E., & de Jong, P. F. (2010b). Variability in the word-reading performance of dyslexic readers: Effects of letter length, phoneme length and digraph presence. *Cortex*, *46*, 1259-1271. Doi: 10.1016/j.cortex.2010.06.005
- Martens, V. E. G., & de Jong, P. F. (2006). The effect of word length on lexical decision in dyslexic and normal reading children. *Brain and Language*, *98*, 140-149. Doi: 10.1016/j.bandl.2006.04.003
- McBride-Chang, C., & Manis, F. R. (1996). Structural invariance in the associations of naming speed, phonological awareness, and verbal reasoning in good and poor readers: A test of the double deficit hypothesis. *Reading and Writing: An Interdisciplinary Journal*, *8*, 323-339. Doi: 10.1007/BF00395112
- McCallum, R. S., Bell, S. M., Wood, M. S., Below, J. L., Choate, S. M., & McCane, S. J. (2006). What is the role of working memory in reading relative to the big three processing variables (orthography, phonology, and rapid naming)? *Journal of Psychoeducational Assessment*, *24*, 243-259. Doi: 10.1177/0734282906287938
- McCallum, R. S., Sharp, S., Bell, S. M., & George, T. (2004). Silent versus oral reading comprehension and efficiency. *Psychology in the Schools*, *41*, 241-246. Doi: 10.1002/pits.10152
- Mead, C. D. (1915). Silent versus oral reading with one hundred sixth-grade children. *Journal of Educational Psychology*, *6*, 345-348. Doi: 10.1037/h0071709
- Mead, C. D. (1917). Results in silent versus oral reading. *Journal of Educational Psychology*, *8*, 367-368. Doi: 10.1037/h0067774
- Moll, K., Fussenegger, B., Willburger, E. & Landerl, K. (2009). RAN is not a measure of orthographic processing. Evidence from the asymmetric German orthography. *Scientific studies of reading*, *13*, 1-25. Doi: 10.1080/10888430802631684
- Monaghan, P., & Ellis, A. W. (2010). Modeling reading development: Cumulative, incremental learning in a computational model of word naming. *Journal of Memory and Language*, *63*, 506-525. Doi: 10.1016/j.jml.2010.08.003
- Morgan, W. P. (1896). A case of congenital word blindness. *British Medical Journal*, *2*, 1378.
- Muthén, L. K., & Muthén, B. O. (2009). Mplus (Version 5.21) [Computer software]. Los Angeles, CA: Muthén & Muthén.
- Nation, K., & Hulme, C. (2010). Learning to read changes children's phonological skills: Evidence from a latent variable longitudinal study of reading and nonword repetition. *Developmental Science*, *14*, 649-659. Doi: 10.1111/j.1467-7687.2010.01008.x
- New, B., Ferrand, L., Pallier, C., & Brysbaert, M. (2006). Reexamining the word length effect in visual word recognition: New evidence from the english lexicon project. *Psychonomic Bulletin & Review*, *13*, 45-52. Doi: 10.3758/BF03193811

- Newman, R. L., & Connolly, J. F. (2004). Determining the role of phonology in silent reading using event-related brain potentials. *Cognitive Brain Research*, *21*, 94-105. Doi: 10.1016/j.cogbrainres.2004.05.006
- Nikolopoulos, D., Goulandris, N., Hulme, C., & Snowling, M. J. (2006). The cognitive bases of learning to read and spell in Greek: Evidence from a longitudinal study. *Journal of Experimental Child Psychology*, *94*, 1-17. Doi: 10.1016/j.jecp.2005.11.006
- Norton, E. S., & Wolf, M. (2012). Rapid automatized naming (RAN) and reading fluency: Implications for understanding and treatment of reading disabilities. *Annual Review of Psychology*, *63*, 427-452. Doi: 10.1146/annurev-psych-120710-100431
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A monte carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal*, *14*, 535-569. Doi: 10.1080/10705510701575396
