

Subject Index

- abnormalities
 - of brain development 77, 78, 166, 167, 237, 238, 273, 319
 - congenital 23, 238
 - executive function 281
 - general development 327
 - in neurological system (ADHD) 260, 269, 281
 - perceptual 284, 308, 309, 323, 326
 - sensory 285
 - social interaction 288
- acalculia 172, 195
- ADD 244
- ADHD (attention deficit hyperactivity disorder) 35, 68, 73, 80, 168, 211, 212, 213, 237, 238, 242, 243–83, 296, 302, 314, 322, 325, 327, 334, 336, 337, 343, 346, 352
 - assessment 246
 - Barkley's model of behavioural inhibition 252–3
 - biological causation 269
 - cognitive energetic model 262, 263, 274
 - cognitive theories 252
 - definition of 244
 - drug treatment 274, 275, 276, 277, 278, 314
 - dual-deficit theory 279, 280
 - executive function deficit 258, 259, 279
 - and fluctuating performance 259–60
 - frontal metaphor 252, 253
 - gender differences 246
 - group differences 259
 - group profiles 267
 - hyperactive-impulsive (ADHD-HI) 244, 245, 249, 263, 264
 - inattentive ADHD-IA 244, 245, 246, 247, 249, 263, 264
 - motivational theories 260, 261
 - neurobiology 272–4
 - neurocognitive theory 278–82
 - path diagram 282
 - phenotype 262, 266, 267, 270, 271, 282, 283
 - prevalence 246
 - signs and symptoms 245
 - single-deficit models 263
 - subtypes 244, 245, 249, 263
 - symptomatology 245
- adoption studies 342
- aggression 5, 6, 21, 247, 262
- agnosia 26, 143, 144, 195, 209, 219, 227
- alcohol misuse 247, 272, 352
- algebra 174
- alleles 4, 10, 11, 174, 344
- alliteration 43, 87
- allophones (and dyslexia) 67, 135
- alphabetic strategies 43
- alphabetic writing systems 46, 81
- amygdale 4, 5, 320
- analogue representation 177
- anaphora 107, 113, 116
- anaphoric reference 65, 106
- anatomical risk index (ARI) 124

- Angelman's syndrome 315
 angular gyrus 167, 200, 204
 anterior cingulate 273, 319, 320
 anterior inferotemporal cortex (AIT) 220
 antisocial behaviour 4, 243
 anxiety 206, 207, 247, 264, 265, 277, 285
 applied behavior analysis (ABA) 322
 approximation skills 178, 200
 apraxia 221, 227
 arithmetic 2, 3, 22, 23, 26, 36, 39, 173, 174,
 178, 179, 180, 181, 182, 183, 184,
 185, 188, 189, 190, 191, 192, 193,
 194, 195, 197, 198, 200, 204, 206,
 207, 208, 327, 333, 335, 336, 344
 arousal 253, 260, 263, 268, 274, 279, 280,
 281, 283
 articulation 60, 61, 63, 64, 66, 67, 70, 77,
 78, 138, 139, 158, 312, 337
 artificial colors 272
 Ashcraft's model 181
 Asperger syndrome 285, 294, 296, 312
 associative network 180
 associative relationships 110
 AT (patient) 219
 at-risk children 62, 63, 88, 89, 205, 206,
 287, 341, 348
 attention 2, 18, 19, 23, 66, 98, 103, 134,
 137, 158, 193, 200, 206, 212, 243,
 244, 245, 246, 248, 258, 261, 264,
 267, 288, 289, 290, 291, 295, 296,
 297, 298, 314, 317, 318, 319, 322,
 323, 324, 327, 331, 334, 341
 attention deficit hyperactivity disorder *see*
 ADHD
 auditory perception/auditory perceptual
 skills 69–71, 73, 154, 158, 162, 163,
 341
 Auditory Repetition Task (ART) 70–1,
 155–6, 159
 Australian Twin Behaviour Rating Scale
 (ATBRS) 237
 autism 1, 2, 36, 68, 98, 130, 134, 145, 212,
 242, 272, 280, 284–326, 331, 332,
 333
 definition of 284–5
 observation scale (AOSI) 316
 spectrum disorders 2, 36, 134, 212, 280,
 285, 286, 309, 321, 326
 Autism Diagnostic Interview 286
 Autism Diagnostic Observation
 Schedule 286, 316
 Autism Genome Project 316
 automatization/Cerebellar Deficit Theory (of
 dyslexia) 73
 balance 36, 210, 215, 222, 226, 227, 228,
 232, 233, 234, 237, 239, 240, 242
 basal ganglia 166, 167, 268
 behavior
 rating scale 237, 248
 therapy programs 274
 behavioral management 274
 behavioral observations 248
 behavior-genetic analyses/methods 75, 123
 big brain theory (of autism) 319
 blindness, congenital 318
 Block Design 302, 303, 304
 bodily movements, awareness of 216
 body-centred map of space 217
 brain
 activation 78–80, 200, 202, 204
 circuits (modules) 5, 11, 22, 79, 128
 damage (injury, lesions) 5, 12, 14, 15, 16,
 19, 25, 76, 188, 196, 199, 328, 330
 development 8, 10, 11, 36, 167, 170,
 213, 214, 237, 242, 342, 343
 differences 5, 79, 83, 273
 function 12, 80, 202, 269, 344, 345
 imaging 12, 18, 77, 79, 122, 166, 199,
 200, 221, 269, 319, 353 *see also*
 neuroimaging
 mechanisms 5, 8, 12, 80, 89, 125, 199,
 208, 242, 264, 318, 329, 343
 regions 13, 26, 76, 77, 78, 208, 269, 273,
 291, 319, 320, 343
 structure 17, 76, 77, 124, 166, 167, 168,
 170, 199, 208, 239, 267, 273, 319
 British Ability Scales II 174
 Broca's area 76, 77, 78, 328
 Bruininks-Oseretsky Test of Motor
 Proficiency (BOTMP) 210, 238
 Campbell's multi-code model (arithmetic)
 189
 candidate genes 10, 344, 348
 cannabis 328

