

Index

- Abu-Rabia, S., 338
 Acquired dyslexia, 25, 34, 350, 358
 applied to developmental dyslexia, 34–35
 Adams, M., 31
 Ahissar, M., 160, 162, 164
 Amitay, S., 164
 Attention, 307–312
 Attention deficit disorders, 10, 33, 163, 166, 393
 Crowding effects, 310–311
 Letter spacing, 310
 Frontal parietal attention network, 312
 Orienting
 Temporal, 311
 Attentional blink, 311
 Visual attention. *See visual processing*
 Auditory processing
 allophonic speech perception, 14
 auditory attention problems, 311
 deficits in, 82, 162, 169, 311, 351
 in at risk children, 267–269
 infants, as predictor of risk, 257, 448
 Automatized naming. *See rapid automatized naming*
- Baddeley, A., 241
 Bar-On, A., 154
 Baron, J., 396
 Behavioral and Neurocognitive Evidence
 Chinese, 204–214
 Czech and Slovak, 102–109
 Dutch, 81–85
 English, 33–40
 Finnish, 123–125
 French, 54–55, 64
 Hebrew, 160–167
 Japanese, 185–194
 Russian, 140–144
 Ben-Yehuda, G., 164
 Berent, I., 39
 Bergen Longitudinal Dyslexia Study, 265
 Berlin, R., 25
- Besner, D., 179
 Betjemann, R., 329, 402
 Biological bases, 441–444, *See also etiology and neurocognitive factors*
 Neurobiological factors, 142, 413–418
 Cross language comparisons, 447–451
 Gray matter, 264–265
 Model, 242
 Present from birth, 253
 White matter, 266–267
 Neurochemical processes, 292–293
 Blackmon, K., 293
 Blomert, L., 78, 84, 89
 Boets, B., 81, 82, 293
 Bogliotti, C., 61
 Bolger, D., 451
 Booth, J., 284, 286, 289
 Bosman, A., 87
 Brem, S., 130
 Breznitz, Z., 165–166, 167
 Burani, C., 332
 Butterworth, B., 188–190
 Byrne, B., 9
- Cao, F., 210–211, 286, 290
 Caravolas, M., 96–97, 104, 107
 Casalis, S., 338
 Castles, A., 34–35, 243
 Causes and explanations of developmental dyslexia
 Across research in different languages, 166–167
 Czech and Slovak, 105–107
 English, 36–38
 Dutch, 84–85
 Finnish, 131
 Hebrew, 166–167
 Japanese, 191–193
 Russian, 140–144
 Amplitude rise time (modulation) disorder, 40, 262, 448
 Deeper causes, 39–40, 447–449