- Pammer, K., Lavis, R., Hansen, P., & Cornelissen, P. L. (2004). Symbol-string sensitivity and children's reading. *Brain and Language*, *89*, 601-610. Doi: 10.1016/j.bandl.2004.01.009
- Pan, J., Yan, M., Laubrock, J., Shu, H., & Kliegl, R. (2013). Eye-voice span during rapid automatized naming of digits and dice in Chinese normal and dyslexic children. *Developmental Science*, *16*, 967-976. Doi: 10.1111/desc.12075
- Parrila, R., Kirby, J. R., & McQuarrie, L. (2004). Articulation rate, naming speed, verbal short-term memory, and phonological awareness: Longitudinal predictors of early reading development? *Scientific Studies of Reading*, *8*, 3-26. Doi: 10.1207/s1532799xssr0801_2
- Patel, T. K., Snowling, M. J., & de Jong, P. F. (2004). A cross-linguistic comparison of children learning to read in English and Dutch. *Journal of Educational Psychology*, *96*, 785-797. Doi: 10.1037/0022-0663.96.4.785
- Perfetti, C. A., Bell, L. C., & Delaney, S. M. (1988). Automatic (prelexical) phonetic activation in silent word reading: Evidence from backward masking. *Journal of Memory and Language*, *27*, 59-70. Doi: 10.1016/0749-596X(88)90048-4
- Perfetti, C. A., & Hart, L. (2002). The lexical quality hypothesis. In L. Verhoeven, C. Elbro, & P. Reitsma (Eds.), *Precursors of functional literacy* (pp. 189-213). Amsterdam: John Benjamins.
- Perry, C., Ziegler, J. C., & Zorzi, M. (2007). Nested incremental modeling in the development of computational theories: The CDP model of reading aloud. *Psychological Review*, *114*, 273-315. Doi: 10.1037/0033-295X.114.2.273
- Perry, C., Ziegler, J. C., & Zorzi, M. (2010). Beyond single syllables: Large-scale modeling of reading aloud with the Connectionist Dual Process (CDP⁺) model. *Cognitive Psychology*, *61*, 106-151. Doi: 10.1016/j.cogpsych.2010.04.001
- Pintner, R. (1913). Oral and silent reading of fourth-grade pupils. *Journal of Educational Psychology*, *4*, 333-337. Doi: 10.1037/h0072491
- Pintner, R., & Gilliland, A. R. (1916). Oral and silent reading. *Journal of Educational Psychology*, *7*, 01-212. Doi: 10.1037/h0072173

REFERENCES

- Plaut, D. C. (1999). A connectionist approach to word reading and acquired dyslexia: Extension to sequential processing. *Cognitive Science*, 23, 543-568. Doi: 10.1016/S0364-0213(99)00015-4
- Plaut, D. C., McClelland, J. L., Seidenberg, M. S., & Patterson, K. (1996). Understanding normal and impaired word reading: Computational principles in quasi-regular domains. *Psychological Review*, 103, 56-115. Doi: 10.1037/0033-295X.103.1.56
- Powell, D., Stainthorp, R., Stuart, M., Garwood, H., & Quinlan, P. (2007). An experimental comparison between rival theories of rapid automatized naming performance and its relationship to reading. *Journal of Experimental Child Psychology*, 98, 46-68. Doi: 10.1016/j.jecp.2007.04.003
- Pollatsek, A., Perea, M., & Binder, K. S. (1999). The effects of 'neighborhood size' in reading and lexical decision. *Journal of Experimental Psychology: Human Perception and Performance*, 25, 1142-1158. Doi: 10.1037/0096-1523.25.4.1142
- Prado, C., Dubois, M., & Valdois, S. (2007). The eye movements of dyslexic children during reading and visual search: Impact of the visual attention span. *Vision Research*, 47, 2521-2530. Doi: 10.1016/j.visres.2007.06.001
- Prior, S. M., Fenwick, K. D., Saunders, K. S., Ouellette, R., O'Quinn, C., & Harvey, S. (2011). Comprehension after oral and silent reading: Does grade level matter? *Literacy Research and Instruction*, 50, 183-194. Doi: 10.1080/19388071.2010.497202