- CANTAB test 258
- case-control studies 28, 283, 347, 348
- case-structure role assignment 113
- catecholamines 268
- caudate nucleus 268
- causal antecedent 113
- causal consequence 114
- causal modeling/model 5, 6, 69, 101
- central attentional processes 190
- central coherence 288, 302–4, 309
- central executive 190, 258
- central inferotemporal (CIT) 220
- cerebellar 125, 273
- cerebellum 78, 166, 319
- cerebral cortex 220
- cerebral palsy 209, 238
- cerebral volume 125, 167, 273
- character emotional reaction 114
- Child Behavior Checklist (CBCL) 248
- child-focused therapy 275
- Childhood Autism Rating Scale 287
- Cholesky decomposition 123
- chromosomes 75, 83, 271, 315
- cingulate cortex 200, 204, 320
- classroom behaviours 262
- clinical cases 27, 347
- clinical interviews 278
- clinical observations 247
- Clinical Evaluation of Language Fundamentals, CELF 71, 130
- clumsy child syndrome 209
- cluster analysis 143, 225
- coda 42–3
- Coding and Digit Symbol tasks 259
- cognitive ability (see also IQ) 39, 109, 118, 124, 291, 334
- cognitive behavioral therapy (CBT) 274
- cognitive flexibility 299, 314
- cognitive functioning/problems 1, 237, 259
- Cognitive Orientation to daily Occupational Performance program (CO-OP) 240, 241
- coherent motion 306, 308
- cohesive inferences 91, 112
- color naming 253
- Colorado Twin Study 74, 264
- combined treatment 276–7
- communication 1, 24, 129, 136, 144, 145, 146, 285, 287, 288, 290, 291, 296, 310, 311, 312, 316, 317, 322, 323, 324, 326, 330, 332, 333, 346
- community care 274–6
- commutativity principle 179
- comorbid 73, 209, 212
- comorbidity 35, 36, 40, 134, 167, 168, 211, 212, 213, 265, 323, 334, 336, 337, 340, 342, 343
- compensation 168, 234, 330, 331
- computational resources 263
- conduct disorder/conduct problems 3, 4, 5, 8, 9, 10, 30, 36, 247, 262, 264–5, 329
- confrontation naming 59, 67
- connectionist models 47, 48, 81, 83
- connectives 107–8
- connectivity (brain) 78, 79, 273, 319, 320
- Conners' Rating Scales 248
- conscious awareness 17, 219
- Consolidated Standards of Reporting Trials (CONSORT) 275–6
- consonants 64, 65, 79, 86, 139, 155, 162
- constructive inferences 115
- contextual facilitation 100, 313, 314
- continuous naming task 266
- Continuous Performance Test 248
- contrast sensitivity 306, 307
- cooperative learning 125
- coordination 36, 40, 135, 209, 210, 212, 225, 237, 239, 242, 247, 249, 331, 334, 335, 336, 343, 344, 346, 350
- corollary outflow 230
- corpus callosum 273
- Corsi blocks 192, 194, 258
- cortical circuits 222, 223
- cortical motor areas 220
- counting 177–8
- cradle board 215
- critical periods 22–3
- cross-modal integration deficit 228
- cross-sectional studies 26–7
- daydreaming 246
- deafness 21, 129, 130, 144, 328
 - congenital 21
- deception 294, 297, 298

