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## Neurophysiological studies of reading fluency

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*Document Version*

Publisher's PDF, also known as Version of record

*Publication date:*

2016

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Qin, R. (2016). *Neurophysiological studies of reading fluency: Towards visual and auditory markers of developmental dyslexia*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.

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## References

- Araújo, S., Bramão, I., Faisca, I., Petersson, K. M., & Reis, A. (2012). Electrophysiological correlates of impaired reading in dyslexic pre-adolescent children. *Brain and Cognition*, *79*(2), 79-88.
- Ahissar, M., Protopapas, A., Reid, M., & Merzenich, M. (2000). Auditory processing parallels reading abilities in adults. *Proceedings of the National Academy of Science of the United States of America*, *97*(12), 6832-6837.
- Amitay, S., Ahissar, M., & Nelken, I. (2002). Auditory processing deficits in reading disabled adults. *Journal of the Association for Research in Otolaryngology*, *3*, 302-320.
- Amitay, S., Ben-Yehudah, G., Banai, K., & Ahissar, M. (2002). Disabled readers suffer from visual and auditory impairments but not from a specific magnocellular deficit. *Brain*, *125*(10), 2272-2285.
- Baayen, R. H., Davidson, D. J., & Bates, D. M. (2008). Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language*, *59*(4), 390-412.
- Baayen, R. H., Kuperman, V., & Bertram, R. (2010). Frequency effects in compound processing. In S. Scalise, & I. Vogel, *Compounding* (pp. 257-270). Amsterdam: John Benjamins.
- Baldeweg, T., Richardson, A., Watkins, S., Foale, C., & Gruzelier, J. (1999). Impaired auditory frequency discrimination in dyslexia detected with mismatch evoked potentials. *Annals of Neurology*, *45*(4), 495-503.
- Banai, K., Nicol, T., Zecker, S. G., & Kraus, N. (2005). Brainstem timing: Implications for cortical processing and literacy. *Journal of Neuroscience*, *25*, 9850-9857.
- Ben-Artzi, E., Fostick, L., & Babkoff, H. (2005). Deficits in temporal-order judgements in dyslexia: Evidence from diotic stimuli differing spectrally and from dichotic stimuli differing only by perceived location. *Neuropsychologia*, *43*, 714-723.
- Bentin, S., Mouchetant-Rostaing, Y., Giard, M., Echallier, J., & Pernier, J. (1999). ERP manifestations of processing printed words at different psycholinguistic levels: Time course and scalp distribution. *Journal of Cognitive Neuroscience*, *3*, 235-260.
- Bishop, D. V. (2007). Using mismatch negativity to study central auditory processing in developmental language and literacy impairments: Where are we, and where should we be going? *Psychological Bulletin*, *133*(4), 651-672.

- Bishop, D. V., & Hardiman, M. J. (2010). Measurement of mismatch negativity in individuals: A study using single-trial analysis. *Psychophysiology*, *47*, 697-705.
- Bishop, D. V., & Snowling, M. J. (2004). Developmental dyslexia and specific language impairment: Same or different? *Psychological Bulletin*, *130*(6), 858-886.
- Bishop, D. V., Hardiman, M. J., & Barry, J. G. (2010). Lower-frequency event-related desynchronization: A signature of late mismatch responses to sounds, which is reduced or absent in children with specific language impairment. *The Journal of Cognitive Neuroscience*, *30*(46), 15578-15584.
- Bishop, D. V., Hardiman, M. J., & Barry, J. G. (2011). Is auditory discrimination mature by middle childhood? A study using time-frequency analysis of mismatch responses from 7 years to adulthood. *Developmental Science*, *14*(2), 402-416.
- Bitz, U., Gust, K., Spitzer, M., & Kiefer, M. (2007). Phonological deficit in school children is reflected in the mismatch negativity. *NeuroReport*, *18*, 911-915.
- Boets, B., Wouters, J., van Wieringen, A., & Ghesquière, P. (2006). Auditory temporal information processing in preschool children at family risk for dyslexia: Relations with phonological abilities and developing literacy skills. *Brain and Language*, *97*, 64-79.
- Boets, B., Wouters, J., van Wieringen, A., De Smedt, B., & Ghesquière, P. (2008). Modelling relations between sensory processing, speech perception, orthographic and phonological ability, and literacy achievement. *Brain and Language*, *106*, 29-40.
- Boets, B., Wouters, J., van Wieringen, A., & Ghesquière, P. (2007). Auditory processing, speech perception and phonological ability in pre-school children at high-risk for dyslexia: A longitudinal study of the auditory temporal processing theory. *Neuropsychologia*, *45*, 1608-1620.
- Bookheimer, S. (2002). Functional MRI of language: New approaches to understanding the cortical organization of semantic processing. *Annual Review of Neuroscience*, *25*, 151-188.
- Brandeis, D., Lehmann, D., Michel, C., & Mingronem, W. (1995). Mapping event-related brain potential microstates to sentence endings. *Brain Topography*, *8*(2), 145 - 159.
- Breier, J. I., Gray, L., Fletcher, J. M., Diehl, R. L., Klaas, P., Foorman, B. R., & Molis, M. R. (2001). Perception of voice and tone onset time continua in children with dyslexia with and without attention deficit/hyperactivity disorder. *Journal of Experimental Child Psychology*, *80*, 245-270.