- Pritchard, S. C. (2012). *Incorporating learning mechanisms into the dual-route cascaded (DRC) model of reading aloud and word recognition*. (Unpublished doctoral dissertation). Macquarie University, Sydney, Australia
- Protopapas A., Altani, A., & Georgiou, G. K. (2013a). Development of serial processing in reading and rapid naming. *Journal of Experimental Child Psychology*, 116, 914-929. Doi: 10.1016/j.jecp.2013.08.004
- Protopapas, A., Altani, A., & Georgiou, G. K. (2013b). RAN backward: A test of the visual scanning hypothesis. *Scientific Studies of Reading*, 17, 453-461. Doi: 10.1080/10888438.2013.769556
- Quené, H., & van den Bergh, H. (2004). On multi-level modeling of data from repeated measures designs: A tutorial. *Speech Communication*, 43, 103-121. Doi: 10.1016/j.specom.2004.02.004
- Ramus, F., Rosen, S., Dakin, S. C., Day, B. L., Castellote, J. M., White, S., Firth, U. (2003). Theories of developmental dyslexia: insights from a multiple case study of dyslexic adults. *Brain*, 126, 841-865. Doi: 10.1093/brain/awg076
- Rasbash, J., Steele, F., Browne, W. J., & Goldstein, H. (2008). *A User's guide to MLwiN version 2.10*. Bristol: Centre for Multilevel Modelling, University of Bristol.
- Ratcliff, R. (1993). Methods for dealing with reaction time outliers. *Psychological Bulletin*, 114, 510-532. Doi: 10.1037/0033-2909.114.3.510
- Raven, J. C. (1960). *Standard progressive Matrices: Sets A, B, C, D and E*. London: Lewis & Co.

- Risko, E. F., Lanthier, S. N., & Besner, D. (2011). Basic processes in reading: The effect of interletter spacing. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *37*, 1449-1457. Doi: 10.1037/a0024332
- Savage, R., Pillay, V., & Melidona, S. (2008). Rapid serial naming is a unique predictor of spelling in children. *Journal of Learning Disabilities*, *41*, 235-250. Doi: 10.1177/0022219408315814
- Schilling, H. E. H., Rayner, K., & Chumbley, J. I. (1998). Comparing naming, lexical decision, and eye fixation times: Word frequency effects and individual differences. *Memory & Cognition*, *26*, 1270-1281. Doi: 10.3758/BF03201199
- Schneider, W., Eschman, A., & Zuccolotto, A. (2002). *E-prime: User's guide*. Pittsburgh, PA: Psychology Software Inc.
- Schrooten, W., & Vermeer, A. (1994). *Woorden in het basisonderwijs: 15.000 woorden aangeboden aan leerlingen*. [Words in primary education: 15.000 words presented to students]. Tilburg, The Netherlands: Tilburg University Press.
- Schumm, J. S., & Baldwin, R. S. (1989). Cue system usage in oral and silent reading. *Journal of Reading Behavior*, *21*, 141-154. Doi: 10.1080/10862968909547666
- Seidenberg, M. S., & McClelland, J. L. (1989). A distributed, developmental model of word recognition and naming. *Psychological Review*, *96*, 523-568. Doi: 10.1037/0033-295X.96.4.523
- Seidenberg, M. S., & Plaut, D. C. (1998). Evaluating word-reading models at the item level: Matching the grain of theory and data. *Psychological Science*, *9*, 234-237. Doi: 10.1111/1467-9280.00046
- Share, D.L. (1995). Phonological recoding and self-teaching: *Sine qua non* of reading acquisition. *Cognition*, *55*, 151-218. Doi: 10.1016/0010-0277(94)00645-2
- Share, D. L. (1999). Phonological recoding and orthographic learning: A direct test of the self-teaching hypothesis. *Journal of Experimental Child Psychology*, *72*, 95-129. Doi: 10.1006/jecp.1998.2481
- Share, D.L. (2008). On the anglocentricities of current reading research and practice: The perils of overreliance on an "outlier" orthography. *Psychological Bulletin*, *134*, 584-615. Doi: 10.1037/0033-2909.134.4.584
- Snijders, T., & Bosker, R. (1999). *Multilevel modeling: An introduction to basic and advanced multilevel modeling*. Sage: London.