- deficits in attention, motor control and perception (DAMP) 334, 335
- Defries-Fulker Extremes Analysis 198
- delay aversion 260, 261, 262, 279, 280, 283
- delay of reinforcement 260, 261
- delay of rewards (ADHD) 260
- depression 243, 264, 277, 331, 334
- deprivation 23, 129, 272, 317, 323, 326, 331, 343
- Developmental Coordination Disorder (DCD) 209–42
 - cognitive-perceptual theory 234
 - Developmental Coordination Disorder Questionnaire (DCDQ) 237
 - noisy sensorimotor map 234, 237
 - path model 239
 - subtypes 226–7, 232
 - treatment/intervention 239–41
- developmental trajectories 25, 69, 81, 169, 170, 311
- Diagnostic and Statistical Manual of Mental disorders (DSM-IV) 2, 4, 37, 39, 90, 129, 172, 209, 237, 244, 246, 263, 264, 274, 285, 330, 332
- diet 12, 272
- digit span 42, 191, 193
- dimensional analyses 264
- dimensional views of developmental disorders 24
- direct retrieval (arithmetic) 180, 182–4
- disadvantaged children 204
- DISCO 286
- discourse comprehension 109
- disorientation 26
- displaced vision 216, 217
- disruptiveness 248
- distractibility 244
- dizygotic (DZ) 9, 315, 342
- DNA 6–7, 9–10, 29, 75, 271, 315–6, 351
- domain specific 18, 333
- dopamine (DA) 268, 269, 270, 274, 281
- dopaminergic pathway 271
- dorsal stream 220
- dorsal visual system 219
- dorsolateral prefrontal cortex 273, 280
- double dissociation 15, 16, 219, 267
- Down syndrome 2, 292
- drawing 1, 55, 91, 115, 167, 209, 210, 223, 226, 230, 231, 334
- duration discrimination tasks 157, 258
- dyadic interaction 288
- dynamic auditory stimuli 72
- dyscalculia 172, 186, 195, 201, 202 *see also* Mathematics Disorder
- dyslexia 2, 15, 19–28, 32, 34, 37–89, 100–2, 111, 119, 124–5, 167, 207, 242, 247–8, 257, 265–7, 282–3, 317, 329, 331, 334, 336–9, 341, 344–5, 348–9, 350
 - brains 77
 - dominant theory 69
 - and language impairment 66
- dyspraxia *see also* Developmental Coordination Disorder
- dyspraxia, verbal 143–4, 165
- dysphasia, developmental (*see* Specific Language Impairment)
- ear, inner 215
- echolalia 284
- education 2, 34, 37, 38, 92, 172, 211, 264, 274, 285, 350
- educational interventions 275, 344
- efference copy information 216, 230
- elaborative inferences 91, 112
- electroencephalography (EEG) 13, 273
- electrophysiological measurements 273
- Embedded Figures test 302, 306, 308
- emotion 4, 5, 6, 252, 281, 288, 324, 325
- empathy 289
- endophenotypes 271, 272, 282, 348, 349
- enhanced perception (in autism) 288, 304
- environmental influences/risk factors 4, 5, 74, 166, 213, 266, 272, 317, 329, 330, 331, 335, 340, 346, 348
- epigenesis 10, 12, 199
- epilepsy 17, 286, 315
- estimation skills 179
- event-related potentials (ERPs) 13, 110, 111, 200
- exact calculation 183, 202, 210
- executive attention 193
 - control 249, 252, 263, 296, 319, 343
 - function/dysfunction 193, 194, 249, 250–3, 259, 265, 266, 267, 279, 280,