- Brem, S., Bach, S., Kucian, K., Guttorm, T., Martin, E., Lyytinen, H., ... Richardson, U. (2010). Brain sensitivity to print emerges when children learn letter-speech sound correspondences. *Proceedings of the National Academy of Science, USA, 103*, 7939-7944.
- Brem, S., Bach, S., Kujala, J. V., Maurer, U., Lyytinen, Richardson, U., & Brandeis, D. (2013). An electrophysiological study of print processing in kindergarten: The contribution of the visual N1 as a predictor of reading outcome. *Developmental Neuropsychology, 38* (8), 567-594.
- Brem, S., Bucher, K., Halder, P., Summers, P., Dietrich, T., Martin, E., & Brandeis, D. (2006). Evidence for developmental changes in the visual word processing network beyond adolescence. *NeuroImage, 29*, 822-837.
- Brem, S., Lang - Dullenkopf, A., Maurer, U., Halder, P., Bucher, K., & Brandeis, D. (2005). Neurophysiological signs of rapidly emerging visual expertise for symbol strings. *NeuroReport, 16*(1), 45-48.
- Brown, T. T., Lugar, H. M., Coalson, R. S., Miezin, F. M., & Petersen, S. E. (2005). Developmental changes in human cerebral functional organization for word generation. *Cerebral Cortex, 15*, 275-290.
- Bruno, J. L., Zumberge, A., Manis, F., Lu, Z., & Goldman, J. G. (2008). Sensitivity to orthographic familiarity in the occipito-temporal region. *NeuroImage, 39*, 1988-2001.
- Cai, Q., & Brysbaert, M. (2010). SUBTLEX-CH: Chinese word and character frequencies based on film subtitles. *Plos ONE, 5*(6): e10729.
- Cao, X., Li, S., Zhao, J., Lin, S., & Weng, X. (2011). Left-lateralized early neurophysiological response for Chinese characters in young primary school children. *Neuroscience Letters, 492*, 165-169.
- Castles, A., & Coltheart, M. (2004). Is there a causal link from phonological awareness to success in learning to read? *Cognition, 91*, 77-111.
- Catts, H. W. (1989). Phonological processing deficits and reading disabilities. In A. G. Kahmi, & H. W. Catts (Eds.), *Reading disabilities: A developmental language perspective* (pp. 101-132). Boston, MA: Littel Brown.
- Chen, Y., Allport, D., & Marshall, J. (1996). What are the functional orthographic units in Chinese word recognition: The stroke or the stroke pattern? *Quarterly Journal of Experimental Psychology Section A: Human Experimental Psychology, 49*, 1024-1043.
- Cheour, M., Korpilahti, P., Martynova, O., & Lang, A. H. (2001). Mismatch negativity and late discriminative negativity in investigating speech perception and learning in children and infants. *Audiology and Neuro Otology, 6*, 2-11.

- Cheour, M., Leppanen, P. H., & Kraus, N. (2000). Mismatch negativity (MMN) as a tool for investigating auditory discrimination and sensory memory in infants and children. *Clinical Neurophysiology*, *111*, 4-16.
- Chung, K. K., McBride-Chang, C., Wong, S. W., Cheung, H., Penney, T. B., & Ho, C. S. (2008). The role of visual and auditory temporal processing for Chinese children with developmental dyslexia. *Annals of Dyslexia*, *58*, 15-35.
- Cohen, L., Dehaene, S., Naccache, L., Lehéricy, S., Dehaene-Lambertz, G., Hénaff, M., & Michel, F. (2000). The visual word form area: Spatial and temporal characterization of an initial stage of reading in normal subjects and posterior split-brain patients. *Brain*, *123*, 291-307.
- Cohen-Mimran, R. (2006). Temporal processing deficits in Hebrew speaking children with reading disabilities. *Journal of Speech, Language, and Hearing Research*, *49*(1), 127-137.
- Coltheart, M. (1978). Lexical access in simple reading tasks. In G. Underwood (Ed.), *Strategies of information processing* (pp. 151-216). New York: Academic Press.
- Coltheart, M. (2005). Modeling reading: The dual-route approach. In M. J. Snowling, & C. Hulme (Eds.), *The Science of Reading: A handbook* (pp. 6-23). Oxford: Blackwell.
- Coltheart, M., & Rastle, K. (1994). Serial processing in reading aloud: Evidence for dual-route models of reading. *Journal of Experimental Psychology: Human Perception & Performance*, *20*, 1197-1211.
- Coltheart, M., Rastle, K., Perry, C., & Langdon, R. (2001). DRC: A dual route cascaded model of visual word recognition and reading aloud. *Psychological Review*, *108*, 204-256.
- Cortese, M., & Balota, D. A. (2013). Visual word recognition in skilled adult readers. In M. Spivey, K. McRae, & M. Joanisse (Eds.), *The Cambridge handbook of psycholinguistics* (pp. 159-185). Cambridge: Cambridge University Press.
- Csépe, V. (2003). Auditory event-related potentials in studying developmental dyslexia. In V. Csépe, *Dyslexia: Different brain, different behavior* (pp. 81-112). New York: Kluwer Academic/Plenum Publishers.
- Curran, T., Tanaka, J. W., & Weiskopf, D. M. (2002). An electrophysiological comparison of visual categorization and recognition memory. *Cognitive, Affective and Behavioral Neuroscience*, *2*, 1-18.
- Dandache, S., Wouters, J., & Ghesquière, P. (2014). Development of reading and phonological skills of children at family risk for dyslexia: A longitudinal analysis from kindergarten to sixth grade. *Dyslexia*, *20*(4), 305-329.

- de Jong, P., & van der Leij, A. (2003). Developmental changes in the manifestation of a phonological deficit in dyslexic children learning to read in a regular orthography. *Journal of Educational Psychology, 95*(1), 22-40.
- Dehaene, S., & Cohen, L. (2011). The unique role of the visual word form area in reading. *Trends in Cognitive Sciences, 15*(6), 254-262.
- Dehaene, S., Cohen, L., Sigman, M., & Vinckier, F. (2005). The neural code for written words: A proposal. *Trends in Cognitive Sciences, 9*(7), 335-341.
- Démonet, J., Thierry, G., & Cardebat, D. (2005). Renewal of the neurophysiology of language: Functional neuroimaging. *Physiology Review, 85*, 49-95.
- Denckla, M. B., & Cutting, L. E. (1999). History and significance of rapid automatized naming. *Annals of Dyslexia, 49*, 29-42.
- Denckla, M. B., & Rudel, R. G. (1976). Rapid "automatized" naming (R.A.N): Dyslexia differentiated from other learning disabilities. *Neuropsychologia, 14*, 471-479.
- Devlin, J., Jamison, H., Gonnerman, L., & Matthews, P. (2006). The role of the posterior fusiform gyrus in reading. *Journal of Cognitive Neuroscience, 18*, 911-922.
- Eberhard-Moscicka, A. K., Jost, L. B., Raith, M., & Maurer, U. (2015). Neurocognitive mechanisms of learning to read: print tuning in beginning readers related to word-reading fluency and semantics but not phonology. *Developmental Science, 18*(1), 106-118.
- Elizabeth, S. N., Beach, S. D., & Gabrieli, J. D. (2014). Neurobiology of dyslexia. *Current Opinion in Neurobiology, 30*, 73-78.
- Ellis, A. W., & Young, A. (1988). *Human cognitive neuropsychology*. London: Erlbaum.
- Farmer, M. E., & Klein, R. M. (1995). The evidence for a temporal processing deficit linked to dyslexia. *Psychonomic Bulletin and Review, 2*, 460-493.
- Fiez, J. A., & Peterson, S. E. (1998). Neuroimaging studies of word reading. *Proceedings of the National Academy of Science, USA, 95*, 914-921.
- Fischer, B., & Hartnegg, K. (2004). On the development of low-level auditory discrimination and deficits in dyslexia. *Dyslexia, 10*(2), 105-118.
- Gage, N. M., Poeppel, D., Roberts, T. P., & Hickok, G. (1998). Auditory evoked M100 reflects onset acoustics of speech sounds. *Brain Research, 814*, 236-239.