- Snowling, M. (2013). Early identification and interventions for dyslexia: A contemporary view. *Journal of Research in Special Educational Needs*, *13*, 7-14. Doi: 10.1111/j.1471-3802.2012.01262.x
- Spinelli, D., de Luca, M., Filippo, G. D., Mancini, M., Martelli, M., & Zoccolotti, P. (2005). Length effect in word naming in reading: Role of reading experience and reading deficit in Italian readers. *Developmental Neuropsychology*, *27*, 217-235. Doi: 10.1207/s15326942dn2702_2
- Sprenger-Charolles, L., Siegel, L. S., & Béchennec, D. (1998). Phonological mediation and semantic and orthographic factors in silent reading in French. *Scientific Studies of Reading*, *2*, 3-29. Doi: 10.1207/s1532799xssr0201_1

REFERENCES

- Stein, J., & Walsh, V. (1997). To see but not to read: The magnocellular theory of dyslexia. *Trends in Neurosciences, 20*, 147-152. Doi: 10.1016/S0166-2236(96)01005-3
- Sunseth, K., & Bowers, P. G. (2002). Rapid naming and phonemic awareness: Contributions to reading, spelling, and orthographic knowledge. *Scientific Studies of Reading, 6*, 401-429. Doi: 10.1207/S1532799XSSR0604_05
- Swalm, J. E. (1972). A comparison of oral reading, silent reading and listening comprehension. *Education, 92*, 111-115.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.
- Tainturier, M. J., & Rapp, B. (2000). The spelling process. In B. Rapp (Ed.), *What deficits reveal about the human mind: A handbook of cognitive neuropsychology*. Philadelphia, PA: Psychology Press.
- Tenjović, L., & Lalović, D. (2005). The effects of articulatory suppression on word recognition in serbian. *Journal of Psycholinguistic Research, 34*, 541-553. Doi: 10.1007/s10936-005-9163-4
- Torgesen, J. K., Wagner, R. K., Rashotte, C. A., Burgess, S., & Hecht, S. (1997). Contributions of phonological awareness and rapid automatic naming ability to the growth of word-reading skills in second- to fifth-grade children. *Scientific Studies of Reading, 1*, 161-185. Doi: 10.1207/s1532799xssr0102_4
- Vaessen, A., Bertrand, D., Tóth, D., Csépe, V., Faisca, L., et al. (2010). Cognitive development of fluent word reading does not qualitatively differ between transparent and opaque orthographies. *Journal of Educational Psychology, 102*, 827-842. Doi: 10.1037/a0019465
- Vaessen, A., & Blomert, L. (2010). Long-term cognitive dynamics of fluent reading development. *Journal of Experimental Child Psychology, 105*, 213-231. Doi: 10.1016/j.jecp.2009.11.005
- Valdois, S., Bosse, M. L., Ans, B., Carbonnel, S., Zorman, M., David, D., & Pellat, J. (2003). Phonological and visual processing deficits can dissociate in developmental dyslexia: Evidence from two case studies. *Reading and Writing: An Interdisciplinary Journal, 16*, 541-572. Doi: 10.1023/A:1025501406971
- Valdois, S., Bosse, M. L., & Tainturier, M. J. (2004). The cognitive deficits responsible for developmental dyslexia: Review of evidence for a selective visual attentional disorder. *Dyslexia, 10*, 339-363. Doi: 10.1002/dys.284
- Valdois, S., Carbonnel, S., Juphard, A., Baciú, M., Ans, B., Peyrin, C., & Segebarth, C. (2006). Polysyllabic pseudo-word processing in reading and lexical decision: Converging evidence from behavioral data, connectionist simulations and functional MRI. *Brain Research, 1085*, 149-162. Doi: 10.1016/j.brainres.2006.02.049
- Valdois, S., Lassus-Sangosse, D., & Lobier, M. (2012). Impaired letter-string processing in developmental dyslexia: what visual-to-phonology code mapping disorder? *Dyslexia, 18*, 77-93. Doi: 10.1002/dys.1437
- van Bon, W. H. J. (2007). *Doorstreepleestoets; een groepsgewijs af te nemen toets voor de technische leesvaardigheid*. Leiden: PITS Testuitgeverij.