- 281, 283, 288, 296, 300, 301, 302,
310, 314, 323, 326
- processes 98, 103, 193, 194, 197, 279,
280
- expressive language skills 108, 129, 143
- expressive vocabulary 21, 59, 141, 144,
311
- externalizing behaviours 248
- eye movements 229
- eye-gaze monitoring 289
- face recognition 320
- false-belief task 291, 292, 296, 310
- false-photo task 292
- family
 - background 264
 - risk 63, 88, 316, 317, 339, 341, 348
 - studies/samples 63, 270, 315
- feedback 48, 83, 126, 170, 205, 225, 236,
254, 300, 307, 329, 354
- Figure-Ground task 304, 311
- finger agnosia 26, 195
- fingers (counting) 179, 182
- fluency 37, 40, 41, 46, 76, 84, 85, 110,
129, 297, 314
- focal brain lesions 16
- Fragile X syndrome 286
- frontal dysfunction 273
- frontal lobes 79, 196, 235, 250, 252, 253,
258, 273
- frontal-striatal circuits 273
- fronto-basal circuits 243
- fronto-parietal circuits 207
- function analysis 257, 262
- functional MRI (fMRI) 12–13, 79, 200,
202, 287–91, 309
- functional skills approach 239, 240, 241, 242
- gap-filling inferences 312, 314
- garden variety poor readers 127
- gating task 66, 67
- gaze 287–91, 309
- gene-environment correlation/interac-
tion 329–30
- general fluid intelligence (GF) 193, 194
- general knowledge 91, 96, 99, 103, 115, 121
- genetic influences 9, 10, 74, 75, 122, 123,
198, 329, 347
- genetic risk factors 74, 80, 89, 125, 129,
164, 169, 237, 238, 267, 278, 281,
315, 317, 326, 330, 340
- genetic variance 345
- genome 6, 7, 8, 75, 165, 315, 316
- Gerstmann syndrome 26, 195
- global coherence 113–14
- global motion task 307
- globus pallidus 268
- go/no-go task 256
- goal-directed behavior 319
- grammatical acquisition device 329
- grammatical sensitivity 106
- grammatical understanding 106, 109
- grapheme-phoneme correspondence 84
- graphemes 45, 49, 81, 84, 86
- grasping 213, 216, 218, 219, 220–3
- gray matter 78, 166, 167, 200
- grip 218, 219, 223, 225
- gross motor skills/movements/difficulties/
problems 210, 223, 225–8, 234,
239, 262, 344
- guiding movement 217, 219, 224
- handwriting 1, 195, 209, 210, 212, 238,
241, 333, 349
- hearing 15, 16, 19, 21, 102, 110, 215, 245
- heritability 9, 74, 122–4, 159, 164, 165,
197–9, 238, 271, 315, 316, 345, 346
- estimate(s) 9, 10, 123, 197–9, 238, 270,
315, 345, 347
- Heschl's gyrus 125, 167
- heterogeneity 125, 129, 143, 145, 149, 158,
163–5, 167, 170, 171, 223, 225, 242,
270, 271, 280, 283, 315, 319, 322,
326, 340, 348
- heterotypic comorbidity 337
- hippocampus 17
- HM (patient) 17, 18
- homograph task 303, 304
- homophones 110
- homotypic comorbidity 337
- horizontal faculty 249, 279
- horizontal intraparietal sulcus (HIPS) 200,
204
- Huntington's disease 200, 204, 330
- hyperactivity 212, 244–8, 262–5, 271–2,
276–7, 280, 314, 334