- Garrido, M. I., Kilner, J. M., Stephan, K. E., & Friston, K. J. (2009). The mismatch negativity: A review of underlying mechanisms. *Clinical Neurophysiology*, *120*(3), 453-463.
- Gauthier, I., Curran, T., Curby, K., & Collins, D. (2003). Perceptual interference supports a non - modular account of face processing. *Nature Neuroscience*, *6*(4), 428 - 432.
- Giraud, K., Démonet, J. F., Habib, M., Marquis, P., Chauvel, P., & Liégeois-Chauvel, C. (2005). Auditory evoked potential patterns to voiced and voiceless speech sounds in adult developmental dyslexics with persistent deficits. *Cerebral Cortex*, *15*(10), 1524-1534.
- Grigorenko, E. L. (2001). Developmental dyslexia: An update on genes, brains, and environments. *Journal of Child Psychology and Psychiatry*, *42*(1), 91-125.
- Guttorm, T. K., Leppänen, P. H., Poikkeus, A. M., Eklund, K. M., Lyytinen, P., & Lyytinen, H. (2005). Brain event-related potentials (ERPs) measured at birth predict later language development in children with and without familial risk for dyslexia. *Cortex*, *41*(3), 291-303.
- Hämäläinen, J. A., Salminen, H. K., & Leppänen, P. H. (2013). Basic auditory processing deficits in dyslexia: Systematic review of the behavioral and event-related potential/field evidence. *Journal of Learning Disabilities*, *46*(5), 413-427.
- Harm, M., & Seidenberg, M. S. (1999). Reading acquisition, phonology, and dyslexia: Insights from a connectionist model. *Psychological Review*, *106*, 491-528.
- Harm, M., & Seidenberg, M. S. (2004). Computing the meanings of words in reading: Division of labor between visual and phonological processes. *Psychological Review*, *111*, 662-720.
- Hart, H. C., Palmer, A. R., & Hall, D. A. (2003). Amplitude and frequency-modulated stimuli activate common regions of human auditory cortex. *Cerebral Cortex*, *13*, 773-781.
- Hauk, O., & Pulvermüller, F. (2004). Effects of word length and frequency on the human event-related potential. *Clinical Neurophysiology*, *115*, 1090-1103.
- Heim, S., Eulitz, C., Kaufmann, J., Füscher, I., Pantev, C., Lamprecht-Dinnesen, A. M., ... Elbert, T. (2000). Atypical organization of the auditory cortex in dyslexia as revealed by MEG. *Neuropsychologia*, *38*, 1749-1759.
- Helenius, P., Tarkiainen, A., Cornelissen, P., Hansen, P. C., & Salmelin, R. (1999). Dissociation of normal feature analysis and deficient processing of letter-strings in dyslexic adults. *Cerebral Cortex*, *9*, 476-483.

- Hickok, G., & Poeppel, D. (2000). Towards a functional neuroanatomy of speech perception. *Trends in Cognitive Neuro Sciences*, 4(4), 131-138.
- Hugdahl, K., Heiervang, E., Nordby, H., Smievoll, A. I., Steinmetz, H., Stevenson, J., & Lund, A. (1998). Central auditory processing, MRI morphometry and brain laterality: Application to dyslexia. *Scandinavian Audiology*, 27(Suppl. 49), 26-34.
- Humphries, C., Sabri, M., Lewis, K., & Liebenthal, E. (2014). Hierarchical organization of speech perception in human auditory cortex. *Frontiers in Neuroscience*, 8, 1-12.
- Ille, N., Patrick, B., & Scherg, M. (2002). Artifact correction of the ongoing EEG using spatial filters based on artifact and brain signal topographies. *Journal of Clinical Neurophysiology*, 19(2), 113-124.
- Jaeger, F. (2008). Categorical data analysis: Away from ANOVAs (transformation or not) and towards logit mixed models. *Journal of Memory and Language*, 59(4), 434-446.
- Joanisse, M. F., & Gati, J. S. (2003). Overlapping neural regions for processing rapid temporal cues in speech and nonspeech signals. *NeuroImage*, 19, 64-79.
- Jobard, G., Crivello, F., & Tzourio-Mazoyer, N. (2003). Evaluation of the dual route theory of reading: A meta-analysis of 35 neuroimaging studies. *NeuroImage*, 20, 693-712.
- Kim, K., Yoon, H., & Park, H. (2004). Spatiotemporal brain activation pattern during word/picture perception by native Koreans. *NeuroReport*, 15, 1099-1103.
- Kirby, J. R., Silvestri, R., Allingham, B. H., Parrila, R., & La Fave, C. B. (2008). Learning strategies and study approaches of postsecondary students with dyslexia. *Journal of Learning Disabilities*, 41, 85-96.
- Korpilahti, P., Krause, C. M., Holopainen, I. E., & Lang, A. H. (2001). Early and late mismatch negativity elicited by words and speech-like stimuli in children. *Brain and Language*, 76, 332-339.
- Koyama, S., Kakigi, R., Hoshiyama, M., & Kitamura, Y. (1998). Reading of Japanese Kanji (morphograms) and Kana (syllabograms): A magnetoencephalographic study. *Neuropsychologia*, 36, 83-98.
- Kraus, N., McGee, T., Carell, T., Zecker, S., Nicol, T., & Koch, D. (1996). Auditory neurophysiologic response and discrimination deficits in children with learning problems. *Science*, 273, 91-93.
- Kronbichler, M., Hutzler, F., Wimmer, H., Mair, A., Staffen, W., & Ladurner, G. (2004). The visual word form area and the frequency with which words are encountered: Evidence from a parametric fMRI study. *NeuroImage*, 21, 946-953.