- Double deficit, 14, 39, 43, 354
 Language deficit, 10, 108, 111, 339, *See also Specific Language Impairment*
 MD deficit hypothesis, 193, 205–206, 231, 311–314, 447
 Phonological deficit hypothesis, 12–13, 37–38, 64–65, 88–89, 160–161, 204–205, 239–240, 423, 444
 Procedural learning, 162–164, 242–242
 Rapid Automatized Naming (RAN), 38–39, 99, 106–107, 231–236, 240, 445
 Rapid temporal processing disorder, 40, 43, 64, 161–162, 166, 351, 448
 Single vs multiple deficit theories, 350–354, 423–424, 454–457
 Multiple deficit theories, 352–354
 intergenerational multiple deficit model (iMDM), 424
 Multiple Deficit Model (MDM), 424
 Visual attention deficit, 309
 Chang, L.-Y., 384
 Chinese writing
 Morphosyllabic characters, 201–203
 Pinyin and Zhu-Yin-Fu-Hao, 203
 Christopher, M., 403
 Clinical Implications, 65, 270, 343
 Assessment and identification, 244–244
 Dutch, 89
 French, 65
 Of Intergenerational research, 426–428
 Of Visual attention disorders, 316
 Cognitive Profiles, 35–36, 58–59, 79, 105–107, 358–365
 Cohen-Mimran, R., 161
 Coltheart, M., 34–36, 243, 358
 Co-morbidities, 33, 101, 107, 166, 169, 242, 315, 352
 With ADHD, 10, 393, 398
 With Dyscalculia, 169, 315
 With SLI, 10
 Compensatory factors, 166, 415
 Decoding focus, 239–240
 In neural network, 211–212, 214, 216, 266–267, 278, 281–283, 285–287, 289, 417
 Orthographic factors, 240–240, 458
 Semantics and morphology, 329–330, 331–332, 342, 447
 Comprehension Problems, 8–9, 32, 66–67, 103–104, 254
 Genetic factors, 142, 397–398
 Language comparison, 374–375
 Text Complexity, 103
 Dahdouh, F., 423
 de Groot, B., 246
 de Jong, P., 75, 82
 Deacon, H., 53
 Decoding
 Accuracy vs speed, 7, 38–39, 58, 60, 64, 76, 90, 122–123, 127, 357, *See also word identification*
 Problems in. *See* phonological problems
 DeFries, J., 393, 394, 395, 402
 Denckla, M., 38
 Developmental Dyslexia Definitions, 9, 32–33, 50, 78, 101, 253, 394, 402, 413, 414
 Causes of. *See Causes and Explanations*
 Ehri, L., 11, 327
 Elbro, C., 332
 Ellis, A., 30
 ERP indicators, 63, 84, 254, 257–264, 295
 Dyslexic children, 259
 Infants at risk, 257–258
 Mismatch response (MMN), 193, 259–262, 448
 Nonauditory predictors, 259–261
 Speech processing, 257, 448–449
 Etiology
 Environmental Factors, 64, 82, 214, 216, 229, 259, 394–395, 398–404, 419–421, 423–424, 452
 Genetic Factors, 391–395, 406, 416–418
 Across languages, 452–453
 Epigenetics, 420–421
 Gene studies, 417
 Gene-environment interactions, 213, 214, 418–420
 Heritability of dyslexia, 253, 392–394, 417
 Imaging genetic studies, 418
 Implications for interventions, 406
 In Chinese research, 213–214
 Twin studies, 391–405, 416
 Co-morbidities, 398
 With ADHD, 393
 concordance analyses, 392–394, 416
 SES factors, 395–396
 shared environment vs genetic influences, 394–395
 Subtypes, 396–398
 Intergenerational transmission, 423–430
 Language comparisons
 International longitudinal study, 399–404
 Limitations in inferring genetic estimates, 404–406

464 *Index*

- Fawcett, A., 162–163, 242
 Fletcher, J., 38, 41
 Fluency, 1, 7, 39, 44, 55, 82, 83, 107, 119–121, 127–128, 136, 141, 155, 231, 233, 241, 398, 442, 446, *See also RAN and decoding*
 Text reading speed, 136, 167, 424
 Foorman, B., 38
 Fostick, L., 161
 Friend, A., 395–396
 Frost, R., 281
 Frost, S., 418
 Fulker, D., 394
 Furnes, B., 237
- Gabay, Y., 162–163
 Galaburda, A., 206, 414, 422
 Georgiou, G., 234
 Geschwind-Galaburda Hypothesis, 422
 Glushko, R., 182
 Goodman, K., 328
 Gori, S., 315–317
 Goswami, U., 40, 190–191, 312, 315
 Gough, P., 9, 402
 Grainger, J., 57
 Graph Complexity, 202, 384–385
 Consequences for reading, 202, 240–241, 246, 296
 Traditional vs Simplified Chinese characters, 202
- Harm, M., 37, 191, 355, 358, 372, 376, 379, 381–382
 Hawke, J., 421
 Heth, I., 165, 167
 Historical and Cultural Context
 Finnish, 121–123
 Historical and Cultural Contexts
 Chinese, 203
 Czech and Slovak, 99–102
 Dutch, 77
 English, 30
 French, 53
 Hebrew, 155
 Japanese, 183–184
 Russian, 138–139
 Ho, C., 214–215, 333, 401
 Hoefft, F., 286–287
 Hoover, W., 9, 402
 Hu, W., 211, 291
 Hulme, C., 10, 11, 102, 234
- Identification and Prevalence of Dyslexia
 Chinese, 204
 Czech and Slovak, 100–102
 Dutch, 78
 English, 32
 Finnish, 122
 French, 54
 Hebrew, 158
 Japanese, 184
 Russian, 139
- Instruction in reading
 Chinese, 201
 Czech, 98
 Dutch, 76
 English, 29–32
 Finnish, 121
 Hebrew, 154
 Russian, 136
- International Dyslexia Association, 32
- Interventions
 Across languages, 453–454
 In Chinese, 214–215
 In Czech and Slovak, 109
 In English, 40–43
 In Finnish, 125–130
 In French, 64–65
 In Hebrew, 167
 In Russian, 144–146
 Brenzitz reading acceleration program, 167
 Challenges to, 43
 Duration of effects, 88
 Early interventions, 244–245
 Fluency, 127–128
 GraphoGame/GraphoLearn, 129, 245
 In Russian, 144–146
 Phonological, 125–128
 Response-to-Intervention (RTI), 41–42, 214
 Phonology centered, 42–43
 Video Games, 310, 314–316
 Visual, 128
- Japanese writing systems
 Hiragana and Katakana, 177
 Kanji, 177
- Johnston, R., 31
 Jorm, A., 7
- Karni, A., 163
 Katzir, T., 160
 Keenan, J., 329, 402
 Kessler, B., 27, 29
 Ketonen, 127
 Kirkpatrick, R., 395
- Lalaeva, R., 139
 Landerl, K., 128, 187, 235