- hyperkinetic disorder 244, 246
- hyperlexia 303
- ICD-10 130, 244
- ideational fluency 297
- imagined actions 221
- imitation 140, 219, 221, 289–90, 295, 323
- implicit phonological processing 42, 68
- impulsiveness/impulsivity 4–5, 243–6, 249, 252, 256, 261–3, 272, 279–80, 283, 300
- inattention 238, 244, 246, 248, 258, 263, 265, 271, 276, 279, 280, 283, 302, 314
- inference(s)/inference training 91, 95–6, 99, 103, 109, 111, 112–16, 119, 121, 124, 126, 128, 292, 297–8, 312–14
- inferior frontal cortex 79
- inferior frontal gyrus 202, 221, 320
- inferior parietal lobule 221
- inferior temporal lobe 220
- information processing speed *see* processing speed
- inhibition 249
- innate 10
- instantiation 114–15
- insula 77, 79
- intelligence 3, 27, 37–8, 193–4, 198, 302, 345 *see also* IQ
- interclausal connectives 108
- interference control 250, 253, 259
- internalization of speech 253
- internalizing problems 277
- interventions 125, 204, 274, 321 *see also* treatment
- interviews 211, 246, 247, 278, 287, 317
- intradimensional/extradimensional (ID/ED) shift task 299, 300
- intraparietal sulcus 217
- IQ 1, 3, 27, 38–9, 43, 52, 57, 59, 74, 85–6, 106, 119, 122, 124, 133, 164, 173, 185, 206, 209, 285–6, 317–18, 319, 321, 331, 333, 345
- irony 96
- joint attention 288, 289, 290, 291, 319, 323
- joking 96
- KF (patient) 17, 18
- kinesthesia/kinesthetic 216, 226, 228, 230–2, 239–40, 310
- language
 - comprehension 50, 91, 93–4, 98, 106–11, 128–9, 131, 141–2, 144, 169, 312–13, 328
 - development in SLI 141–5
 - development typical 135–41, 288
- language impairment *see* Specific Language Impairment
- learning
 - difficulties 2–3, 12, 22, 25, 295, 298, 317, 335
 - disabilities (LD) 182, 264
 - disorders 2, 247
- left angular gyrus 200, 204
- left anterior fusiform 77
- left frontal lobe 76, 328
- left frontal operculum 78
- left hemisphere 74, 76–80, 83
- left hemisphere premotor cortex 78
- left inferior frontal gyrus 202
- left inferior lobe 78
- left insula 79
- left intraparietal sulcus 202
- left middle temporal gyri 79
- left mid-fusiform 77
- left superior temporal cortex 77
- left superior temporal region 77
- left temporal lobe 76, 78
- lesion 16, 199, 219, 328
- letter (letter-name, letter-sound) knowledge 43–4, 45, 62, 63, 86–8, 94, 353
- lexical phonology 78
- lexical strategies 51
- limbic system 220, 319
- Lindamood auditory conceptualization test 266
- Lindamood Phoneme Sequencing (LIPS) Program 87
- listening
 - comprehension 94, 95, 100, 109, 121, 123, 124, 127, 128, 333
 - span 103, 193, 194, 206
- logic of causal order 32
- logographic stage of reading development 41

- longitudinal studies 26–7
- long-term memory 18, 180, 183, 188, 190, 195
- lookback strategy 128
- luminosity 202, 203
- lung cancer 28–30, 32, 33, 351, 352
- lying 96, 294

- macrostructure 95
- magnetoencephalography (MEG) 13
- maltreatment 5, 10, 326, 329–31
- management strategies 5, 276
- manipulative skills 210
- manual dexterity 226
- manual gestures 212
- maternal smoking 272, 343, 346
- math anxiety 206–7
- mathematical
 - ability 172, 199
 - cognition 40, 332, 334
 - reasoning 200
 - skill 24, 172–4, 186, 197–9, 204–6
 - thinking 179
- mathematics disorder (MD) 172–208
 - subtypes 195
- maturational processes/changes 210, 213–15, 222
- medial prefrontal cortex 281, 319, 320, 343
- medial temporal lobe 220
- mediation 351
- medication 274–8, 314
- memory
 - representations 4, 68, 189, 222
 - span 60, 61, 103, 191
 - storage 189, 193, 258
 - updating 105, 106, 253
- Menière's disease 215
- mental health 134, 328
- mental imagery training 126
- mental models 94, 126
- mental number line 177, 178
- mental retardation 2, 3, 12, 22
- mentalizing 291
- mesolimbic reward circuits 280
- meta-analysis 50–2, 73, 125, 228, 258, 259, 273, 315
- metacognition 252
- metacognitive approach (training DCD) 241
- metacognitive processes/strategies/monitoring 98, 116–17, 124–6, 128, 241
- methodological limitations 192
- methylphenidate (Ritalin) 269, 270, 274, 352
- microstructure 95
- middle gyrus 202
- middle temporal lobe 78
- mirror neuron system (MNS, MNS damage) 219, 221, 222
- modular systems/modularity 13–15, 18, 20, 340
- molecular genetic approaches/studies 9, 10, 75, 165, 270–1, 315
- monitoring 184, 224, 248, 249, 253, 256, 289, 348
- monoamine oxidase inhibitor A 4, 10
- monozygotic (MZ) twins 8–9, 74, 127, 164–5, 198–9, 238, 270, 315, 342
- morphological generation 92
- morphosyntax 108, 121, 137, 145, 152
- motivation/motivational theories 5, 27, 118–19, 121, 252, 260–3, 268, 272, 279–81, 283, 289, 323–6, 343
- motor coordination/development 36, 135, 209, 212, 237, 334
- motor difficulties/motor disorders 35–6, 89, 212, 223–7, 230, 334
- motor learning 213, 216, 222, 227
- motor schemas 222
- Movement Assessment Battery for Children (Movement ABC) 210
- MRI *see* Structural MRI, Functional MRI
- multimodal sensory information 217
- multiple risks 330–1