- Kronbichler, M., Bergmann, J., Hutzler, F., Staffen, W., Mair, A., Ladurner, G., & Wimmer, H. (2007). Taxi vs. Taksi: On orthographic word recognition in the left ventral occipitotemporal cortex. *Journal of Cognitive Neuroscience*, *19*(10), 1584-1594
- Kronschabel, J., Schmid, R., Maurer, U., & Brandeis, D. (2013). Visual print tuning deficits in dyslexic adolescents under minimized phonological demands. *NeuroImage*, *74*(1), 58-69.
- Kryuchkova, T., Tucker, B. V., Wurm, L. H., & Baayen, R. H. (2012). Danger and usefulness are detected early in auditory lexical processing: Evidence from electroencephalography. *Brain and Language*, *122*, 81-91.
- Kujala, T., Belitz, S., Tervaniemi, M., & Näätänen, R. (2003). Auditory sensory memory disorder in dyslexic adults as indexed by the mismatch negativity. *European Journal of Neuroscience*, *17*(6), 1323-1327.
- Kujala, T., Lovio, R., Lepistö, T., Laasonen, M., & Näätänen, R. (2006). Evaluation of multi-attribute auditory discrimination in dyslexia with the mismatch negativity. *Clinical Neurophysiology*, *117*, 885-893.
- Kuriki, S., Hirata, Y., Fujimaki, N., & Kobayashi, T. (1996). Magnetoencephalographic study on the cerebral neural activities related to the processing of visually presented characters. *Brain Research, Cognitive Brain Research*, *4*, 185-199.
- Lachmann, T., Berti, S., Kujala, T., & Schroger, E. (2005). Diagnostic subgroups of developmental dyslexia have different deficits in neural processing of tones and phonemes. *International Journal of Psychophysiology*, *56*, 105-120.
- Latinus, M., & Taylor, M. (2006). Face processing stages: Impact of difficulty and the separation of effects. *Brain Research*, *1123*(1), 179-187.
- Liebenthal, E., Binder, J. R., Spitzer, S. M., Possing, E. T., & Medler, D. A. (2005). Neural substrates of phonemic perception. *Cerebral Cortex*, *15*, 1621-1631.
- Lin, S., Chen, H., Zhao, J., Li, S., He, S., & Weng, X. (2011). Left-lateralized N170 response to unpronounceable pseudo but not false Chinese characters - The key role of orthography. *Neuroscience*, *190*, 200-206.
- Luck, S. (2005). *An introduction to the event-related potential technique*. Cambridge, MA: MIT Press.
- Lyon, G. R., Shaywitz, S. E., & Shaywitz, B. A. (2003). A definition of dyslexia. *Annals of Dyslexia*, *53*, 1-14.
- Lyytinen, H., Aro, M., Eklund, K., Erskine, J., Guttorm, T., Laakso, M. L., ... Torppa, M. (2004). The development of children at familial risk for dyslexia: birth to early school age. *Annals of Dyslexia*, *54*(2), 184-220.

- Lyttinen, H., Guttorm, T. K., Huttunen, T., Hämäläinen, J., Leppänen, P. H., & Vesterinen, M. (2005). Psychophysiology of developmental dyslexia: A review of findings including studies of children at risk for dyslexia. *Journal of Neurolinguistics, 18*, 167-195.
- Maurer, U., & McCandliss, B. (2007). The development of visual expertise for words: The contribution of electrophysiology. In E. L. Grigorenko, & A. J. Naples, *Single-word reading: Biological and behavioral perspectives* (pp. 43-64). Mahwah, NJ: Erlbaum.
- Maurer, U., Brandeis, D., & McCandliss, B. (2005a). Fast, visual specialization for reading in English revealed by the topography of the N170 ERP response. *Behavioral and Brain Functions, 1*, 13.
- Maurer, U., Brem, S., Bucher, K., & Brandeis, D. (2005b). Emerging neurophysiological specialization for letter strings. *Journal of Cognitive Neuroscience, 17*, 1532-1552.
- Maurer, U., Brem, S., Bucher, K., Kranz, F., Benz, R., Steinhausen, H.-C., & Brandeis, D. (2007). Impaired tuning of a fast occipito-temporal response for print in dyslexic children learning to read. *Brain, 130*, 3200-3210.
- Maurer, U., Brem, S., Kranz, F., Bucher, K., Benz, R., Halder, P., ... Brandeis, D. (2006). Coarse neural tuning for print peaks when children learn to read. *NeuroImage, 33*, 749-758.
- Maurer, U., Schulz, E., Brem, S., van der Mark, S., Bucher, K., Martin, E., & Brandeis, D. (2011). The development of print tuning in children with dyslexia: Evidence from longitudinal ERP data supported by fMRI. *NeuroImage, 57*, 714-722.
- Maurer, U., Zevin, J., & McCandliss, B. (2008). Left-lateralized N170 effects of visual expertise in reading: evidence from Japanese syllabic and logographic scripts. *Journal of Cognitive Neuroscience, 20*, 1878-1891.
- McArthur, G. M., & Bishop, D. V. (2001). Auditory perceptual processing in people with reading and oral language impairments: Current issues and recommendations. *Dyslexia, 7*(3), 150-170.
- McBride-Chang, C., & Chen, H. (2003). *Reading development in Chinese Children*. Westport, CT: Praeger.
- McCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods, 7*, 19-40.
- McCandliss, B. D., & Noble, K. G. (2003). The development of reading impairment: A cognitive neuroscience model. *Mental Retardation and Developmental Disabilities Research Reviews, 9*, 196-204.