- van den Boer, M., de Jong, P. F., & Haentjens-van Meeteren, M. M. (2012). Lexical decision in children: Sublexical processing or lexical search? *Quarterly Journal of Experimental Psychology*, *65*, 1214-1228. Doi: 10.1080/17470218.2011.652136
- van den Boer, M., de Jong, P. F., & Haentjens-van Meeteren, M. M. (2013). Modeling the length effect: Specifying the relation with visual and phonological correlates of reading. *Scientific Studies of Reading*, *17*, 243-256. Doi: 10.1080/10888438.2012.683222
- van den Boer, M., van Bergen, E., & de Jong, P. F. (in revision). Underlying processes of oral and silent reading. *Journal of Experimental Child Psychology*.
- van den Bos, K. P., Ijzerman, H. C., Scheepstra, A. J. M., & de Vries, J. R. (1994). *De Klepel: een test voor de leesvaardigheid van pseudowoorden* [Klepel manual]. Lisse, The Netherlands: Swets & Zeitlinger.
- van den Bos, K. P., Zijlstra, B. J. H., & Van den Broeck, W. (2003). Specific relations between alphanumeric-naming speed and reading speeds of monosyllabic and multisyllabic words. *Applied Psycholinguistics*, *24*, 407-430. Doi: 10.1017/S0142716403000213
- van der Molen, R. (2012). *Een indeling van dyslectici op basis van leesstrategie*. (Unpublished Master Thesis). University of Amsterdam, the Netherlands
- Vellutino, F. R., Fletcher, J. M., Snowling, M. J., & Scanlon, D. M. (2004). Specific reading disability (dyslexia): What have we learned in the past four decades? *Journal of Child Psychology and Psychiatry*, *45*, 2-40. Doi: 10.1046/j.0021-9630.2003.00305.x
- Verhagen, W. G. M., Aarnoutse, C. A. J., & van Leeuwe, J. F. J. (2008). Phonological awareness and naming speed in the prediction of Dutch children's word recognition. *Scientific Studies of Reading*, *12*, 301-324. Doi: 10.1080/10888430802132030
- Verhagen, W. G. M., Aarnoutse, C. A. J., & van Leeuwe, J. F. J. (2010). Spelling and word recognition in Grades 1 and 2: Relations to phonological awareness and naming speed in Dutch children. *Applied Psycholinguistics*, *31*, 59-80. Doi: 10.1017/S0142716409990166
- VidyaSagar, T. R., & Pammer, K. (2010). Dyslexia: a deficit in visuo-spatial attention, not in phonological processing. *Trends in Cognitive Sciences*, *14*, 57-63. Doi: 10.1016/j.tics.2009.12.003
- Wagner, R. K., & Torgesen, J. K. (1987). The nature of phonological processing and its causal role in the acquisition of reading skills. *Psychological Bulletin*, *101*, 192-212. Doi: 10.1037/0033-2909.101.2.192
- Weekes, B. S. (1997). Differential effects of number of letters on word and nonword naming latency. *The Quarterly Journal of Experimental Psychology*, *50*, 439-456. Doi: 10.1080/713755710
- White, S., Milne, E., Rosen, S., Hansen, P., Swettenham, J., Frith, U., & Ramus, F. (2006). The role of sensorimotor impairments in dyslexia: A multiple case study of dyslexic children. *Developmental Science*, *9*, 237-269. Doi: 10.1111/j.1467-7687.2006.00483.x