- naming difficulties 59–60
- narrative skills 107–8, 113, 130–1, 144, 147, 149, 352
- Neale Analysis of Reading Ability 91, 106, 115, 116, 126
- NEPSY II 248
- neural plasticity 22, 23
- neuroimaging, brain imaging studies/techniques 12, 18, 347
- neurotransmitters 4, 268–9, 273, 281–2

- nonverbal communication 284, 290–1
 nonverbal learning difficulty (NLD) 213, 332–5
 number
 comparison task 178, 186, 194, 200
 concept 174–7
 facts 180, 182–4, 188–90, 195–6
 line 177, 178, 200, 204–5
 module *see* number, sense
 sense 176, 186, 196–7, 199–200, 204, 206–7
 worlds 204
 numeral identification 205
 numerical skills/numerical development 173–8
 numerosity 186, 200–1
- occipital lobe 15, 77, 79, 185, 196, 219, 221, 319
 oppositional defiant disorder (ODD) 212, 247, 262, 265
 orbitofrontal cortices 273, 281
 organizational difficulties 244
 orthographic processing/skills 12, 41, 42, 46, 55, 75, 81, 83, 86
 orthography 12, 45, 46, 49–50, 78, 82, 99
- P200 111
 P300 274
 parent ratings 247, 266, 275
 parental communication 322
 parenting 343, 346, 352
 parietal cortex/lobe 26, 77–9, 83–5, 128, 195–8, 200–2, 204, 208, 217–19, 221, 223, 235, 273, 320, 335
 path analysis 30–2, 352
 path diagrams/path models 4, 28–9, 30, 31, 36, 45, 55–6, 63–4, 70, 73, 83–5, 93, 102, 121–2, 128, 170, 207–8, 239, 282, 324, 325, 336, 351–2
 peer relationships 264, 285
 perceptual disorders/difficulties/dysfunction 227, 309, 332
 perceptual-motor skills/dysfunction 222, 226
 perseveration 193, 266, 296
 personality disorder 243
 pervasive developmental disorder (PDD) 284, 286, 310
- phenocopy 265–6, 318, 323
 phenylketonuria (PKU) 11, 12
 phoneme awareness 42–7, 54, 57, 62–3, 266–7, 338–9, 352–3
 phonological awareness *see* phoneme awareness
 phonological deficit 34, 55–63, 71, 73, 79–83, 184, 265, 340, 341
 phonological dyslexia 51, 53–4, 81
 phonological impairments 72, 144
 phonological representations 43, 49–50, 59, 64, 67, 68, 69, 81, 83, 159, 163, 188, 190
 phonology 132, 142–4, 149
 planning 98, 223, 238, 249–51, 253, 258–9, 299, 314, 319
 planum temporale 77, 125, 167
 pleiotropy 270
 pointing 217, 224, 288, 297
 polygenic inheritance 80, 342
 poor comprehenders 90–128
 positron emission tomography (PET) 12, 79, 220
 postural control 232, 233, 234
 postural stability 234, 237
 posture 216, 234
 power 32
 Prader-Willi syndrome 315
 pragmatic impairment 137, 143–5, 312, 314, 322, 324, 332, 333
 pragmatic language impairment (PLI) 134, 312
 pragmatics/pragmatic skills 92, 95, 96, 135, 136, 312
 prefrontal cortex 4, 200, 201, 204, 243, 252, 268, 272–3, 280, 281, 319–20, 343
 prematurity, premature birth 238, 272, 346
 premotor cortex 78, 217, 252
 prenatal development 264
 prevalence 37–8, 90–1, 129, 130, 172–3, 209, 210, 243–4, 246–7, 284–5, 311, 317
 prevention 88, 204, 206 *see also* intervention
 preverbal number ability, system 174, 176, 178, 186
 prismatic distortion 216–17
 proband 74, 186, 270