- McCandliss, B. D., Posner, M. I., & Givon, T. (1997). Brain plasticity in learning visual words. *Cognitive Psychology*, *33*, 88-110.
- McDougall, P., Borowsky, R., MacKinnon, G. E., & Hymel, S. (2005). Processing dissociation of sight vocabulary and phonetic decoding in reading: A new perspective on surface and phonological dyslexia. *Brain and Language*, *92*, 185-203.
- Menell, P., McAnally, K. I., & Stein, J. F. (1999). Psychological sensitivity and physiological response to amplitude modulation in adult dyslexic listeners. *Journal of Speech, Language, and Hearing Research*, *42*(4), 797-803.
- Meng, X., Sai, X., Wang, C., Wang, J., Sha, S., & Zhou, X. (2005). Auditory and speech processing and reading development in Chinese school children: Behavioral and ERP evidence. *Dyslexia*, *11*(4), 292-310.
- Meulman, N., Wieling, M., Sprenger, S. A., Stowe, L. A., & Schmid, M. S. (2015). Age effects in L2 grammar processing as revealed by ERPs and how (not) to study them. Manuscript submitted for publication.
- Misra, M., Katzir, T., Wolf, M., & Poldrack, R. A. (2004). Neural systems for rapid automatized naming in skilled readers: Unravelling the RAN-reading relationship. *Scientific Studies of Reading*, *8*(3), 241-256.
- Mody, M., Studdert-Kennedy, M., & Brady, S. (1997). Speech perception deficits in poor readers: Auditory processing or phonological decoding? *Journal of Experimental Child Psychology*, *64*(2), 199-231.
- Moiescu-Yiflach, T., & Pratt, H. (2005). Auditory event related potentials and source current density estimation in phonologic/auditory dyslexics. *Clinical Neurophysiology*, *116*(11), 2632-2647.
- Müller, R. A., Kleinhans, N., & Courchesne, E. (2001). Broca's area and the discrimination of frequency transitions: A functional MRI study. *Brain and Language*, *76*, 70-76.
- Muneaux, M., Ziegler, J. C., Truc, C., Thomson, J., & Goswami, U. (2004). Deficits in beat perception and dyslexia: Evidence from French. *NeuroReport*, *15*, 1255-1259.
- Näätänen, R. (1992). *Attention and brain function*. Hillsdale, NJ: Lawrence Erlbaum.
- Näätänen, R. (2001). The perception of speech sounds by the human brain as reflected by the mismatch negativity (MMN) and its magnetic equivalent MMNm. *Psychophysiology*, *38*, 1-21.
- Näätänen, R., & Alho, K. (1997). Mismatch negativity-the measure for central sound representation accuracy. *Audiology and Neurotology*, *2*, 341-353.

- Näätänen, R., Kujala, T., Escera, C., Baldeweg, T., Kreegipuu, K., Carlson, S., & Ponton, C. (2012). The mismatch negativity (MMN) - A unique window to disturbed central auditory processing in aging and different clinical conditions. *Clinical Neurophysiology*, *123*, 424-458.
- Näätänen, R., Pakarinen, S., Rinne, T., & Takegata, R. (2004). The mismatch negativity (MMN): towards the optimal paradigm. *Clinical Neurophysiology*, *115*, 140-144.
- Näätänen, R., & Winkler, I. (1999). The concept of auditory stimulus representation in cognitive neuroscience. *Psychological Bulletin*, *125*, 826-859.
- Neuhoff, N., Bruder, J., Bartling, J., Warnke, A., Remschmidt, H., Müller-Myhsok, B., & Schulte-Körne, G. (2012). Evidence for the late MMN as a neurophysiological endophenotype for dyslexia. *PLoS One*, *7*(5): e34909.
- Patterson, K., & Shewell, C. (1987). Speak and spell: Dissociations and word-class effects. In M. Coltheart, G. Sartori, & R. Job (Eds.), *The cognitive neuropsychology of language* (pp. 273-294). London: Erlbaum.
- Paul, I., Bott, C., Heim, S., Wienbruch, C., & Elbert, T. R. (2006). Phonological but not auditory discrimination is impaired in dyslexia. *The European Journal of Neuroscience*, *24*, 2945-2953.
- Paulesu, E., Danelli, L., & Berlinger, M. (2014). Reading the dyslexic brain: Multiple dysfunctional routes revealed by a new meta-analysis of PET and fMRI activation studies. *Frontiers in Human Neuroscience*, *8*, 1-20.
- Paulesu, E., Démonet, J.-F., Fazio, F., McCrory, E., Chanoine, V., Brunswick, N., ... Frith, U. (2001). Dyslexia: Cultural Diversity and Biological Unity. *Science*, *291*, 2165-2167.
- Pennington, B. F. (2006). From single to multiple deficit models of developmental disorders. *Cognition*, *101*, 385-413.
- Pennington, B. F., & Lefly, D. (2001). Early reading development in children at family risk for dyslexia. *Child Development*, *72*(3), 816-833.
- Pennington, B. F., Santerre-Lemmon, L., Rosenberg, J., MacDonald, B., Boada, R., Friend, A., ... Richard, K. (2012). Individual prediction of dyslexia by single vs. multiple deficit models. *Journal of Abnormal Psychology*, *121*(1), 212-224.
- Perfetti, C., Cao, F., & Booth, J. (2013). Specialization and universals in the development of reading skill: How Chinese research informs a universal science of reading. *Scientific Studies of Reading*, *17*(1), 5-21.
- Perfetti, C., & Harris, L. (2013). Universal reading processes are modulated by language and writing system. *Language Learning and Development*, *9*, 296-316.