- Wimmer, H., & Mayringer, H. (2002). Dysfluent reading in the absence of spelling difficulties: A specific disability in regular orthographies. *Journal of Educational Psychology*, *94*, 272-277. Doi: 10.1037//0022-0663.94.2.272

REFERENCES

- Wimmer, H., Mayringer, H., & Landerl, K. (2000). The double-deficit hypothesis and difficulties in learning to read a regular orthography. *Journal of Educational Psychology, 92*, 668-680. Doi: 10.1037/0022-0663.92.4.668
- Wolf, M., & Bowers, P. G. (1999). The double-deficit hypothesis for the developmental dyslexias. *Journal of Educational Psychology, 91*, 415-438. Doi: 10.1037/0022-0663.91.3.415
- Wolf, M., O'Rourke, A.G., Gidney, C., Lovett, M., Cirino, P., & Morris, R. (2002). The second deficit: An investigation of the independence of phonological and naming-speed deficits in developmental dyslexia. *Reading and Writing: An Interdisciplinary Journal, 15*, 43-72. Doi: 10.1023/A:1013816320290
- Yarkoni, T., Balota, D., & Yap, M. (2008). Moving beyond Coltheart's N: A new measure of orthographic similarity. *Psychonomic Bulletin & Review, 15*, 971-979. Doi: 0.3758/PBR.15.5.971
- Ziegler, J. C., Bertrand, D., Toth, D., Csépe, V., Reis, A., Faisca, L., ...Blomert, L. (2010). Orthographic depth and its impact on universal predictors of reading: A cross-language investigation. *Psychological Science, 21*, 554-559. Doi: 10.1177/0956797610363406
- Ziegler, J. C., Castel, C., Pech-Georgel, C., George, F., Alaria, F. X., & Perry, C. (2008). Developmental dyslexia and the dual route model of reading: Simulating individual differences and subtypes. *Cognition, 107*, 151-178. Doi: 10.1016/j.cognition.2007.09.004
- Ziegler, J. C., Pech-Georgel, C., Dufau, S. & Grainger, J. (2010). Rapid processing of letters, digits, and symbols: What purely visual-attentional deficit in developmental dyslexia? *Developmental Science, 13*, F8-F14. Doi: 10.1111/j.1467-7687.2010.00983.x
- Ziegler, J. C., Perry, C., Jacobs, A. M., & Braun, M. (2001). Identical words are read differently in different languages. *Psychological Science, 12*, 379-384. Doi: 10.1111/1467-9280.00370
- Ziegler, J. C., Perry, C., Ma-Wyatt, A., Ladner, D., & Schulte-Körne, G. (2003). Developmental dyslexia in different languages: Language specific or universal? *Journal of Experimental Child Psychology, 86*, 169-193. Doi: 10.1016/S0022-0965(03)00139-5
- Zoccolotti, P., de Luca, M., di Pace, E., Gasperini, F., Judica, A., & Spinelli, D. (2005). Word length effect in early reading and in developmental dyslexia. *Brain and Language, 93*, 369-373. Doi: 10.1016/j.bandl.2004.10.010
- Zoccolotti, P., De Luca, M., Lami, L., Pizzoli, C., Pontillo, M., & Spinelli, D. (2013). Multiple stimulus presentation yields larger deficits in children with developmental dyslexia: A study with reading and RAN-type tasks. *Child Neuropsychology, 19*, 639-647. Doi: 10.1080/09297049.2012.718325