- problem size effect 181
- procedural deficit hypothesis 167–8
- procedural knowledge 180, 195, 204
- process-oriented approaches to DCD 240–1
- pronoun resolution 91, 95, 106, 107, 112, 113, 117, 146–9, 163, 311 *see also* anaphora
- propositions 95, 107
- proprioception 215, 217, 222–4, 227, 233–4, 236–7, 240
- protodeclarative pointing 288
- proximal cause 29–30, 56, 84, 158, 252, 277, 283
- psychoactive drugs 328
- psychodynamic theory 287–8
- psychosocial adjustment/outcomes 133–4, 169, 243, 272, 321, 331, 346
- putamen 268, 273

- quantitative genetic methods 9–10, 75, 164, 270, 347
- quantitative trait loci (QTLs)/locus 10, 75
- question generation 125

- randomized controlled designs/trials (RCTs) 34, 127, 274–5, 282, 322, 350–2
- rapid auditory processing/difficulties 70–1, 169
- rapid automatized naming (RAN) 42, 59–60, 68, 72, 83–5
- rating scales 210–11, 237, 246, 248, 278, 286–7
- reaction time (RT) 176, 177, 224, 254–7, 274, 277, 304
- reading
 - achievement 37, 43, 53
 - comprehension 91–9
 - development 40–5, 91–9
 - disabilities 37–128
 - fluency/reading rate 41, 46, 76, 84–5
 - in different languages 45–7, 54
 - intervention 34, 79
 - models of 41, 43, 47, 50, 55, 83, 91–2, 93, 120–1, 124–8
 - profile 81, 91, 99
 - programs 85, 353
- reading comprehension impairment 90–128
- receptive language impairment/skills 125, 130, 133, 143, 165, 168–9, 290, 321
- reciprocal social interaction 284, 287–8, 310, 322
- reciprocal teaching 126–7
- reflexes 213–14
- regression (in development) 317
- regulation of behaviour/emotion/
 - thought 4–5, 243, 249, 251–2, 268, 272, 281, 283, 297, 328
- repetitive behaviours 296, 316, 324
- resilience 330–1
- response inhibition 250, 253, 255, 257, 259, 273
- rigidity 296
- risk factors 4, 74, 80, 89, 125, 129, 158, 163, 164, 169, 237–8, 242, 272, 278–9, 281, 315, 317, 326, 329–30, 336–8, 340–3, 346, 353
- RNA 6, 7
- rotary pursuit tracking 224
- rote memory 302
- rubella 330

- savant, savant skills 286, 302
- schizophrenia 328
- self-esteem 272
- self-harm 322
- self-reference 295
- self-regulation 243, 249, 252, 281
- semantic memory 110, 116, 189, 195
- semantic pathway 49–50, 81, 100, 128
- semantic pragmatic disorder 143–4, 312, 332
- semantic priming 110
- semantic representation 49, 59, 94, 103, 111, 128, 159, 163–4, 312
- semantic system 20
- sensorimotor map 216–17, 230, 234–9, 242
- sensory deprivation 317–18
- sensory integration therapy 240
- sensory modality 317
- sentence context 100, 115, 313
- sentence span task 103–4, 258, 266
- serotonin 4
- set shifting/set switching 250, 254, 258–9, 266, 267, 280
- severity model 299