- Language comparisons, 191, 192, 416, *See also writing system comparisons*
 European, 232
 Orthographic Depth, 235
 Genetic studies
 Limitations, 243
 Longitudinal, 237
 More reliance on morpho-semantics in alphabetic languages
 Phonological awareness and RAN, 245
 Language impairments (SLI/DLD), 10, 142, 144, 166, 168, 311, 314
 Language Skills, 42, 109, 111, 215, 254, 335, 374, *See also Linguistic Awareness*
 Languages and their Writing Systems
 Chinese, 200
 Czech and Slovak, 97
 Dutch, 73–75
 English, 26
 Finnish, 119–120
 French, 51
 Hebrew, 152–153
 Japanese, 176
 Russian, 133
 Lavidor, M., 165–167
 Learning to read, 280, 286, 365, 442
 In different languages
 Chinese, 200
 Czech and Slovak, 97–98
 Dutch, 73–75
 English, 26
 Finnish, 121
 French, 51–52
 Hebrew, 154
 Japanese, 176
 Russian, 133
 Predictors of, 232–234, 238
 Lehongre, K., 62
 Lenhard, W., 244
 Lexical Quality, 9, 12, 75, 245
 Hypothesis, 9
 Liberman, I., 204
 Lim, 213
 Linguistic (metalinguistic) Awareness, 4–7, 186, 441, *See also morphological and phonological awareness*
 Linguistic Precursors, 230, 231, 246
 Longitudinal studies, 38, 53, 110, 237, 257–258, 308
 International Longitudinal Twin Study (ILTS), 236–237, 399–400
 Jyväskylä Longitudinal study of Dyslexia (JLD), 123–124, 258, 449
 Lovett, M., 42, 43, 165
 Lyytinen, H., 123, 128, 234, 424
 Makita, K., 183
 Manis, F., 35–36
 Marx, P., 244
 McBride-Chang, C., 6, 217, 333, 444
 McClelland, J., 37
 Meng, X., 206, 214
 Menghini, D., 353, 455
 Models of reading processes, 2–10, 36–37, 355, 456
 Dual Route Models, 355
 PDP and triangle models, 355–357, 372–377
 Restricted Interactive Model, 76
 Simulations
 Chinese compared with English, 377–385
 Cross-language triangle model, 375–385
 dyslexia, 355–361, 366–367, 377
 reading development, 361–364
 visual and phoneme deficits, 365–366
 Moll, K., 6, 111, 244
 Monzalvo, K., 63
 Morphological factors in reading, 335
 Across languages
 in Abjad languages, 334
 in English, 341
 in Hebrew, 335
 Language comparisons, 340–343
 Morphological Awareness, 121, 207
 in Chinese, 185, 207, 211, 279, 281, 296, 329–330, 333–334
 in dyslexics, 331–335, 337
 not a cause of dyslexia, 338
 Morphological processes in reading, 8
 Morris, R., 43
 Nag, S., 384
 Nakamura, K., 288, 290
 Nation, K., 337
 Neurocognitive Factors, 9–10, 13–16, 40, 63–64, 65, 89
 biological unity theory of dyslexia, 192
 Cross language comparisons, 287–290, 449–451
 neuroimaging studies, 287–290
 Functional brain changes with reading development, 285–286
 Imaging studies of pre-readers, 266–267
 Neural markers of dyslexia, 285–286
 Neural unity and behavioural dissociation, 192
 neurocognitive models of reading, 282–283
 Subcortical structures, 294