- Perfetti, C., Liu, Y., & Tan, L. (2005). The lexical constituency model: Some implications of research on Chinese for general theories of reading. *Psychological Review*, *12*(11), 43-59.
- Perfetti, C., & Zhang, S. (1995). Very early phonological activation in Chinese reading. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *21*, 24-33.
- Perfetti, C., Zhang, S., & Berent, I. (1992). Reading in English and Chinese: Evidence for a “universal” phonological principle. In R. Frost & L. Katz (Eds.), *Orthography, phonology, morphology, and meaning* (pp. 227-248). Amsterdam, the Netherlands: North-Holland.
- Pernet, C., Basan, S., Doyon, B., Cardebat, D., Démonet, J. F., & Celsis, P. (2003). Neural timing of visual implicit categorization. *Brain research, Cognitive Brain Research*, *17*, 327-338.
- Peterson, R. L., & Pennington, B. F. (2012). Developmental dyslexia. *Lancet*, *379*, 1997-2007.
- Pettigrew, C. M., Murdoch, B. E., Ponton, C. W., Finnigan, S., Alku, P., & Kei, J. (2004). Automatic auditory processing of English words as indexed by the mismatch negativity, using a multiple deviant paradigm. *Ear and Hearing*, *25*, 284-301.
- Picton, T. W., Alain, C., Otten, L., Ritter, W., & Achim, A. (2000). Mismatch negativity: Different water in the same river. *Audiology and Neuro Otology*, *5*, 111-139.
- Posner, M. I., & Rothbart, M. K. (2005). Influencing brain networks: implications for education. *Trends in Cognitive Sciences*, *9*(3), 99-103.
- Proverbio, A. M., & Zani, A. (2003). Time course of brain activation during graphemic/phonologic processing in reading: An ERP study. *Brain and Language*, *87*, 412 - 420.
- Pugh, K. R., Mencl, W. E., Jenner, A. R., Katz, L., Frost, S. J., Lee, J. R., ... Shaywitz, B. A. (2001). Neurobiological studies of reading and reading disability. *Journal of Communication Disorders*, *4*, 479-492.
- Puolakanaho, A., Ahonen, T., Aro, M., Eklund, K., Leppänen, P. H., Poikkeus, A.-M., ... Lyytinen, H. (2007). Very early phonological and language skills: estimating individual risk of reading disability. *Journal of Child Psychology and Psychiatry*, *48*(9), 923-931.
- Ramus, F. (2004). The neural basis of reading acquisition. In M. S. Gazzaniga (Ed.), *The Cognitive Neurosciences (3rd ed.)* (pp. 815-824). Cambridge, MA: MIT Press.

- Ramus, F., Rosen, S., Dakin, S. C., Day, B. L., Castellote, J. M., White, S., & Frith, U. (2003). Theories of developmental dyslexia: insights from a multiple case study of dyslexic adults. *Brain*, *126*, 841-865.
- Rastle, K., & Coltheart, M. (1999). Serial and strategic effects in reading aloud. *Journal of Experimental Psychology: Human Perception & Performance*, *25*, 482-503.
- Renvall, H., & Hari, R. (2003). Diminished auditory mismatch fields in dyslexic adults. *Annals of Neurology*, *53*, 551-557.
- Richlan, F., Kronbichler, M., & Wimmer, H. (2011). Meta-analyzing brain dysfunctions in dyslexic children and adults. *NeuroImage*, *56*, 1735-1742.
- Ritter, W., Deacon, D., Gomes, H., Javitt, D. C., & Vaughan, H. G. (1995). The mismatch negativity of event-related potentials as a probe of transient auditory memory: A review. *Ear and Hearing*, *16*, 52-67.
- Rocheron, I., Lorenzi, C., Fullgrabe, C., & Dumont, A. (2002). Temporal envelope perception in dyslexic children. *NeuroReport*, *13*(13), 1683-1687.
- Rossion, B., Joyce, C., Cottrell, G., & Tarr, M. (2003). Early lateralization and orientation tuning for face, word, and object processing in the visual cortex. *NeuroImage*, *20*(1), 1609-1624.
- Rumsey, J., Nace, K., Donohue, B., Wise, D., Maisog, J., & Andreason, P. (1997). A positron emission tomographic study of impaired word recognition and phonological processing in dyslexic men. *Archives of Neurology*, *54*(5), 562-573.
- Sabri, M., & Campbell, K. B. (2001). Effects of sequential and temporal probability of deviant occurrence on mismatch negativity. *Cognitive Brain Research*, *12*, 171-180.
- Schendan, H., Ganis, G., & Kutas, M. (1998). Neurophysiological evidence for visual perceptual categorization of words and faces within 150 ms. *Psychophysiology*, *35*(3), 240 - 251.
- Schlaggar, B. L., & McCandliss, B. D. (2007). Development of neural systems for reading. *Annual Review of Neuroscience*, *30*, 475-503.
- Schlaggar, B. L., Brown, T. T., Lugar, H. M., Visscher, K. M., & Miezin, F. M. (2002). Functional neuroanatomical differences between adults and school-age children in the processing of single words. *Science*, *296*, 1476-1479.
- Schulte-Körne, G., & Bruder, J. (2010). Clinical neurophysiology of visual and auditory processing in dyslexia: A review. *Clinical Neurophysiology*, *121*, 1794-1809.

- Schulte-Körne, G., Deimel, W., Bartling, J., & Remschmidt, H. (1998). Auditory processing and dyslexia: Evidence for a specific speech processing deficit. *NeuroReport*, *9*, 337-340.
- Schulte-Körne, G., Deimel, W., Bartling, J., & Remschmidt, H. (2001). Speech perception deficit in dyslexic adults as measured by mismatch negativity (MMN). *International Journal of Psychophysiology*, *40*(1), 77-87.
- Schulz, E., Maurer, U., van der Mark, S., Bucher, K., Brem, S., Martin, E., & Brandeis, D. (2008). Impaired semantic processing during sentence reading in children with dyslexia: Combined fMRI and ERP evidence. *NeuroImage*, *41*, 153-168.
- Scott, S. K. (2003). How might we conceptualize speech perception? The view from neurobiology. *Journal of Phonetics*, *31*, 417-422.
- Scott, S. K., & Johnsrude, I. S. (2003). The neuroanatomical and functional organization of speech perception. *Trends in Neurosciences*, *2*, 100-107.
- Scott, S. K., & Wise, R. J. (2003). PET and fMRI studies of the neural basis of speech perception. *Speech Communication*, *41*, 23-34.
- Sebastian, C., & Yasin, I. (2008). Speech versus tone processing in compensated dyslexia: Discrimination and lateralization with a dichotic mismatch negativity (MMN) paradigm. *International Journal of Psychophysiology*, *70*(2), 115-126.
- Seidenberg, M. S. (2013). Computational models of reading: Connectionist and dual-route approaches. In M. Spivey, K. McRae, & M. Joanisse (Eds.), *The Cambridge Handbook of Psycholinguistics* (pp. 186-203). Cambridge: Cambridge University Press.
- Seidenberg, M. S., & McClelland, J. L. (1989). A distributed, developmental model of word recognition and naming. *Psychological Review*, *523*-568.
- Sereno, S. C., Brewer, C. C., & O'Donnell, P. J. (2003). Context effects in word recognition: Evidence for early interactive processing. *Psychological Science*, *14*, 328-333.
- Serniclaes, W., Sprenger-Charolles, L., Carré, R., & Démonet, J. F. (2001). Perceptual discrimination of speech sounds in developmental dyslexia. *Journal of Speech, Language, and Hearing Research*, *44*, 384-399.
- Shafer, V. L., Morr, M. L., Datta, H., Kurtzberg, D., & Schwartz, R. G. (2005). Neurophysiological indexes of speech processing deficits in children with specific language impairment. *Journal of Cognitive Neuroscience*, *17*, 1168-1180.