- siblings 9, 75, 271, 288, 316–17
- simple view of reading model 91–2, 93, 120–1, 124–8
- single nucleotide polymorphisms (SNPs) 75
- single-gene disorders 11, 330
- situation model 96, 99, 103
- social brain 315, 319–20
- Social Communication Questionnaire 286, 315, 319
- social deprivation/disadvantage 80, 204, 343, 345
- social development 286, 288–91
- social impairment 134, 284, 285, 289, 296, 302, 308, 316, 323–5
- social orientation 284, 316
- social referencing theory 288, 324
- social relationships 289
- Social Responsiveness Scale 323
- socio-emotional development 3, 130, 169, 333
- space coordinate system 216
- spatial attention 200
- spatial memory 192–3, 258, 272
- specific language impairment 129–71
- speech
 - articulation 66–7, 77–8, 138–9, 324, 337
 - motor programs 58, 223, 311
 - perception 55, 60, 63–71, 138, 155, 166
 - problems 58, 338–9
 - production 55, 58, 61–2, 64–9, 76, 138, 144, 338–9
 - rate 60–2, 194
 - sound disorder 144, 170, 337, 339
- speed of processing (processing speed) 82–5, 154–5, 158, 162, 164, 170, 194, 264–5, 267, 272, 331
- spelling 3, 26, 39, 40, 43, 46, 50–1, 54, 75–6, 86, 88, 102, 131–3, 195, 264, 333, 339, 341
- stage models of reading development *see* reading, models of
- state regulation *see* regulation
- Stop-Signal Task (SST) 253–7, 266, 273, 280
- story schemas 95–6, 107–8, 125–6
- Strengths and Difficulties Questionnaire (SDQ) 248
- Stroop task 253, 259
- structural MRI 78, 125, 167
- subitizing 176, 178, 206
- substance abuse 264
- summarization 125
- superior colliculus 217, 235, 320
- superior sulcus 320
- supervisory systems 249
- sustained attention (vigilance) 261, 264, 269, 313, 314
- symbolic distance effect (SDE) 176–7
- syntax 93, 95, 99, 103, 108, 121, 136–7, 142–3, 145, 149, 152, 165, 168
- temper tantrums 322
- temporal lobe 76–7, 78, 196, 220
- temporal processing 322
- temporoparietal cortex/networks 79, 83–5, 319–20
- theory of mind (TOM) 96, 288, 291–6, 301
see also mentalizing
- 3Di 286
- Tower of Hanoi 250–3, 299
- Trail-Making Test 264, 266, 299
- treatment 5
 - ADHD 268, 274–8
 - autism 321–2
 - DCD 239–42
 - dyslexia 84–9
 - mathematics disorder 204–7
 - reading comprehension impairment 125–7
 - SLI 168–9
- triadic interaction 321, 322
- Triangle model 285, 288, 309
- tuberous sclerosis 286, 315, 330
- Turner syndrome 191–2, 200
- twins, twin studies 8–9, 74–5, 123–4, 159, 164–5, 198–9, 237–8, 264–6, 270, 286, 315–16, 342, 346, 349
- ventral (cortical) visual system 319–20
- ventral stream 220
- ventrolateral prefrontal 273
- verbal dyspraxia 143–4, 165
- verbal fluency 297, 314
- verbal short-term memory 42, 60, 63, 297, 314
- vestibular, vestibular system 215, 222, 233–4, 237, 239–40

- vigilance 248, 259, 264–5, 273
- visual attention (visual attentional deficit)
73, 295, 317, 319
- visual cortex 15–16, 78, 220
- visual memory 60, 236
- visual motor integration 304, 311
- visual perception 226–7, 230
- visual perceptual training programs 230
- visual search 194, 304–6
- vocabulary (knowledge, development,
impairments of) 21, 44, 58–9, 62–3,
66, 92–5, 101–2, 106, 108–9, 112,
116, 119, 122, 126, 128, 130, 136,
139, 141–4, 157–61, 165–6, 168,
186, 311–12, 342
- voxel-by-voxel morphometry 78
- walking 214–15, 222, 234, 240
- Weak Central Coherence (WCC) 288,
302–4, 309
- Wernicke's area 76–7, 79, 328
- Williams syndrome 333
- Wisconsin Card Sorting Task (WCST) 23–4,
193, 250, 266, 299, 300
- word-finding problems 1, 58, 142, 159
- word span 42, 193
- working memory 79, 96, 98, 111, 116,
157–8, 184, 189–91, 193–4, 206,
250, 252–3, 258–9, 266–9, 271,
273, 280–1, 297, 310, 314
- writing 1, 20, 46, 87, 185, 195–6,
209, 212, 223, 238, 241, 333–4,
349