466 *Index*

- Nicolson, R., 162–163, 242
 Noordenbos, M., 83
 Norton, E., 39, 426
- Oksanen, A., 128
 Olson, R., 37, 402, 421, 452
 Orthographic factors, 7, 83, 443
 depth, 4, 16, 28, 229, 285, 290, 316,
 372–374
 Effects of, 2, 55–57, 74–75, 77, 107, 180,
 230–231, 232, 235–246
 Lack of, in English spelling, 27–29, 44
 granularity, 189
 Orthographic coding skills, 397
 Orthographic representations, 7–8, 83,
 331, 339
 Importance in Chinese, 193
 precision and redundancy, 7
 Orton, S., 25, 30, 449
- Patterson, K., 34, 181
 Paulesu, E., 55, 287
 Peereman, R., 52
 Pennington, B., 423, 424
 Perfetti, C., 2, 26, 76, 192, 243, 384
 Phoneme discrimination, 60
 phonological awareness, 4–7, 14, 205, 230,
 239–240, 245–246, 268, 269,
 279–281, 308, 327, 365,
 374, 441
 as primary cause of reading problems,
 331
 impact over time, 239
 In Chinese, 205, 215, 329–330
 In Dutch, 76
 In English, 38–39
 In Finnish, 126–127
 In Hebrew, 154, 158, 330
 In Japanese, 187
 In Russian, 98, 109
 Phonemic awareness, 50, 60, 121,
 139–141
 Syllable awareness, 121, 205
 Phonological deficit hypothesis. *See Causes
 and Explanations*
 Phonological processing problems, 1, 238, 423,
 443–445
 In Chinese, 205–206
 In Dutch, 81–82, 88
 In French, 54–60
 Phonological memory, 205, 230–239, 419,
 454–455
 Phonology memory, 213
 Pinel, P., 419
- Plaut, D., 384–386
 Plomin, R., 399
 Poskiparta, E., 126
 Pringle-Morgan, W., 30
 Psycholinguistic Grain Size Theory, 190,
 280–281, 444
 Pugh, K., 283
- Qi, T., 212
 Qian, Y., 214
 Quémart, P., 59
- Rack, J., 37
 Ramus, F., 39, 242, 352
 Randazzo-Wagner, R., 284
 Rapid automatized naming (RAN), 6, 108,
 141–142, 230
 Rastle, K., 179
 Ravid, D., 155
 Reading and Spelling Problems
 Across languages
 Chinese, 204–214
 Hebrew, 160–166
 Japanese, 185–194
 Russian, 140–144
 nature of, 135–141
 Czech and Slovak, 102–109
 Finnish, 123–125
 Writing system
 Hypothesis of Granularity and
 Transparency, 194
 Reading and Spelling Problems,
 nature of
 In Dutch, 81–85
 In English, 34–40
 In French, 53–62
 Richlan, F., 283, 450
 Risk factors, 84–86
 Cumulative Risk and Protection Model,
 424
 Early detection, 40, 101, 253
 Environmental risk, 416–417
 Familial risk, 10, 81, 102, 109, 123–124,
 217, 254, 255–259
 Neural correlates, 266–267
 Genetic risk, 413–415
 In Chinese, 217
 Prediction, 108–109, 123
 Neural predictors, challenges, 255–256
 Statistical models, 255
- Scarborough, H., 38
 Schaars, M., 81
 Schatschneider, C., 38