- Shafer, V. L., Morr, M. L., Kreuzer, J. A., & Kurtzberg, D. (2000). Maturation of mismatch negativity in school-aged children. *Ear and Hearing, 21*, 242-251.
- Shankarnarayan, V. C., & Maruthy, S. (2007). Mismatch negativity in children with dyslexia speaking Indian languages. *Behavioral and Brain Functions, 3*, 36.
- Sharma, M., Purdy, S. C., Newall, P., Wheldall, K., Beaman, R., & Dillon, H. (2006). Electrophysiological and behavioral evidence of auditory processing deficits in children with reading disorder. *Clinical Neurophysiology, 117*, 1130-1144.
- Shaywitz, B. A., Shaywitz, S. E., Pugh, K. R., Mencl, W. E., Fulbright, R. K., Skudlarski, P., ... Gore, J. C. (2002). Disruption of posterior brain systems for reading in children with developmental dyslexia. *Biological Psychiatry, 52*, 101-110.
- Shirahama, Y., Ohta, K., Takashima, A., Matsushima, E., & Okubo, Y. (2004). Magnetic brain activity elicited by visually presented symbols and Japanese characters. *NeuroReport, 15*, 771-775.
- Simons, P. G., Breier, J. I., Fletcher, J. M., Foorman, B. R., Castillo, E. M., & Papanicolaou, A. C. (2002). Brain mechanisms for reading words and pseudowords: An integrated approach. *Cerebral Cortex, 12*(3), 297-305.
- Snowling, M. J. (2001). From language to reading and dyslexia. *Dyslexia, 7*, 37-46.
- Snowling, M. J., Callagher, A., & Frith, U. (2003). Family risk of dyslexia is continuous: Individual differences in the precursors of reading skill. *Child Development, 74*(2), 358-373.
- Stein, J. (2001). The magnocellular theory of developmental dyslexia. *Dyslexia, 7*, 12-36.
- Talcott, J. B., & Witton, C. (2002). A sensory linguistic approach to the development of normal and impaired reading skills. In E. Witruk, A. Friederici, & T. Lachmann, *Neuropsychology and cognition series. Basic functions of language and language disorders*. Dordrecht, Netherlands: Kluwer Academic Publishers.
- Talcott, J. B., Witton, C., Hebb, G. S., Stoodley, C. J., Westwood, E. A., & France, S. J. (2002). On the relationship between dynamic visual and auditory processing and literacy skills: Results from a large primary-school study. *Dyslexia, 8*(4), 204-225.
- Talcott, J. B., Witton, C., McClean, M., Hansen, P. C., Rees, A., & Green, G. (1999). Can sensitivity to auditory frequency modulation predict children's phonological and reading skills? *NeuroReport, 10*(10), 2045-2050.
- Talcott, J. B., Witton, C., McClean, M., Hansen, P. C., Rees, A., & Green, G. (2000). Dynamic sensory sensitivity and children's word decoding skills. *Proceedings of the National Academy of Science, USA, 97*(6), 2952-2957.



- Tallal, P. (1980). Auditory temporal perception, phonics, and reading disabilities in children. *Brain and Language*, *9*, 182-198.
- Tallal, P., & Piercy, M. (1973a). Defects of non-verbal auditory perception in children with developmental dysphasia. *Nature*, *241*, 468-469.
- Tallal, P., & Piercy, M. (1973b). Developmental aphasia: Impaired rate of non-verbal processing as a function of sensory modality. *Neuropsychologia*, *11*, 389-398.
- Tanaka, J., & Curran, T. (2001). A neural basis for expert object recognition. *Psychological Science*, *12*(1), 43-47.
- Tarkiainen, A., Helenius, P., Hansen, P. C., Cornelissen, P. L., & Salmelin, R. (1999). Dynamics of letter string perception in the human occipitotemporal cortex. *Brain*, *122*(11), 2119-2132.
- Temple, E. (2002). Brain mechanisms in normal and dyslexic readers. *Current Opinion in Neurobiology*, *12*(2), 178-183.
- Temple, E., Poldrack, R. A., Protopapas, S., Nagarajan, T., Salz, P., & Tallal, P. (2000). Disruption of the neural response to rapid acoustic stimuli in dyslexia: Evidence from functional MRI. *Proceedings of the National Academy of Sciences, USA*, *97*, 13907-13912.
- Tremblay, A., & Baayen, R. H. (2010). Holistic processing of regular four-word sequences: A behavioral and ERP study of the effects of structure, frequency and probability on immediate free recall. In D. Wood, *Perspectives on formulaic language: acquisition and communication* (pp. 151-173). London: The Continuum International Publishing Group.
- Tremblay, A., & Newman, A. J. (2015). Modeling non-linear relationships in ERP data using mixed-effects regression with R examples. *Psychophysiology*, *52*(1), 124-139.
- Uwer, R., & von Suchodoletz, W. (2000). Stability of mismatch negativities in children. *Clinical Neurophysiology*, *111*, 45-52.
- Uwer, R., Albrecht, R., & von Suchodoletz, W. (2002). Automatic processing of tones and speech stimuli in children with specific language impairment. *Developmental Medicine and Child Neurology*, *44*, 527-532.
- 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.
- 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.