Index

467

- Schneps, M., 311
 Segers, E., 83, 88
 Seidenberg, 37
 Seidenberg, M., 191, 355, 358, 372, 376, 379, 381
 Sela, I., 163
 Self-teaching, 13, 361–366
 Semantic Processing
 Compensation for phonological deficits, 328–329
 Deficits in, 327–328, 335–337, 340, 375–377, 385
 Lack of evidence for, 343
 In Chinese, 329
 Neural correlates, 288–290
 Serniclaes, W., 39, 83
 Sex differences, 33, 413
 Seymour, P., 29, 336
 Shallice, T., 34
 Shany, M., 160, 165
 Share, D., 7, 13, 83, 154, 361–362
 Shibahara, N., 181
 Shu, H., 333
 Simple View of Reading, 9, 402
 Siok, W., 192, 211, 291
 Snowling, M., 10–11, 37, 337
 Speech perception factors, 448
 Allophonic vs Categorical perception, 14, 82–83, 89, 124
 Neural indicators. *See ERPs*
 Phoneme duration, 124
 Spelling
 Development
 In Czech and Slovak, 98–99
 In Dutch, 77
 English spelling irregularities, 28
 Great vowel shift, 26
 Interventions, 239–240
 Problems, 104–105
 Relation to reading, 3, 10, 77–78, 107–108, 239–240
 Spinelli, D., 310
 Sprenger-Charolles, L., 52, 54, 58–59
 Stanovich, K., 328–329
 Steenbeek-Planting, E., 86
 Stein, J., 164
 Stevenson, H., 183, 203
 Subtypes of dyslexia, 10
 Across languages, 35, 58–59
 Czech and Slovak, 107–109
 English, 37, 398
 French, 58–59
 Genetic studies, 396–398
 Model simulations, 358–361
 Sun, Y., 213
 Tallal, P., 40, 160, 161–162, 166, 169
 Tan, L., 192, 451
 Tijms, J., 87
 Tilanus, E., 79
 Torgesen, J., 38, 42–43
 Treiman, R., 27, 187
 Universals across languages and writing systems, 2, 7, 16, 120, 194, 200, 234, 277
 Cross-language generalizations summary, 441–444
 Universal Phonological Principle, 4
 Uno, A., 184–187
 Ushinski, K., 146–147
 van Bergen, E., 82, 424
 van der Kleij, S., 88
 van der Leij, A., 75, 85–86
 Vandermosten, M., 83, 426
 Váryová, B., 103
 Vaughn, S., 41
 Verhoeven, L., 2, 75–77, 79, 83–84, 88, 243, 454
 Visual processing
 demands of, in Chinese, 206, 241, 456
 Magnocellular deficits, 351
 problems in
 Magnocellular deficits, 164
 visual span deficits, 205–207, 351
 problems in Magnocellular deficits
 magnocellular-dorsal (M–D) stream, 312–313
 Visual Attention Deficits, 57, 62, 65, 76, 231–232, 294, 309–312
 Visual-word-form area (VWFA), 51, 63–64, 130, 265, 282, 309, 398
 Vloedgraven, J., 75
 Vocabulary, 9
 Genetic influence, 400
 predictor of reading problems, 233
 problems, 109
 Role in word reading
 Irregular words, 360
 Kanji, 186
 Wang, X., 289
What Works Clearing House, 41, 453

468 *Index*

- Wolf, M., 39, 43
Word Identification
 Division of labor, 3, 15, 374, 457
 Dual Route models, 2, 44, 328, 355–358, 396
 Familiarity shift to retrieval route, 2, 40
Word-to-Text Integration, 8
World Health Organization, 350
Writing systems, 4, 441
 Dyslexia Comparisons, 441–452
 Dyslexia in English but not Japanese, 190
 Specific languages. *See Languages.*
 Transparency. *See orthographic factors*
Wydell, T., 184, 185, 188–191, 192
Yang, J., 289, 376
Zevin, J., 289
Zhou, A., 333
Ziegler, J., 10, 58, 62, 232–233, 244, 280, 455
Zorzi, M., 310