- van der Mark, S., Bucher, K., Maurer, U., Schulz, E., Brem, S., Buckelmuller, J., ... Brandeis, D. (2009). Children with dyslexia lack multiple specializations along the visual word-form (VWF) system. *NeuroImage*, *47*, 1940-1949.
- van Ingelghem, M., Boets, B., van Wieringen, A., Onghena, P., Ghesquière, P., & Wouters, J. (2005). An auditory temporal processing deficit in children with dyslexia? In P. Ghesquiere, & A. J. Ruijssenaars, *Learning disabilities: A challenge to teaching and instruction Series: Studia Paedagogica* (Vol. 40, pp. 47-63). Leuven: University Press.
- van Leeuwen, T., Been, P., van Herten, M., Zwarts, F., Maassen, B., & van der Leij, A. (2008). Two-month-old infants at risk for dyslexia do not discriminate /bAk/ from /dAk/: A brain-mapping study. *Journal of Neurolinguistics*, *21*, 333-348.
- van Rij, J., Wieling, M., Baayen, H., & van Rijn, H. (2015). itsadug: Interpreting time series and autocorrelated data using GAMMs. *R package version 1.0.1*.
- 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*(1), 2-40.
- Vellutino, F. R., Scanlon, D. M., Sipay, E. R., Small, S. G., Pratt, A., & Chen, R. S. (1996). Cognitive profiles of difficult-to-remediate and readily remediated poor readers: Early intervention as a vehicle for distinguishing between cognitive and experiential deficits as basic causes of specific reading disability. *Journal of Educational Psychology*, *88*(4), 601-638.
- Verhoeven, L. (1995). *Drie-Minuten-Toets (DMT)*. Arnhem: Cito.
- Vinckier, F., Dehaene, S., Jobert, A., Dubus, J., Sigman, M., & Cohen, L. (2007). Hierarchical coding of letter strings in the ventral stream: Dissecting the inner organization of the visual word-form system. *Neuron*, *55*, 143-156.
- Wakelkamp, I. (2015). A behavioural study of the cognitive profiles of Dutch poor reading children through a case series analysis (Unpublished MA thesis). Utrecht University, the Netherlands.
- Wandell, B. (2011). The neurobiological basis of seeing words. *Annals of the New York Academy of Sciences*, *1224*, 63-80.
- Warrington, E. K., & Shallice, T. (1980). Word-form dyslexia. *Brain*, *130*(1), 99-112.
- Wechsler, D., & Naglieri, J. A. (2008). WNV NL. Wechsler Nonverbal Scale of ability. Nederlandstalige bewerking. Technische handleiding (bewerking door P.H. Dekker). Amsterdam: Pearson.
- White, S., Milne, E., Rosen, S., Hansen, P., Swettenham, J., & Frith, U. (2006). The role of sensorimotor impairments in dyslexia: A multiple case study of dyslexic children. *Developmental Science*, *9*, 237-255.

- Wieling, M., Montemagni, S., Nerbonne, J., & Baayen, R. (2014). Lexical differences between Tuscan dialects and standard Italian: Accounting for geographic and sociodemographic variation using generalized additive mixed modeling. *Language, 90*(3), 669-692.
- Wieling, M., Nerbonne, J., & Baayen, R. H. (2011). Quantitative social dialectology: Explaining linguistic variation geographically and socially. *PLoS ONE, 6*(9): e23613.
- Wimmer, H., Schurz, M., Sturm, D., Richlan, F., Klackl, J., Kronbichler, M., & Ladurner, G. (2010). A dual-route perspective on poor reading in a regular orthography: An fMRI study. *Cortex, 46*(1), 1284-1298.
- Witton, C., Talcott, J. B., Hansen, P. C., Richardson, A. J., Griffiths, T. D., & Rees, A. (1998). Sensitivity to dynamic auditory and visual stimuli predicts nonword reading ability in both dyslexic and normal readers. *Current Biology, 8*(14), 791-797.
- Wolf, M., & Bowers, P. G. (2000). Naming-speed processes and developmental reading disabilities: An introduction to the special issue on the double-deficit hypothesis. *Journal of Learning Disabilities, 33*, 322-324.
- Wolf, M., Bowers, P. G., & Biddle, K. (2000). Naming-speed processes, Timing, and Reading: A Conceptual Review. *Journal of Learning Disabilities, 33*, 387-407.
- Wong, A., Gauthier, I., Woroch, B., DeBuse, C., & Curran, T. (2005). An early electrophysiological response associated with expertise in letter perception. *Cognitive, Affective & Behavioral Neuroscience, 5*, 306-318.
- Wood, S. (2006). *Generalized additive models: An introduction with R*. Boca Raton, FL: Chapman & Hall/CRC.
- Wood, C., & Connelly, V. (2009). *Contemporary perspectives on reading and spelling*. New York: Routledge.
- World Health Organization. (1993). The international classification of diseases, classification of mental and behavioral disorders. *Geneva, 10*.
- Wydell, T. N., Vuorinen, T., Helenius, P., & Salmelin, R. (2003). Neural correlates of letter-string length and lexicality during reading in a regular orthography. *Journal of Cognitive Neuroscience, 15*(7), 1052-1062.
- Xue, G., Jiang, T., Chen, C., & Dong, Q. (2008). Language experience shapes early electrophysiological responses to visual stimuli: The effect of writing system, stimulus length, and presentation duration. *NeuroImage, 39*, 2025-2037.
- Yoncheva, Y., Blau, V., Maurer, U., & McCandliss, B. (2010). Attentional focus during learning impacts N170 ERP responses to an artificial script. *Developmental Neuropsychology, 35*(4), 423-445.

- Zhang, M., Jiang, T., Mei, L., Yang, H., Chen, C., & Xue, G. (2011). It's a word: Early electrophysiological response to the character likeness of pictographs. *Psychophysiology*, *48*, 950-959.
- Zhao, J., Li, S., Cao, X., He, S., & Weng, X. (2012). Selectivity of N170 in the left hemisphere as an electrophysiological marker for expertise in reading Chinese. *Neuroscience Bulletin*, *28*(5), 577-584.
- Ziegler, J. C., & Goswami, U. (2005). Reading acquisition, developmental dyslexia, and skilled reading across languages: A psycholinguistic grain size theory. *Psychological Bulletin*, *131*(1), 3-29.
- Ziegler, J. C., Castel, C., Pech-Georgel, C., George, F., Alario, F. -X., & Perry, C. (2008). Developmental dyslexia and the dual route model of reading: Simulating individual differences and subtypes. *Cognition*, *107*, 151-178.
- Ziegler, J. C., Perry, C., & Coltheart, M. (2000). The DRC model of visual word recognition and reading aloud: An extension to German. *European Journal of Cognitive Psychology*, *12*, 413-430.
- Ziegler, J. C., Perry, C., & Coltheart, M. (2003). Speed of lexical and nonlexical processing in French: The case of regularity effect. *Psychonomic Bulletin & Review*, *10*, 947-953.